

RISC-V Vector C Intrinsic Specification Document

RISC-V Vector C Intrinsic Task Group

Version v1.0, 2025-04-25: Ratified

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Preamble



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Chapter 1. Introduction

The RISC-V vector C intrinsics provide users interfaces in the C language level to directly leverage the RISC-V "V" extension (*RISC-V "V" Vector Extension*, n.d.) (also abbreviated as "RVV"), with assistance from the compiler in handling instruction scheduling and register allocation. The intrinsics also aim to free users from responsibility of maintaining the correct configuration settings for the vector instruction executions.

This document uses the term "RVV" as an abbreviation for the RISC-V "V" extension. This document uses the term "the RVV specification" to indicate the RISC-V "V" extension specification.

Chapter 2. Test macro

The `__riscv_v_intrinsic` macro is the C macro to test the compiler's support for the RISC-V "V" extension intrinsics.

This macro should be defined even if the vector extension is not enabled.

The value of the test macro is defined as its version, which is computed using the following formula. The formula is identical to what is defined in the RISC-V C API specification (*RISC-V C API Specification*, n.d.).

```
<MAJOR_VERSION> * 1,000,000 + <MINOR_VERSION> * 1,000 + <REVISION_VERSION>
```

For example, the v1.0 version should define the macro with value `1000000`.

Chapter 3. Header file inclusion

To leverage the intrinsics in the toolchain, the header `<riscv_vector.h>` needs to be included. We suggest guarding the inclusion with the test macro.

```
#if __riscv_v_intrinsic >= 1000000
#include <riscv_vector.h>
#endif /* __riscv_v_intrinsic */
```

Chapter 4. Availability

With `<riscv_vector.h>` included, availability of intrinsic variants depends on the required architecture of their corresponding vector instructions. The supported architecture is specified to the compiler using the `-march` option (*User Guide for RISC-V Target*, n.d.; *RISC-V Options*, n.d.).

The standard vector extensions (*RISC-V "V" Vector Extension*, n.d.) provides a set of smaller extensions for embedded use. Please check out the `Zve` extensions (*RISC-V "V" Vector Extension*, n.d.) for the varying degree of support.

For example, RVV type `vint64m1_t` and `__riscv_vle64_v_i64m1` are not available under architecture `rv64gc_zve32x`.

Chapter 5. Control of the vector extension programming model

The intrinsics allow users to control the fields in `vtype`, as well as the rounding modes for fixed-point (`vxrm`) and floating-point (`frm`) vector computations.

In this chapter, we cover how the intrinsics embed the control of `vtype` fields in the function names. Please see Chapter 6 for the rules described in this chapter.

5.1. Control of effective element width (EEW) and effective LMUL (EMUL)

The RISC-V vector intrinsics' data types are strongly-typed. The vector intrinsics encode the EEW (effective-element-width) and EMUL (effective LMUL) of the destination vector register in the suffix of the function name. Users can expect the results of the vector instruction intrinsics are computed under the specified EEW and EMUL.

To see the full list of data types for the intrinsics, please see Chapter 7.

In the following example, the intrinsic will produce the semantic of a `vadd.vv` instruction, with source vector operands of `EEW=32` and `EMUL=1`, which can be observed through provided RVV data type; and produce results for the destination vector operand with `EEW=32` and `EMUL=1`.

```
vint32m1_t __riscv_vadd_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
```

In the following example, the intrinsic will produce the semantic of a `vadd.vv` instruction, with source vector operands of `EEW=16` and `EMUL=1/2`, which can be observed through provided RVV data type; and produce results for the destination vector operand with `EEW=32` and `EMUL=1`.

```
vint32m1_t __riscv_vwadd_vv_i32m1(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
```

5.2. Control of number of elements to be processed

The intrinsics do not directly expose the vector length control register to the intrinsics programmer. The intrinsics programmer specifies an "application vector length (AVL)" using the argument `size_t vl`. The implementation is responsible to set the correct value into the underlying vector length control register (`vl`) given the informed AVL.



The intrinsics for instructions that behave the same with different `vl` *settings (e.g.* `vmv.x.s`*) do not have a* `size_t vl` *argument.*



The actual value written to the `vl` *control register is an implementation defined behavior and is typically not known until runtime. The actual setting of* `vl`*, given the provided AVL through the parameter, follows the rules in the RVV specification. The number of elements processed can be obtained through the* `_riscv_vsetvl*` *intrinsics Section 8.1.*

5.3. Control of vector masking

Instructions that are available for masking have masked variant intrinsics.

The intrinsics fuse the control of vector masking (`vm`) together with the control for policy behavior (`vta`, `vma`) in the same suffix. Please check out Section 5.4 and Section 6.1 for the exact suffix that specifies a masked/unmasked vector operation along with its policy behavior.

5.4. Control of behavior of destination tail elements and destination inactive masked-off elements

The behavior of destination tail elements and destination inactive masked-off elements is controlled by the `vta` and `vma` bits.

Given the general assumption that target audience of the intrinsics are high performance cores, and an "undisturbed" policy will generally slow down an out-of-order core, the intrinsics have a default policy scheme of tail-agnostic and mask-agnostic (that is, `vta=1` and `vma=1`).

The intrinsics fuse the control of vector masking (`vm`) together with the control for policy behavior (`vta`, `vma`) in the same suffix. Please checkout Section 5.3 and Section 6.1 for the exact suffix that specifies a masked/unmasked vector operation along with its policy behavior.

5.5. Control of fixed-point rounding mode

For the fixed-point intrinsics, representing the fixed-point arithmetic instructions, the `vxrm` argument of the intrinsics indicates the rounding mode (`vxrm`) control.

The `vxrm` argument is required to be a constant integer expression. The implementation should provide the following `enum` that maps to the defined rounding mode values under Table 4 of the RVV specification.

```
enum __RISCV_VXRM {
  __RISCV_VXRM_RNU = 0,
  __RISCV_VXRM_RNE = 1,
  __RISCV_VXRM_RDN = 2,
  __RISCV_VXRM_ROD = 3,
};
```



Rounding mode does not affect the computations of `vsadd`, `vsaddu`, `vssub`, *and* `vssubu`*; therefore, the intrinsics for these instructions do not have the* `vxrm` *argument.*



The RISC-V psABI (RISC-V Calling Conventions: Vector, n.d.) states that `vxrm` *is not preserved across calls. Optimization for reducing the number of redundant writes to* `vxrm` *is a compiler and system specific issue.*



This specification does not provide support for manipulating the `vxsat` *CSR. Since vxsat is not needed by a large majority of fixed-point code, we believe this specification is broadly useful as-is. Nevertheless, we expect that a future extension will define an additional set of fixed-point intrinsics that update* `vxsat` *in a specified manner, along with intrinsics to*

explicitly read and write `vxsat`*. These new intrinsics would be interoperable with the intrinsics in this specification.*

The value of the `vxsat` *after a fixed-point intrinsic is UNSPECIFIED.*

5.6. Control of floating-point rounding mode

For the floating-point intrinsics, representing the floating-point arithmetic instructions, the intrinsics have two variants: *Implicit FP rounding mode* and *Explicit FP Rounding mode* intrinsics.



Control of the floating-point accrued exceptions flag fields (`fflag`*) (RISC-V "F" Vector Extension, n.d.) is not yet covered in the vector intrinsics v1.0. We plan to support it in follow-up versions in a compatible way with existing intrinsics in v1.0.*

5.6.1. Implicit FP rounding mode intrinsics

The implicit FP rounding mode intrinsics behave like any C-language floating-point expressions, using the default rounding mode when `FENV_ACCESS` is off, and using the `fenv` dynamic rounding mode when `FENV_ACCESS` is on.



Both GNU and LLVM compilers generate scalar floating-point instructions using dynamic rounding mode, relying on the environment initialization to set `frm` *to* `RNE` *(specified as "roundTiesToEven" in IEEE-754 (a.k.a. IEC 60559)) (ANSI/IEEE Std 754-2008, IEEE Standard for Floating-Point Arithmetic, 2008).*



The implicit FP rounding mode intrinsics are intended to be used regardless of `FENV_ACCESS`*. They are provided when* `FENV_ACCESS` *is on for the (few) programmers who are already using* `fenv`*; and they are provided when* `FENV_ACCESS` *is off for the (vast majority of) programmers who prefer the default rounding mode.*

5.6.2. Explicit FP rounding mode intrinsics

The explicit FP rounding mode intrinsics contain the `frm` argument which indicates the rounding mode (`frm`) (*RISC-V "F" Vector Extension*, n.d.) control. The floating-point intrinsics with the `frm` argument are followed by an `_rm` suffix in the function name.

The `frm` argument is required to be a constant integer expression. The implementation should provide the following `enum` that maps to the defined rounding mode values under RISC-V ISA Manual Table 8.1 (*RISC-V Calling Conventions: Vector*, n.d.).

```
enum __RISCV_FRM {
  __RISCV_FRM_RNE = 0,
  __RISCV_FRM_RTZ = 1,
  __RISCV_FRM_RDN = 2,
  __RISCV_FRM_RUP = 3,
  __RISCV_FRM_RMM = 4,
};
```



The explicit FP rounding mode intrinsics are intended to be used when `FENV_ACCESS` *is off, enabling more aggressive optimization while still providing the programmer with control over the rounding mode. Using explicit FP rounding mode intrinsics when* `FENV_ACCESS` *is on will still work correctly, but is expected to lead to extra saving/restoring of* `frm`*, that*

could be avoided by using `fenv` *functionality and implicit FP rounding mode intrinsics.*

Chapter 6. Naming scheme

The naming scheme of the intrinsics expresses the users' control of fields in `vtype`, `vl`, and rounding modes for fixed-point and floating-point vector computations. For details of these CSR controls, please see [control-of-vector-programming-mode].

As mentioned in Section 5.3 and Section 5.4, the intrinsics fuses the control of `vm`, `vta`, and `vma` into the same suffix. Section 6.1 enumerates the exact suffixes. You may find where these suffixes are appended in Section 6.2.

The intrinsics can be split into two major types, called "explicit (non-overloaded) intrinsics" and "implicit (overloaded) intrinsics".

The explicit (non-overloaded) intrinsics embed the control described in Chapter 5 in the function name. This scheme gives intrinsic codebase more readability as the execution states are explicitly specified in the code.

The implicit (overloaded) intrinsics, on the contrary, omit the explicit specifications for `vtype` control. The implicit (overloaded) intrinsics aim to provide a generic interface to let users put values of different EEW and EMUL as the input argument.

This section covers the general naming rule of the two types of intrinsics accordingly. Then, this section also enumerates the exceptions and the rationales behind them in Section 6.3 and Section 6.5.

6.1. Policy and masked naming scheme

With the default policy scheme mentioned under Section 5.4, each intrinsic provides corresponding variants for their available control of `vm`, `vta` and `vma`. The following list enumerates the possible suffixes.

- No suffix: Represents an unmasked (`vm=1`) vector operation with tail-agnostic (`vta=1`)
- `_tu` suffix: Represents an unmasked (`vm=1`) vector operation with tail-undisturbed (`vta=0`) policy
- `_m` suffix: Represents a masked (`vm=0`) vector operation with tail-agnostic (`vta=1`), mask-agnostic (`vma=1`) policy
- `_tum` suffix: Represents a masked (`vm=0`) vector operation with tail-undisturbed (`vta=0`), mask-agnostic (`vma=1`) policy
- `_mu` suffix: Represents a masked (`vm=0`) vector operation with tail-agnostic (`vta=1`), mask-undisturbed (`vma=0`) policy
- `_tumu` suffix: Represents a masked (`vm=0`) vector operation with tail-undisturbed (`vta=0`), mask-undisturbed (`vma=0`) policy

Using `vadd` with EEW=32 and EMUL=1 as an example, the variants are:

```
// vm=1, vta=1
vint32m1_t __riscv_vadd_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
// vm=1, vta=0
vint32m1_t __riscv_vadd_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
// vm=0, vta=1, vma=1
vint32m1_t __riscv_vadd_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                                   size_t vl);
```

```
// vm=0, vta=0, vma=1
vint32m1_t __riscv_vadd_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
// vm=0, vta=1, vma=0
vint32m1_t __riscv_vadd_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
// vm=0, vta=0, vma=0
vint32m1_t __riscv_vadd_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
```



When policy is set to "agnostic", there is no guarantee of what will be in the tail/masked-off elements. Under this policy, users should not assume the values within to be deterministic.



Pseudo intrinsics mentioned under Chapter 8 do not map to real vector instructions. Therefore these intrinsics are not affected by the policy setting, nor do they have intrinsic variants of the suffixes listed above.

6.2. Explicit (Non-overloaded) naming scheme

In general, the intrinsics are encoded as the following. The intrinsics under this naming scheme are the "non-overloaded intrinsics", which in parallel we have the "overloaded intrinsics" defined under Section 6.4.

The naming rules are as follows.

```
__riscv_{V_INSTRUCTION_MNEMONIC}_{OPERAND_MNEMONIC}_{RETURN_TYPE}_{ROUND_MODE}_{POLICY}{(...)
```

- `OPERAND_MNEMONIC` are like `v`, `vv`, `vx`, `vs`, `vvm`, `vxm`
- `RETURN_TYPE` depends on whether the return type of the vector instruction is a mask register...
  - For intrinsics that represents instructions with a non-mask destination register:
    - `EEW` is one of `i8 | i16 | i32 | i64 | u8 | u16 | u32 | u64 | f16 | f32 | f64`.
    - `EMUL` is one of `m1 | m2 | m4 | m8 | mf2 | mf4 | mf8`.
    - Chapter 7 explains the limited enumeration of EEW-EMUL pairs.
  - For intrinsics that represent intrinsics with a mask destination register:
    - `RETURN_TYPE` is one of `b1 | b2 | b4 | b8 | b16 | b32 | b64`, which is derived from the ratio `EEW/EMUL`.
- `V_INSTRUCTION_MNEMONIC` are like `vadd`, `vfmacc`, `vsadd`.
- `ROUND_MODE` is the `_rm` suffix mentioned in Section 5.6.2. Other intrinsics do not have this suffix.
- `POLICY` are enumerated under Section 6.1.

The general naming scheme is not sufficient to express all intrinsics. The exceptions are enumerated in the proceeding section Section 6.3.

6.3. Exceptions in the explicit (non-overloaded) naming scheme

This section enumerates the exceptions in the explicit (non-overloaded) naming scheme.

6.3.1. Scalar move instructions

Only encoding the return type will cause naming collisions for the permutation instruction intrinsics. The intrinsics encode the input vector type and the output scalar type in the suffix.

```
int8_t __riscv_vmv_x_s_i8m1_i8 (vint8m1_t vs2);
int8_t __riscv_vmv_x_s_i8m2_i8 (vint8m2_t vs2);
int8_t __riscv_vmv_x_s_i8m4_i8 (vint8m4_t vs2);
int8_t __riscv_vmv_x_s_i8m8_i8 (vint8m8_t vs2);
```

6.3.2. Reduction instructions

Only encoding the return type will cause naming collisions for the reduction instruction intrinsics. The intrinsics encode the input vector type and the output vector type in the suffix.

```
vint8m1_t __riscv_vredsum_vs_i8m1_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m2_i8m1(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m4_i8m1(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m8_i8m1(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
```

6.3.3. Add-with-carry / Subtract-with-borrow instructions

Only encoding the return type will cause naming collisions for the reduction instruction intrinsics. The intrinsics encode the input vector type and the output mask vector type in the suffix.

```
vbool64_t __riscv_vmadc_vvm_i8mf8_b64(vint8mf8_t vs2, vint8mf8_t vs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vvm_i16mf4_b64(vint16mf4_t vs2, vint16mf4_t vs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vvm_i32mf2_b64(vint32mf2_t vs2, vint32mf2_t vs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vvm_i64m1_b64(vint64m1_t vs2, vint64m1_t vs1,
                                      vbool64_t v0, size_t vl);
```

6.3.4. `vreinterpret`, `vlmul_trunc`/`vlmul_ext`, and `vset`/`vget`

Only encoding the return type will cause naming collisions for these pseudo instructions. The intrinsics encode the input vector type before the return type in the suffix.

The following shows an example with `__riscv_vreinterpret_v` of `vint32m1_t` input vector type.

```
vfloat32m1_t __riscv_vreinterpret_v_i32m1_f32m1 (vint32m1_t src);
vuint32m1_t __riscv_vreinterpret_v_i32m1_u32m1 (vint32m1_t src);
vint8m1_t __riscv_vreinterpret_v_i32m1_i8m1 (vint32m1_t src);
vint16m1_t __riscv_vreinterpret_v_i32m1_i16m1 (vint32m1_t src);
vint64m1_t __riscv_vreinterpret_v_i32m1_i64m1 (vint32m1_t src);
vbool64_t __riscv_vreinterpret_v_i32m1_b64 (vint32m1_t src);
```

```
vbool32_t __riscv_vreinterpret_v_i32m1_b32 (vint32m1_t src);
vbool16_t __riscv_vreinterpret_v_i32m1_b16 (vint32m1_t src);
vbool8_t __riscv_vreinterpret_v_i32m1_b8 (vint32m1_t src);
vbool4_t __riscv_vreinterpret_v_i32m1_b4 (vint32m1_t src);
```

6.4. Implicit (Overloaded) naming scheme

The implicit (overloaded) interface aims to provide a generic interface that takes values of different EEW and EMUL as the input. Therefore, the implicit intrinsics omit the EEW and EMUL encoded in the function name. The `_rm` prefix for explicit FP rounding mode intrinsics (Section 5.6) is also omitted. The intrinsics under this scheme are the "overloaded intrinsics", which in parallel we have the "non-overloaded intrinsics" defined under Section 6.2.

Take the vector addition (`vadd`) instruction intrinsics as an example, stripping off the operand mnemonics and encoded EEW, EMUL information, the intrinsics provides the following overloaded interfaces.

```
vint32m1_t __riscv_vadd(vint32m1_t v0, vint32m1_t v1, size_t vl);
vint16m4_t __riscv_vadd(vint16m4_t v0, vint16m4_t v1, size_t vl);
```

Since the main intent is to let the users put different value(s) of EEW and EMUL as input argument(s), the overloaded intrinsics do not omit the policy suffix. That is, the suffix listed under Section 5.4 is not omitted and is still encoded in the function name.

The masked variants with the default policy shares the same interface with the unmasked variants with the default policy. They do not have any trailing suffixes.

Take the vector floating-point add (`vfadd`) as an example, the intrinsics provides the following overloaded interfaces.

```
vfloat32m1_t __riscv_vfadd(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                           size_t vl);
vfloat32m1_t __riscv_vfadd(vfloat32m1_t vs2, vfloat32m1_t vs1, unsigned int frm,
                           size_t vl);
vfloat32m1_t __riscv_vfadd(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, unsigned int frm, size_t vl);
```

The naming scheme to prune everything except the instruction mnemonics is not available for all the intrinsics. Please see Section 6.5 for overloaded intrinsics with irregular naming patterns.

Due to the limitations of the C language (without the aid of features like C++ templates), some intrinsics do not have an overloaded version. Therefore these intrinsics do not possess a simplified, EEW/EMUL-omitted interface. Please see Section 6.6 for more detail.

6.5. Exceptions in the implicit (overloaded) naming scheme

The following intrinsics have an irregular naming pattern.

6.5.1. Widening instructions

Widening instruction intrinsics (e.g. `vwadd`) have the same return type but different types of arguments. The operand mnemonics are encoded into their overloaded versions to help distinguish them.

```
vint32m1_t __riscv_vwadd_vv(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_vx(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_wv(vint32m1_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_wx(vint32m1_t vs2, int16_t rs1, size_t vl);
```

6.5.2. Type-convert instructions

Type-convert instruction intrinsics (e.g. `vfcvt.x.f`, `vfcvt.xu.f`, `vfcvt.rtz.xu.f`) encode the returning type mnemonics into their overloaded variants to help distinguish them.

The following shows how `_x`, `_rtz_x`, `_xu`, and `_rtz_xu` are appended to the suffix for distinction.

```
vint32m1_t __riscv_vfcvt_x (vfloat32m1_t src, size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x (vfloat32m1_t src, size_t vl);
vuint32m1_t __riscv_vfcvt_xu (vfloat32m1_t src, size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu (vfloat32m1_t src, size_t vl);
```

6.5.3. `vreinterpret`, LMUL truncate/extension, and `vset`/`vget`

These pseudo intrinsics encode the return type (e.g. `__riscv_vreinterpret_b8`) into their overloaded variants to help distinguish them.

The following shows how the return type is appended to the suffix for distinction.

```
vfloat32m1_t __riscv_vreinterpret_f32m1 (vint32m1_t src);
vuint32m1_t __riscv_vreinterpret_u32m1 (vint32m1_t src);
vint8m1_t __riscv_vreinterpret_i8m1 (vint32m1_t src);
vint16m1_t __riscv_vreinterpret_i16m1 (vint32m1_t src);
vint64m1_t __riscv_vreinterpret_i64m1 (vint32m1_t src);
vbool64_t __riscv_vreinterpret_b64 (vint32m1_t src);
vbool32_t __riscv_vreinterpret_b32 (vint32m1_t src);
vbool16_t __riscv_vreinterpret_b16 (vint32m1_t src);
vbool8_t __riscv_vreinterpret_b8 (vint32m1_t src);
vbool4_t __riscv_vreinterpret_b4 (vint32m1_t src);
```

6.6. Un-supported intrinsics for implicit (overloaded) naming scheme

Due to the limitation of the C language (without the aid of features like C++ templates), some intrinsics do not have an overloaded version. Intrinsics with characteristics of either of the following do not possess an overloaded version.

- Intrinsics with input arguments that are all scalar types and scalar types alone (e.g. unmasked vector load instruction intrinsics, `vmv.s.x`)
- Intrinsics with `vl` as the only argument (e.g. `vmclr`, `vmset`, `vid`)
- Intrinsics with vector boolean input(s), returning a vector non-boolean vector type (e.g. `viota`)

Chapter 7. Type system

The intrinsics are designed to be strongly-typed. The intrinsics provide `vreinterpret` intrinsics to help users go across the strongly-typed scheme if necessary.

Non-mask (integer and floating-point) data types have SEW and LMUL encoded.

7.1. Integer types

Integer types have EEW and EMUL encoded into the type. The first row describes the EMUL and the first column describes the data type and element width of the scalar type.

Types with an asterisk (*) are available when `ELEN >= 64` (that is, unavailable under `Zve32*` and require at least `Zve64x`).

Types	EMUL=1/8	EMUL=1/4	EMUL=1/ 2	EMUL=1	EMUL=2	EMUL=4	EMUL=8
int8_t	vint8mf8_t*	vint8mf4_t	vint8mf2_t	vint8m1_t	vint8m2_t	vint8m4_t	vint8m8_t
int16_t	N/A	vint16mf4_t*	vint16mf2_t	vint16m1_t	vint16m2_t	vint16m4_t	vint16m8_t
int32_t	N/A	N/A	vint32mf2_t*	vint32m1_t	vint32m2_t	vint32m4_t	vint32m8_t
int64_t	N/A	N/A	N/A	vint64m1_t*	vint64m2_t*	vint64m4_t*	vint64m8_t*
uint8_t	vuint8mf8_t*	vuint8mf4_t	vuint8mf2_t	vuint8m1_t	vuint8m2_t	vuint8m4_t	vuint8m8_t
uint16_t	N/A	vuint16mf4_t*	vuint16mf2_t	vuint16m1_t	vuint16m2_t	vuint16m4_t	vuint16m8_t
uint32_t	N/A	N/A	vuint32mf2_t*	vuint32m1_t	vuint32m2_t	vuint32m4_t	vuint32m8_t
uint64_t	N/A	N/A	N/A	vuint64m1_t*	vuint64m2_t*	vuint64m4_t*	vuint64m8_t*

Table 1. Integer types

7.2. Floating-point types



This specification uses `_Float16` to designate IEEE-754 binary16, `float` to designate IEEE-754 binary32 and `double` to designate IEEE-754 binary64.

Floating-point types have EEW and EMUL encoded into the type. The first row describes the EMUL and the first column describes the data type and element width of the scalar type.

Floating-point types with element widths of 16 (Types=`_Float16`) require the `zvfh` and `zvfhmin` extension to be specified in the architecture.

Floating-point types with element widths of 32 (Types=`float`) require the `zve32f` extension to be specified in the architecture.

Floating-point types with element widths of 64 (Types=`double`) require the `zve64d` extension to be specified in the architecture.

Types with an asterisk (*) are available when `ELEN >= 64` (that is, unavailable under `Zve32f` and require at least `Zve64f`).

Types	EMUL=1/8	EMUL=1/4	EMUL=1/ 2	EMUL=1	EMUL=2	EMUL=4	EMUL=8
_Float16	N/A	vfloat16mf4_t*	vfloat16mf2_t	vfloat16m1_t	vfloat16m2_t	vfloat16m4_t	vfloat16m8_t
float	N/A	N/A	vfloat32mf2_t*	vfloat32m1_t	vfloat32m2_t	vfloat32m4_t	vfloat32m8_t
double	N/A	N/A	N/A	vfloat64m1_t	vfloat64m2_t	vfloat64m4_t	vfloat64m8_t

Table 2. Floating-point types

7.3. Mask types

Mask types have the ratio that is derived from `EEW/EMUL` encoded into the type. The mask types represent mask register values that follows the Mask Register Layout.

Types with an asterisk (*) are available when `ELEN >= 64` (that is, unavailable under `Zve32x` and require at least `Zve64x`).

Types	n = 1	n = 2	n = 4	n = 8	n = 16	n = 32	n = 64
bool	vbool1_t	vbool2_t	vbool4_t	vbool8_t	vbool16_t	vbool32_t	vbool64_t*

Table 3. Mask types

7.4. Tuple type

Tuple types encode `SEW`, `LMUL`, and `NFIELD` into the data type.

These types are utilized through the segment load/store instruction intrinsics along with getters Section 8.5 and setters Section 8.6 to extract/combine them. The types listed in Section 7.1 and Section 7.2 all have tuple types. Types under the combination of `LMUL`, `NFIELD` follows the restriction by the RVV specification, `EMUL * NFIELDS ≤ 8`.

Availability of the tuple types follows the availability of their corresponding non-tuple (`NFIELD=1`) types.

Non-tuple Types (NFILED=1)	NFIELD=2	NFIELD=3	NFIELD=4	NFIELD=5	NFIELD=6	NFIELD=7	NFIELD=8
vint8mf8_t	vint8mf8x2_t	vint8mf8x3_t	vint8mf8x4_t	vint8mf8x5_t	vint8mf8x6_t	vint8mf8x7_t	vint8mf8x8_t
vuint8mf8_t	vuint8mf8x2_t	vuint8mf8x3_t	vuint8mf8x4_t	vuint8mf8x5_t	vuint8mf8x6_t	vuint8mf8x7_t	vuint8mf8x8_t

Table 4. Tuple types (EMUL=1/8)

Non-tuple Types (NFILED=1)	NFIELD=2	NFIELD=3	NFIELD=4	NFIELD=5	NFIELD=6	NFIELD=7	NFIELD=8
vint8mf4_t	vint8mf4x2_t	vint8mf4x3_t	vint8mf4x4_t	vint8mf4x5_t	vint8mf4x6_t	vint8mf4x7_t	vint8mf4x8_t
vuint8mf4_t	vuint8mf4x2_t	vuint8mf4x3_t	vuint8mf4x4_t	vuint8mf4x5_t	vuint8mf4x6_t	vuint8mf4x7_t	vuint8mf4x8_t
vint16mf4_t	vint16mf4x2_t	vint16mf4x3_t	vint16mf4x4_t	vint16mf4x5_t	vint16mf4x6_t	vint16mf4x7_t	vint16mf4x8_t
vuint16mf4_t	vuint16mf4x2_t	vuint16mf4x3_t	vuint16mf4x4_t	vuint16mf4x5_t	vuint16mf4x6_t	vuint16mf4x7_t	vuint16mf4x8_t
vfloat16mf4_t	vfloat16mf4x2_t	vfloat16mf4x3_t	vfloat16mf4x4_t	vfloat16mf4x5_t	vfloat16mf4x6_t	vfloat16mf4x7_t	vfloat16mf4x8_t

Table 5. Tuple types (EMUL=1/4)

Non-tuple Types (NFILED=1)	NFIELD=2	NFIELD=3	NFIELD=4	NFIELD=5	NFIELD=6	NFIELD=7	NFIELD=8
vint8mf2_t	vint8mf2x2_t	vint8mf2x3_t	vint8mf2x4_t	vint8mf2x5_t	vint8mf2x6_t	vint8mf2x7_t	vint8mf2x8_t
vuint8mf2_t	vuint8mf2x2_t	vuint8mf2x3_t	vuint8mf2x4_t	vuint8mf2x5_t	vuint8mf2x6_t	vuint8mf2x7_t	vuint8mf2x8_t
vint16mf2_t	vint16mf2x2_t	vint16mf2x3_t	vint16mf2x4_t	vint16mf2x5_t	vint16mf2x6_t	vint16mf2x7_t	vint16mf2x8_t
vuint16mf2_t	vuint16mf2x2_t	vuint16mf2x3_t	vuint16mf2x4_t	vuint16mf2x5_t	vuint16mf2x6_t	vuint16mf2x7_t	vuint16mf2x8_t
vint32mf2_t	vint32mf2x2_t	vint32mf2x3_t	vint32mf2x4_t	vint32mf2x5_t	vint32mf2x6_t	vint32mf2x7_t	vint32mf2x8_t
vuint32mf2_t	vuint32mf2x2_t	vuint32mf2x3_t	vuint32mf2x4_t	vuint32mf2x5_t	vuint32mf2x6_t	vuint32mf2x7_t	vuint32mf2x8_t
vfloat16mf2_t	vfloat16mf2x2_t	vfloat16mf2x3_t	vfloat16mf2x4_t	vfloat16mf2x5_t	vfloat16mf2x6_t	vfloat16mf2x7_t	vfloat16mf2x8_t
vfloat32mf2_t	vfloat32mf2x2_t	vfloat32mf2x3_t	vfloat32mf2x4_t	vfloat32mf2x5_t	vfloat32mf2x6_t	vfloat32mf2x7_t	vfloat32mf2x8_t

Table 6. Tuple types (EMUL=1/2)

Non-tuple Types (NFILED=1)	NFIELD=2	NFIELD=3	NFIELD=4	NFIELD=5	NFIELD=6	NFIELD=7	NFIELD=8
vint8m1_t	vint8m1x2_t	vint8m1x3_t	vint8m1x4_t	vint8m1x5_t	vint8m1x6_t	vint8m1x7_t	vint8m1x8_t
vuint8m1_t	vuint8m1x2_t	vuint8m1x3_t	vuint8m1x4_t	vuint8m1x5_t	vuint8m1x6_t	vuint8m1x7_t	vuint8m1x8_t
vint16m1_t	vint16m1x2_t	vint16m1x3_t	vint16m1x4_t	vint16m1x5_t	vint16m1x6_t	vint16m1x7_t	vint16m1x8_t
vuint16m1_t	vuint16m1x2_t	vuint16m1x3_t	vuint16m1x4_t	vuint16m1x5_t	vuint16m1x6_t	vuint16m1x7_t	vuint16m1x8_t
vint32m1_t	vint32m1x2_t	vint32m1x3_t	vint32m1x4_t	vint32m1x5_t	vint32m1x6_t	vint32m1x7_t	vint32m1x8_t
vuint32m1_t	vuint32m1x2_t	vuint32m1x3_t	vuint32m1x4_t	vuint32m1x5_t	vuint32m1x6_t	vuint32m1x7_t	vuint32m1x8_t
vint64m1_t	vint64m1x2_t	vint64m1x3_t	vint64m1x4_t	vint64m1x5_t	vint64m1x6_t	vint64m1x7_t	vint64m1x8_t
vuint64m1_t	vuint64m1x2_t	vuint64m1x3_t	vuint64m1x4_t	vuint64m1x5_t	vuint64m1x6_t	vuint64m1x7_t	vuint64m1x8_t
vfloat16m1_t	vfloat16m1x2_t	vfloat16m1x3_t	vfloat16m1x4_t	vfloat16m1x5_t	vfloat16m1x6_t	vfloat16m1x7_t	vfloat16m1x8_t
vfloat32m1_t	vfloat32m1x2_t	vfloat32m1x3_t	vfloat32m1x4_t	vfloat32m1x5_t	vfloat32m1x6_t	vfloat32m1x7_t	vfloat32m1x8_t
vfloat64m1_t	vfloat64m1x2_t	vfloat64m1x3_t	vfloat64m1x4_t	vfloat64m1x5_t	vfloat64m1x6_t	vfloat64m1x7_t	vfloat64m1x8_t

Table 7. Tuple types (EMUL=1)

Non-tuple Types (NFILED=1)	NFIELD=2	NFIELD=3	NFIELD=4	NFIELD=5	NFIELD=6	NFIELD=7	NFIELD=8
vint8m2_t	vint8m2x2_t	vint8m2x3_t	vint8m2x4_t	N/A	N/A	N/A	N/A
vuint8m2_t	vuint8m2x2_t	vuint8m2x3_t	vuint8m2x4_t	N/A	N/A	N/A	N/A
vint16m2_t	vint16m2x2_t	vint16m2x3_t	vint16m2x4_t	N/A	N/A	N/A	N/A
vuint16m2_t	vuint16m2x2_t	vuint16m2x3_t	vuint16m2x4_t	N/A	N/A	N/A	N/A
vint32m2_t	vint32m2x2_t	vint32m2x3_t	vint32m2x4_t	N/A	N/A	N/A	N/A
vuint32m2_t	vuint32m2x2_t	vuint32m2x3_t	vuint32m2x4_t	N/A	N/A	N/A	N/A
vint64m2_t	vint64m2x2_t	vint64m2x3_t	vint64m2x4_t	N/A	N/A	N/A	N/A
vuint64m2_t	vuint64m2x2_t	vuint64m2x3_t	vuint64m2x4_t	N/A	N/A	N/A	N/A
vfloat16m2_t	vfloat16m2x2_t	vfloat16m2x3_t	vfloat16m2x4_t	N/A	N/A	N/A	N/A
vfloat32m2_t	vfloat32m2x2_t	vfloat32m2x3_t	vfloat32m2x4_t	N/A	N/A	N/A	N/A
vfloat64m2_t	vfloat64m2x2_t	vfloat64m2x3_t	vfloat64m2x4_t	N/A	N/A	N/A	N/A

Table 8. Tuple types (EMUL=2)

Non-tuple Types (NFILED=1)	NFIELD=2	NFIELD=3	NFIELD=4	NFIELD=5	NFIELD=6	NFIELD=7	NFIELD=8
vint8m4_t	vint8m4x2_t	N/A	N/A	N/A	N/A	N/A	N/A
vuint8m4_t	vuint8m4x2_t	N/A	N/A	N/A	N/A	N/A	N/A
vint16m4_t	vint16m4x2_t	N/A	N/A	N/A	N/A	N/A	N/A
vuint16m4_t	vuint16m4x2_t	N/A	N/A	N/A	N/A	N/A	N/A
vint32m4_t	vint32m4x2_t	N/A	N/A	N/A	N/A	N/A	N/A
vuint32m4_t	vuint32m4x2_t	N/A	N/A	N/A	N/A	N/A	N/A
vint64m4_t	vint64m4x2_t	N/A	N/A	N/A	N/A	N/A	N/A
vuint64m4_t	vuint64m4x2_t	N/A	N/A	N/A	N/A	N/A	N/A
vfloat16m4_t	vfloat16m4x2_t	N/A	N/A	N/A	N/A	N/A	N/A
vfloat32m4_t	vfloat32m4x2_t	N/A	N/A	N/A	N/A	N/A	N/A
vfloat64m4_t	vfloat64m4x2_t	N/A	N/A	N/A	N/A	N/A	N/A

Table 9. Tuple types (EMUL=4)

Chapter 8. Pseudo intrinsics

Pseudo intrinsics provide additional utility functions to assist users in manipulating across intrinsic types. They do not map to any specific RVV instruction. The specific mapping to actual instructions is given in the description of each pseudo intrinsic.

8.1. vsetvl

The `vsetvl` intrinsics return the number of elements processed in a stripmining loop when provided with the element width and LMUL in the intrinsic suffix. This pseudo intrinsic is typically mapped to `vsetvli` or `vsetivli` instructions.



The implementation must respect the ratio between SEW and LMUL given to the intrinsic. On the other hand, as mentioned in Section 5.2, the `vsetvl` *intrinsics do not necessarily map to the emission a* `vsetvli` *or* `vsetivli` *instruction of that exact SEW and LMUL provided. The actual value written to the* `vl` *control register is an implementation defined behavior and typically not known until runtime.*

8.2. vsetvlmax

The `vsetvlmax` intrinsics return `VLMAX` when provided with the element width and LMUL in the intrinsic suffix. This pseudo intrinsic is typically mapped to the `vsetvli` instruction.



As mentioned in Section 5.2, the `vsetvlmax` *intrinsics do not necessarily map to the emission a* `vsetvli` *instruction of that exact SEW and LMUL provided. The actual value written to the* `vl` *control register is an implementation defined behavior and typically not known until runtime.*

8.3. vreinterpret

The `vreinterpret` intrinsics are provided for users to transition across the strongly-typed scheme. The intrinsic is limited to conversion between types operating upon the same number of registers. These intrinsics are not mapped to any instruction because reinterpretation of registers is a no-operation.

These pseudo intrinsics do not alter the bits held by a register. Please use `vfcvt/v(f)wcvt/v(f)ncvt` intrinsics if you seek to extend, narrow, or perform real float/interger type conversions for the values.

8.4. vundefined

The `vundefined` intrinsics are placeholders to represent unspecified values in variable initialization, or as arguments of `vset` and `vcreate`. These pseudo intrinsics are not mapped to any instruction.

8.5. vget

The `vget` intrinsics allow users to obtain small LMUL values from larger LMUL ones. The `vget` intrinsics also allows users to extract non-tuple (`NFIELD=1`) types from tuple (`NFIELD>1`) types after segment load intrinsics. The index provided must be a constant known at compile time.

These pseudo intrinsics do not map to any real instruction. The compiler may emit zero or more instructions to implement the semantics of these pseudo intrinsics. The precise set of instructions emitted is a compiler optimization issue.

8.6. vset

The `vset` intrinsics allow users to combine small LMUL values into larger LMUL ones. The `vset` intrinsics also allows users to combine non-tuple (`NFIELD=1`) types to tuple (`NFIELD>1`) types for segment store intrinsics. The index provided must be a constant known at compile time.

These pseudo intrinsics do not map to any real instruction. The compiler may emit zero or more instructions to implement the semantics of these pseudo intrinsics. The precise set of instructions emitted is a compiler optimization issue.

8.7. vlmul_trunc

The `vlmul_trunc` intrinsics are syntactic sugar for RVV vector types other than tuples and have the same semantic as `vget` with the `index` operand having the value `0`.

8.8. vlmul_ext

The `vlmul_ext` intrinsics are syntactic sugar for RVV vector types other than tuples and have the same semantic as `vset` with the `index` operand having the value `0`.

8.9. vcreate

The `vcreate` intrinsics are syntactic sugar for the creation of values of RVV types. They have the same semantic as multiple `vset` pseudo intrinsics filling in values accordingly.

Example 1. Pseudo intrinsic `vcreate` *used to build a SEW=32, LMUL=4* `float` *vector (*`vfloat32m4`*) from two SEW=32, LMUL=2* `float` *vectors (*`vfloat32m2`*).*

```
// Given the following declarations
vfloat32m4_t dest;
vfloat32m2_t v0 = ...;
vfloat32m2_t v1 = ...;

// this pseudo intrinsic
dest = __riscv_vcreate_v_f32m2_f32m4(v0, v1);

// is semantically equivalent to
dest = __riscv_vset_v_f32m2_f32m4(__riscv_vundefined_f32m4(), 0, v0);
dest = __riscv_vset_v_f32m2_f32m4(dest, 1, v1);
```

8.10. vlenb

The `vlenb` intrinsic returns what is held inside the read-only CSR `vlenb`, which is the vector register length in bytes. This pseudo intrinsic is mapped to a `csrr` instruction that reads from the CSR `vlenb`.

```
unsigned __riscv_vlenb();
```

Chapter 9. Programming Notes

9.1. Agnostic value in the RVV C intrinsics

An agnostic value is in the granularity of "element" contained in an RVV type. Agnostic values are either:

- Tail element(s) of an RVV value produced through a `ta` instruction
- Masked-off element(s) of an RVV value produced through a `ma` instruction
- All elements in an uninitialized value
- A value assigned with the `vundefined` intrinsics

An agnostic value is an indeterminate value and evaluation of an agnostic value is undefined behavior. Users should not rely on any evaluation to an agnostic value.

9.2. Copying vector register group contents

There is no intrinsic that directly maps to the whole vector register move instructions (`vmv<nr>r.v`).

For copying of the vector contents in whole, we encourage the users to use the assignment operator (`=`).

The assignment operator (`=`) represents the semantic of a whole vector register (group) copy for the expression on the right hand side to the RVV type object on the left hand side. The semantic will still maintain a whole vector register content copy for fractional LMUL types. This enables the compiler to coalesce register usage when possible.

Users may leverage the vector move intrinsics (`vmv_v_v`) intrinsics if they hope to copy vector register groups with `vl != VLMAX`.

9.3. The passthrough (`vd`) argument in the intrinsics

Intrinsics whose computation is relevant to the value held in destination register (assembly mnemonics `vd`) have a `vd` argument in them. The following list enumerates the intrinsics that have a `vd` argument. Please see the appendix for the exact prototypes of these intrinsics.

- Intrinsics with tail-undisturbed (`vta=0`)
- Intrinsics with mask-undisturbed (`vma=0`)
- Intrinsics representing Vector Multiply-Add Operations
- Intrinsics representing Vector Slideup Instructions

For intrinsics with no `vd` argument, the implementation is free to pick any register as the destination register.

9.4. Assumption of `vstart=0` for intrinsics users.

The `vstart` CSR is currently not exposed to the intrinsics programmer, and the intrinsics have the semantics of `vstart = 0`. Support for positive `vstart` values is implementation -defined; thus,

portable application software should not set `vstart > 0`.

9.5. Assembly generated from the intrinsics

Some users may expect the intrinsics to directly translate and appear in the assembly; however, the intrinsics are the interfaces that expose the vector instruction semantics. The implementation is free to optimize them out if there is an opportunity.

9.6. Bookkeeping of configurations

Control of `vl`, `vtype`, `vxrm`, and `frm` is not directly exposed to the user. The implementation is responsible for setting the correct values into these CSRs to achieve the expected semantics of the intrinsic functions with respect to the conventions defined in the ISA specification (*RISC-V "V" Vector Extension*, n.d.) and ABI specification (*RISC-V Calling Conventions: Vector*, n.d.).

9.7. Strided load/store with stride of 0

The RVV specification mentions that the strided load/store instruction with a stride of 0 could have different behaviors, performing all memory accesses or fewer memory operations. Since needing all memory accesses isn't likely to be common, the implementation is allowed to generate fewer memory operations with strided load/store intrinsics.

In other words, the compiler does not guarantee generating the instruction for all memory accesses in strided load/store intrinsics with a stride of 0. If the user needs all memory accesses to be performed, they should use an indexed load/store intrinsics with all zero indices.

9.8. Leveraging instructions with operand mnemonics of `vi`

The intrinsics provide variants with operand mnemonics of `vv` and `vx`, but not `vi`. This was an intentional design to reduce the total amount of out-going intrinsics.

It is an optimization issue for the implementation to emit instructions with operand mnemonics of `vi` when an immediate that can be expressed within 5-bit is provided to the intrinsics.

9.9. Mixing inline assembly and intrinsics

The compiler will be conservative to registers (`vtype`, `vxrm`, `frm`) when encountering inline assembly. Users should be aware that mixing uses of intrinsics and inline assembly will result in extra save and restore.

9.10. The `new_vl` argument in fault-only-first load intrinsics

The fault-only-first load intrinsics write the new value inside the `vl` register into the address of the `new_vl` argument. Providing an illegal memory location is undefined behavior.

Chapter 10. Examples

This section is non-normative.

No claims about efficiency are made the examples presented in this section.

This section presents examples that use the RVV intrinsics specified in this document. The examples are in C and assume `#include <riscv_vector.h>` has appeared earlier in the source code.

10.1. Memory copy

Example 2. An implementation of the `memcpy` function of the C Standard library using RVV intrinsics.

```
void *memcpy_rvv(void *restrict destination, const void *restrict source,
    size_t n) {
  unsigned char *dst = destination;
  const unsigned char *src = source;
  // copy data byte by byte
  for (size_t vl; n > 0; n -= vl, src += vl, dst += vl) {
    vl = __riscv_vsetvl_e8m8(n);
    // Load src[0..vl)
    vuint8m8_t vec_src = __riscv_vle8_v_u8m8(src, vl);
    // Store dst[0..vl)
    __riscv_vse8_v_u8m8(dst, vec_src, vl);
    // src is incremented vl (bytes)
    // dst is incremented vl (bytes)
    // n is decremented vl
  }
  return destination;
}
```

10.2. SAXPY

Consider the following function that implements a SAXPY-like kernel.

```
void saxpy_reference(size_t n, const float a, const float *x, float *y) {
  for (size_t i = 0; i < n; ++i) {
    y[i] = a * x[i] + y[i];
  }
}
```

Example 3. An implementation of SAXPY using RVV intrinsics.

```
void saxpy_rvv(size_t n, const float a, const float *x, float *y) {
  for (size_t vl; n > 0; n -= vl, x += vl, y += vl) {
    vl = __riscv_vsetvl_e32m8(n);
    // Load x[i..i+vl)
    vfloat32m8_t vx = __riscv_vle32_v_f32m8(x, vl);
    // Load y[i..i+vl)
    vfloat32m8_t vy = __riscv_vle32_v_f32m8(y, vl);
    // Computes vy[0..vl) + a*vx[0..vl)
    // and stores it in y[i..i+vl)
    __riscv_vse32_v_f32m8(y, __riscv_vfmacc_vf_f32m8(vy, a, vx, vl), vl);
  }
```

```
}
```

10.3. Matrix multiplication

Consider the following function that implements a naive matrix multiplication.

```
// matrix multiplication
//  C[0..n)[0..m) = A[0..n)[0..p) x B[0..p)[0..m)
void matmul_reference(double *a, double *b, double *c, int n, int m, int p) {
  for (int i = 0; i < n; ++i)
    for (int j = 0; j < m; ++j) {
      c[i * m + j] = 0;
      for (int k = 0; k < p; ++k) {
        c[i * m + j] += a[i * p + k] * b[k * m + j];
      }
    }
}
```

The following example is a version of the matrix multiplication. The accumulation on `c[i * m + j]` is implemented using partial accumulations followed by a single final accumulation.

Example 4. An implementation of a naive matrix multiplication using RVV intrinsics.

```
void matmul_rvv(double *a, double *b, double *c, int n, int m, int p) {
  size_t vlmax = __riscv_vsetvlmax_e64m1();
  for (int i = 0; i < n; ++i)
    for (int j = 0; j < m; ++j) {
      double *ptr_a = &a[i * p];
      double *ptr_b = &b[j];
      int k = p;
      // Set accumulator to  zero.
      vfloat64m1_t vec_s = __riscv_vfmv_v_f_f64m1(0.0, vlmax);
      vfloat64m1_t vec_zero = __riscv_vfmv_v_f_f64m1(0.0, vlmax);
      for (size_t vl; k > 0; k -= vl, ptr_a += vl, ptr_b += vl * m) {
        vl = __riscv_vsetvl_e64m1(k);

        // Load row a[i][k..k+vl)
        vfloat64m1_t vec_a = __riscv_vle64_v_f64m1(ptr_a, vl);
        // Load column b[k..k+vl)[j]
        vfloat64m1_t vec_b =
          __riscv_vlse64_v_f64m1(ptr_b, sizeof(double) * m, vl);

        // Accumulate dot product of row and column. If vl < vlmax we need to
        // preserve the existing values of vec_s, hence the tu policy.
        vec_s = __riscv_vfmacc_vv_f64m1_tu(vec_s, vec_a, vec_b, vl);
      }

      // Final accumulation.
      vfloat64m1_t vec_sum =
        __riscv_vfredusum_vs_f64m1_f64m1(vec_s, vec_zero, vlmax);
      double sum = __riscv_vfmv_f_s_f64m1_f64(vec_sum);
      c[i * m + j] = sum;
    }
}
```

10.4. String copy

Example 5. An implementation of the `strcpy` *function of the C Standard Library using RVV intrinsics.*

```
char *strcpy_rvv(char *destination, const char *source) {
  unsigned char *dst = (unsigned char *)destination;
  unsigned char *src = (unsigned char *)source;
  size_t vlmax = __riscv_vsetvlmax_e8m8();
  long first_set_bit = -1;

  // This loop stops when among the loaded bytes we find the null byte
  // of the string i.e., when first_set_bit >= 0
  for (size_t vl; first_set_bit < 0; src += vl, dst += vl) {
    // Load up to vlmax elements if possible.
    // vl is set to the maximum number of elements, no more than vlmax, that
    // could be loaded without causing a memory fault.
    vuint8m8_t vec_src = __riscv_vle8ff_v_u8m8(src, &vl, vlmax);

    // Mask that states where null bytes are in the loaded bytes.
    vbool1_t string_terminate = __riscv_vmseq_vx_u8m8_b1(vec_src, 0, vl);

    // If the null byte is not in the loaded bytes the resulting mask will
    // be all ones, otherwise only the elements up to and including the
    // first null byte of the resulting will be enabled.
    vbool1_t mask = __riscv_vmsif_m_b1(string_terminate, vl);

    // Store the enabled elements as determined by the mask above.
    __riscv_vse8_v_u8m8_m(mask, dst, vec_src, vl);

    // Determine if we found the null byte in the loaded bytes.
    // If not found, first_set_bit is set to all ones (i.e., -1), otherwise
    // first_set_bit will be the number of the first element enabled in the
    // mask.
    first_set_bit = __riscv_vfirst_m_b1(string_terminate, vl);
  }
  return destination;
}
```

10.5. Control flow

Consider the following function that computes the division of two arrays elementwise but sets the result to a given value when the element of the divisor array is zero.

```
void branch_ref(double *a, double *b, double *c, int n, double constant) {
  for (int i = 0; i < n; ++i) {
    c[i] = (b[i] != 0.0) ? a[i] / b[i] : constant;
  }
}
```

The following example applies if-conversion using masks to implement the semantics of the conditional operator.

Example 6. An implementation of `branch_ref` *using RVV intrinsics.*

```
void branch_rvv(double *a, double *b, double *c, int n, double constant) {
  // set vlmax and initialize variables
  size_t vlmax = __riscv_vsetvlmax_e64m1();
```

```
  // "Broadcast" the value of constant to all (vlmax) the elements in
  // vec_constant.
  vfloat64m1_t vec_constant = __riscv_vfmv_v_f_f64m1(constant, vlmax);
  for (size_t vl; n > 0; n -= vl, a += vl, b += vl, c += vl) {
    vl = __riscv_vsetvl_e64m1(n);

    // Load a[i..i+vl)
    vfloat64m1_t vec_a = __riscv_vle64_v_f64m1(a, vl);
    // Load b[i..i+vl)
    vfloat64m1_t vec_b = __riscv_vle64_v_f64m1(b, vl);

    // Compute a mask whose enabled elements will correspond to the
    // elements of b that are not zero.
    vbool64_t mask = __riscv_vmfne_vf_f64m1_b64(vec_b, 0.0, vl);

    // Use mask undisturbed policy to compute the division for the
    // elements enabled in the mask, otherwise set them to the given
    // constant above (maskedoff).
    vfloat64m1_t vec_c = __riscv_vfdiv_vv_f64m1_mu(
        mask, /*maskedoff*/ vec_constant, vec_a, vec_b, vl);

    // Store into c[i..i+vl)
    __riscv_vse64_v_f64m1(c, vec_c, vl);
  }
}
```

10.6. Reduction and counting

Consider the following function that computes the dot product of two arrays excluding elements of the first array (along with the correspondign element of the second array) where the value is 42. The function also counts how many pairs of elements took part in the dot-product.

```
void reduce_reference(double *a, double *b, double *result_sum,
                      int *result_count, int n) {
  int count = 0;
  double s = 0.0;
  for (int i = 0; i < n; ++i) {
    if (a[i] != 42.0) {
      s += a[i] * b[i];
      count++;
    }
  }

  *result_sum = s;
  *result_count = count;
}
```

The following example implements the accumulation of the `s` variable doing several partial accumulations followed by a final accumulation.

Example 7. An implementation of `reduce_reference` *using RVV intrinsics.*

```
void reduce_rvv(double *a, double *b, double *result_sum, int *result_count,
    int n) {
  int count = 0;
  // set vlmax and initialize variables
  size_t vlmax = __riscv_vsetvlmax_e64m1();
  vfloat64m1_t vec_zero = __riscv_vfmv_v_f_f64m1(0.0, vlmax);
  vfloat64m1_t vec_s = __riscv_vfmv_v_f_f64m1(0.0, vlmax);
```

```
  for (size_t vl; n > 0; n -= vl, a += vl, b += vl) {
    vl = __riscv_vsetvl_e64m1(n);

    // Load a[i..i+vl)
    vfloat64m1_t vec_a = __riscv_vle64_v_f64m1(a, vl);
    // Load b[i..i+vl)
    vfloat64m1_t vec_b = __riscv_vle64_v_f64m1(b, vl);

    // Compute a mask whose enabled elements will correspond to the
    // elements of a that are not 42.
    vbool64_t mask = __riscv_vmfne_vf_f64m1_b64(vec_a, 42.0, vl);

    // for all e in [0..vl)
    //  vec_s[e] ← vec_s[e] + vec_a[e] * vec_b[e], if mask[e] is enabled
    //             vec_s[e]                      , otherwise (mask undisturbed)
    vec_s = __riscv_vfmacc_vv_f64m1_tumu(mask, vec_s, vec_a, vec_b, vl);

    // Adds to count the number of elements in mask that are enabled.
    count += __riscv_vcpop_m_b64(mask, vl);
  }

  vfloat64m1_t vec_sum;
  // Final accumulation.
  vec_sum = __riscv_vfredusum_vs_f64m1_f64m1(vec_s, vec_zero, vlmax);
  double sum = __riscv_vfmv_f_s_f64m1_f64(vec_sum);

  // Return values.
  *result_sum = sum;
  *result_count = count;
}
```

Appendix A: Explicit (Non-overloaded) intrinsics

A.1. Vector Loads and Stores Intrinsics

A.1.1. Vector Unit-Stride Load Intrinsics

```
vfloat16mf4_t __riscv_vle16_v_f16mf4(const _Float16 *rs1, size_t vl);
vfloat16mf2_t __riscv_vle16_v_f16mf2(const _Float16 *rs1, size_t vl);
vfloat16m1_t __riscv_vle16_v_f16m1(const _Float16 *rs1, size_t vl);
vfloat16m2_t __riscv_vle16_v_f16m2(const _Float16 *rs1, size_t vl);
vfloat16m4_t __riscv_vle16_v_f16m4(const _Float16 *rs1, size_t vl);
vfloat16m8_t __riscv_vle16_v_f16m8(const _Float16 *rs1, size_t vl);
vfloat32mf2_t __riscv_vle32_v_f32mf2(const float *rs1, size_t vl);
vfloat32m1_t __riscv_vle32_v_f32m1(const float *rs1, size_t vl);
vfloat32m2_t __riscv_vle32_v_f32m2(const float *rs1, size_t vl);
vfloat32m4_t __riscv_vle32_v_f32m4(const float *rs1, size_t vl);
vfloat32m8_t __riscv_vle32_v_f32m8(const float *rs1, size_t vl);
vfloat64m1_t __riscv_vle64_v_f64m1(const double *rs1, size_t vl);
vfloat64m2_t __riscv_vle64_v_f64m2(const double *rs1, size_t vl);
vfloat64m4_t __riscv_vle64_v_f64m4(const double *rs1, size_t vl);
vfloat64m8_t __riscv_vle64_v_f64m8(const double *rs1, size_t vl);
vint8mf8_t __riscv_vle8_v_i8mf8(const int8_t *rs1, size_t vl);
vint8mf4_t __riscv_vle8_v_i8mf4(const int8_t *rs1, size_t vl);
vint8mf2_t __riscv_vle8_v_i8mf2(const int8_t *rs1, size_t vl);
vint8m1_t __riscv_vle8_v_i8m1(const int8_t *rs1, size_t vl);
vint8m2_t __riscv_vle8_v_i8m2(const int8_t *rs1, size_t vl);
vint8m4_t __riscv_vle8_v_i8m4(const int8_t *rs1, size_t vl);
vint8m8_t __riscv_vle8_v_i8m8(const int8_t *rs1, size_t vl);
vint16mf4_t __riscv_vle16_v_i16mf4(const int16_t *rs1, size_t vl);
vint16mf2_t __riscv_vle16_v_i16mf2(const int16_t *rs1, size_t vl);
vint16m1_t __riscv_vle16_v_i16m1(const int16_t *rs1, size_t vl);
vint16m2_t __riscv_vle16_v_i16m2(const int16_t *rs1, size_t vl);
vint16m4_t __riscv_vle16_v_i16m4(const int16_t *rs1, size_t vl);
vint16m8_t __riscv_vle16_v_i16m8(const int16_t *rs1, size_t vl);
vint32mf2_t __riscv_vle32_v_i32mf2(const int32_t *rs1, size_t vl);
vint32m1_t __riscv_vle32_v_i32m1(const int32_t *rs1, size_t vl);
vint32m2_t __riscv_vle32_v_i32m2(const int32_t *rs1, size_t vl);
vint32m4_t __riscv_vle32_v_i32m4(const int32_t *rs1, size_t vl);
vint32m8_t __riscv_vle32_v_i32m8(const int32_t *rs1, size_t vl);
vint64m1_t __riscv_vle64_v_i64m1(const int64_t *rs1, size_t vl);
vint64m2_t __riscv_vle64_v_i64m2(const int64_t *rs1, size_t vl);
vint64m4_t __riscv_vle64_v_i64m4(const int64_t *rs1, size_t vl);
vint64m8_t __riscv_vle64_v_i64m8(const int64_t *rs1, size_t vl);
vuint8mf8_t __riscv_vle8_v_u8mf8(const uint8_t *rs1, size_t vl);
vuint8mf4_t __riscv_vle8_v_u8mf4(const uint8_t *rs1, size_t vl);
vuint8mf2_t __riscv_vle8_v_u8mf2(const uint8_t *rs1, size_t vl);
vuint8m1_t __riscv_vle8_v_u8m1(const uint8_t *rs1, size_t vl);
vuint8m2_t __riscv_vle8_v_u8m2(const uint8_t *rs1, size_t vl);
vuint8m4_t __riscv_vle8_v_u8m4(const uint8_t *rs1, size_t vl);
vuint8m8_t __riscv_vle8_v_u8m8(const uint8_t *rs1, size_t vl);
vuint16mf4_t __riscv_vle16_v_u16mf4(const uint16_t *rs1, size_t vl);
vuint16mf2_t __riscv_vle16_v_u16mf2(const uint16_t *rs1, size_t vl);
vuint16m1_t __riscv_vle16_v_u16m1(const uint16_t *rs1, size_t vl);
vuint16m2_t __riscv_vle16_v_u16m2(const uint16_t *rs1, size_t vl);
vuint16m4_t __riscv_vle16_v_u16m4(const uint16_t *rs1, size_t vl);
vuint16m8_t __riscv_vle16_v_u16m8(const uint16_t *rs1, size_t vl);
vuint32mf2_t __riscv_vle32_v_u32mf2(const uint32_t *rs1, size_t vl);
vuint32m1_t __riscv_vle32_v_u32m1(const uint32_t *rs1, size_t vl);
vuint32m2_t __riscv_vle32_v_u32m2(const uint32_t *rs1, size_t vl);
vuint32m4_t __riscv_vle32_v_u32m4(const uint32_t *rs1, size_t vl);
```

```
vuint32m8_t __riscv_vle32_v_u32m8(const uint32_t *rs1, size_t vl);
vuint64m1_t __riscv_vle64_v_u64m1(const uint64_t *rs1, size_t vl);
vuint64m2_t __riscv_vle64_v_u64m2(const uint64_t *rs1, size_t vl);
vuint64m4_t __riscv_vle64_v_u64m4(const uint64_t *rs1, size_t vl);
vuint64m8_t __riscv_vle64_v_u64m8(const uint64_t *rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16_v_f16mf4_m(vbool64_t vm, const _Float16 *rs1,
                                       size_t vl);
vfloat16mf2_t __riscv_vle16_v_f16mf2_m(vbool32_t vm, const _Float16 *rs1,
                                       size_t vl);
vfloat16m1_t __riscv_vle16_v_f16m1_m(vbool16_t vm, const _Float16 *rs1,
                                     size_t vl);
vfloat16m2_t __riscv_vle16_v_f16m2_m(vbool8_t vm, const _Float16 *rs1,
                                     size_t vl);
vfloat16m4_t __riscv_vle16_v_f16m4_m(vbool4_t vm, const _Float16 *rs1,
                                     size_t vl);
vfloat16m8_t __riscv_vle16_v_f16m8_m(vbool2_t vm, const _Float16 *rs1,
                                     size_t vl);
vfloat32mf2_t __riscv_vle32_v_f32mf2_m(vbool64_t vm, const float *rs1,
                                       size_t vl);
vfloat32m1_t __riscv_vle32_v_f32m1_m(vbool32_t vm, const float *rs1, size_t vl);
vfloat32m2_t __riscv_vle32_v_f32m2_m(vbool16_t vm, const float *rs1, size_t vl);
vfloat32m4_t __riscv_vle32_v_f32m4_m(vbool8_t vm, const float *rs1, size_t vl);
vfloat32m8_t __riscv_vle32_v_f32m8_m(vbool4_t vm, const float *rs1, size_t vl);
vfloat64m1_t __riscv_vle64_v_f64m1_m(vbool64_t vm, const double *rs1,
                                     size_t vl);
vfloat64m2_t __riscv_vle64_v_f64m2_m(vbool32_t vm, const double *rs1,
                                     size_t vl);
vfloat64m4_t __riscv_vle64_v_f64m4_m(vbool16_t vm, const double *rs1,
                                     size_t vl);
vfloat64m8_t __riscv_vle64_v_f64m8_m(vbool8_t vm, const double *rs1, size_t vl);
vint8mf8_t __riscv_vle8_v_i8mf8_m(vbool64_t vm, const int8_t *rs1, size_t vl);
vint8mf4_t __riscv_vle8_v_i8mf4_m(vbool32_t vm, const int8_t *rs1, size_t vl);
vint8mf2_t __riscv_vle8_v_i8mf2_m(vbool16_t vm, const int8_t *rs1, size_t vl);
vint8m1_t __riscv_vle8_v_i8m1_m(vbool8_t vm, const int8_t *rs1, size_t vl);
vint8m2_t __riscv_vle8_v_i8m2_m(vbool4_t vm, const int8_t *rs1, size_t vl);
vint8m4_t __riscv_vle8_v_i8m4_m(vbool2_t vm, const int8_t *rs1, size_t vl);
vint8m8_t __riscv_vle8_v_i8m8_m(vbool1_t vm, const int8_t *rs1, size_t vl);
vint16mf4_t __riscv_vle16_v_i16mf4_m(vbool64_t vm, const int16_t *rs1,
                                     size_t vl);
vint16mf2_t __riscv_vle16_v_i16mf2_m(vbool32_t vm, const int16_t *rs1,
                                     size_t vl);
vint16m1_t __riscv_vle16_v_i16m1_m(vbool16_t vm, const int16_t *rs1, size_t vl);
vint16m2_t __riscv_vle16_v_i16m2_m(vbool8_t vm, const int16_t *rs1, size_t vl);
vint16m4_t __riscv_vle16_v_i16m4_m(vbool4_t vm, const int16_t *rs1, size_t vl);
vint16m8_t __riscv_vle16_v_i16m8_m(vbool2_t vm, const int16_t *rs1, size_t vl);
vint32mf2_t __riscv_vle32_v_i32mf2_m(vbool64_t vm, const int32_t *rs1,
                                     size_t vl);
vint32m1_t __riscv_vle32_v_i32m1_m(vbool32_t vm, const int32_t *rs1, size_t vl);
vint32m2_t __riscv_vle32_v_i32m2_m(vbool16_t vm, const int32_t *rs1, size_t vl);
vint32m4_t __riscv_vle32_v_i32m4_m(vbool8_t vm, const int32_t *rs1, size_t vl);
vint32m8_t __riscv_vle32_v_i32m8_m(vbool4_t vm, const int32_t *rs1, size_t vl);
vint64m1_t __riscv_vle64_v_i64m1_m(vbool64_t vm, const int64_t *rs1, size_t vl);
vint64m2_t __riscv_vle64_v_i64m2_m(vbool32_t vm, const int64_t *rs1, size_t vl);
vint64m4_t __riscv_vle64_v_i64m4_m(vbool16_t vm, const int64_t *rs1, size_t vl);
vint64m8_t __riscv_vle64_v_i64m8_m(vbool8_t vm, const int64_t *rs1, size_t vl);
vuint8mf8_t __riscv_vle8_v_u8mf8_m(vbool64_t vm, const uint8_t *rs1, size_t vl);
vuint8mf4_t __riscv_vle8_v_u8mf4_m(vbool32_t vm, const uint8_t *rs1, size_t vl);
vuint8mf2_t __riscv_vle8_v_u8mf2_m(vbool16_t vm, const uint8_t *rs1, size_t vl);
vuint8m1_t __riscv_vle8_v_u8m1_m(vbool8_t vm, const uint8_t *rs1, size_t vl);
vuint8m2_t __riscv_vle8_v_u8m2_m(vbool4_t vm, const uint8_t *rs1, size_t vl);
vuint8m4_t __riscv_vle8_v_u8m4_m(vbool2_t vm, const uint8_t *rs1, size_t vl);
vuint8m8_t __riscv_vle8_v_u8m8_m(vbool1_t vm, const uint8_t *rs1, size_t vl);
vuint16mf4_t __riscv_vle16_v_u16mf4_m(vbool64_t vm, const uint16_t *rs1,
                                      size_t vl);
vuint16mf2_t __riscv_vle16_v_u16mf2_m(vbool32_t vm, const uint16_t *rs1,
                                      size_t vl);
```

```
vuint16m1_t __riscv_vle16_v_u16m1_m(vbool16_t vm, const uint16_t *rs1,
                                    size_t vl);
vuint16m2_t __riscv_vle16_v_u16m2_m(vbool8_t vm, const uint16_t *rs1,
                                    size_t vl);
vuint16m4_t __riscv_vle16_v_u16m4_m(vbool4_t vm, const uint16_t *rs1,
                                    size_t vl);
vuint16m8_t __riscv_vle16_v_u16m8_m(vbool2_t vm, const uint16_t *rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vle32_v_u32mf2_m(vbool64_t vm, const uint32_t *rs1,
                                      size_t vl);
vuint32m1_t __riscv_vle32_v_u32m1_m(vbool32_t vm, const uint32_t *rs1,
                                    size_t vl);
vuint32m2_t __riscv_vle32_v_u32m2_m(vbool16_t vm, const uint32_t *rs1,
                                    size_t vl);
vuint32m4_t __riscv_vle32_v_u32m4_m(vbool8_t vm, const uint32_t *rs1,
                                    size_t vl);
vuint32m8_t __riscv_vle32_v_u32m8_m(vbool4_t vm, const uint32_t *rs1,
                                    size_t vl);
vuint64m1_t __riscv_vle64_v_u64m1_m(vbool64_t vm, const uint64_t *rs1,
                                    size_t vl);
vuint64m2_t __riscv_vle64_v_u64m2_m(vbool32_t vm, const uint64_t *rs1,
                                    size_t vl);
vuint64m4_t __riscv_vle64_v_u64m4_m(vbool16_t vm, const uint64_t *rs1,
                                    size_t vl);
vuint64m8_t __riscv_vle64_v_u64m8_m(vbool8_t vm, const uint64_t *rs1,
                                    size_t vl);
```

A.1.2. Vector Unit-Stride Store Intrinsics

```
void __riscv_vse16_v_f16mf4(_Float16 *rs1, vfloat16mf4_t vs3, size_t vl);
void __riscv_vse16_v_f16mf2(_Float16 *rs1, vfloat16mf2_t vs3, size_t vl);
void __riscv_vse16_v_f16m1(_Float16 *rs1, vfloat16m1_t vs3, size_t vl);
void __riscv_vse16_v_f16m2(_Float16 *rs1, vfloat16m2_t vs3, size_t vl);
void __riscv_vse16_v_f16m4(_Float16 *rs1, vfloat16m4_t vs3, size_t vl);
void __riscv_vse16_v_f16m8(_Float16 *rs1, vfloat16m8_t vs3, size_t vl);
void __riscv_vse32_v_f32mf2(float *rs1, vfloat32mf2_t vs3, size_t vl);
void __riscv_vse32_v_f32m1(float *rs1, vfloat32m1_t vs3, size_t vl);
void __riscv_vse32_v_f32m2(float *rs1, vfloat32m2_t vs3, size_t vl);
void __riscv_vse32_v_f32m4(float *rs1, vfloat32m4_t vs3, size_t vl);
void __riscv_vse32_v_f32m8(float *rs1, vfloat32m8_t vs3, size_t vl);
void __riscv_vse64_v_f64m1(double *rs1, vfloat64m1_t vs3, size_t vl);
void __riscv_vse64_v_f64m2(double *rs1, vfloat64m2_t vs3, size_t vl);
void __riscv_vse64_v_f64m4(double *rs1, vfloat64m4_t vs3, size_t vl);
void __riscv_vse64_v_f64m8(double *rs1, vfloat64m8_t vs3, size_t vl);
void __riscv_vse8_v_i8mf8(int8_t *rs1, vint8mf8_t vs3, size_t vl);
void __riscv_vse8_v_i8mf4(int8_t *rs1, vint8mf4_t vs3, size_t vl);
void __riscv_vse8_v_i8mf2(int8_t *rs1, vint8mf2_t vs3, size_t vl);
void __riscv_vse8_v_i8m1(int8_t *rs1, vint8m1_t vs3, size_t vl);
void __riscv_vse8_v_i8m2(int8_t *rs1, vint8m2_t vs3, size_t vl);
void __riscv_vse8_v_i8m4(int8_t *rs1, vint8m4_t vs3, size_t vl);
void __riscv_vse8_v_i8m8(int8_t *rs1, vint8m8_t vs3, size_t vl);
void __riscv_vse16_v_i16mf4(int16_t *rs1, vint16mf4_t vs3, size_t vl);
void __riscv_vse16_v_i16mf2(int16_t *rs1, vint16mf2_t vs3, size_t vl);
void __riscv_vse16_v_i16m1(int16_t *rs1, vint16m1_t vs3, size_t vl);
void __riscv_vse16_v_i16m2(int16_t *rs1, vint16m2_t vs3, size_t vl);
void __riscv_vse16_v_i16m4(int16_t *rs1, vint16m4_t vs3, size_t vl);
void __riscv_vse16_v_i16m8(int16_t *rs1, vint16m8_t vs3, size_t vl);
void __riscv_vse32_v_i32mf2(int32_t *rs1, vint32mf2_t vs3, size_t vl);
void __riscv_vse32_v_i32m1(int32_t *rs1, vint32m1_t vs3, size_t vl);
void __riscv_vse32_v_i32m2(int32_t *rs1, vint32m2_t vs3, size_t vl);
void __riscv_vse32_v_i32m4(int32_t *rs1, vint32m4_t vs3, size_t vl);
void __riscv_vse32_v_i32m8(int32_t *rs1, vint32m8_t vs3, size_t vl);
void __riscv_vse64_v_i64m1(int64_t *rs1, vint64m1_t vs3, size_t vl);
void __riscv_vse64_v_i64m2(int64_t *rs1, vint64m2_t vs3, size_t vl);
void __riscv_vse64_v_i64m4(int64_t *rs1, vint64m4_t vs3, size_t vl);
```

```
void __riscv_vse64_v_i64m8(int64_t *rs1, vint64m8_t vs3, size_t vl);
void __riscv_vse8_v_u8mf8(uint8_t *rs1, vuint8mf8_t vs3, size_t vl);
void __riscv_vse8_v_u8mf4(uint8_t *rs1, vuint8mf4_t vs3, size_t vl);
void __riscv_vse8_v_u8mf2(uint8_t *rs1, vuint8mf2_t vs3, size_t vl);
void __riscv_vse8_v_u8m1(uint8_t *rs1, vuint8m1_t vs3, size_t vl);
void __riscv_vse8_v_u8m2(uint8_t *rs1, vuint8m2_t vs3, size_t vl);
void __riscv_vse8_v_u8m4(uint8_t *rs1, vuint8m4_t vs3, size_t vl);
void __riscv_vse8_v_u8m8(uint8_t *rs1, vuint8m8_t vs3, size_t vl);
void __riscv_vse16_v_u16mf4(uint16_t *rs1, vuint16mf4_t vs3, size_t vl);
void __riscv_vse16_v_u16mf2(uint16_t *rs1, vuint16mf2_t vs3, size_t vl);
void __riscv_vse16_v_u16m1(uint16_t *rs1, vuint16m1_t vs3, size_t vl);
void __riscv_vse16_v_u16m2(uint16_t *rs1, vuint16m2_t vs3, size_t vl);
void __riscv_vse16_v_u16m4(uint16_t *rs1, vuint16m4_t vs3, size_t vl);
void __riscv_vse16_v_u16m8(uint16_t *rs1, vuint16m8_t vs3, size_t vl);
void __riscv_vse32_v_u32mf2(uint32_t *rs1, vuint32mf2_t vs3, size_t vl);
void __riscv_vse32_v_u32m1(uint32_t *rs1, vuint32m1_t vs3, size_t vl);
void __riscv_vse32_v_u32m2(uint32_t *rs1, vuint32m2_t vs3, size_t vl);
void __riscv_vse32_v_u32m4(uint32_t *rs1, vuint32m4_t vs3, size_t vl);
void __riscv_vse32_v_u32m8(uint32_t *rs1, vuint32m8_t vs3, size_t vl);
void __riscv_vse64_v_u64m1(uint64_t *rs1, vuint64m1_t vs3, size_t vl);
void __riscv_vse64_v_u64m2(uint64_t *rs1, vuint64m2_t vs3, size_t vl);
void __riscv_vse64_v_u64m4(uint64_t *rs1, vuint64m4_t vs3, size_t vl);
void __riscv_vse64_v_u64m8(uint64_t *rs1, vuint64m8_t vs3, size_t vl);
// masked functions
void __riscv_vse16_v_f16mf4_m(vbool64_t vm, _Float16 *rs1, vfloat16mf4_t vs3,
                              size_t vl);
void __riscv_vse16_v_f16mf2_m(vbool32_t vm, _Float16 *rs1, vfloat16mf2_t vs3,
                              size_t vl);
void __riscv_vse16_v_f16m1_m(vbool16_t vm, _Float16 *rs1, vfloat16m1_t vs3,
                             size_t vl);
void __riscv_vse16_v_f16m2_m(vbool8_t vm, _Float16 *rs1, vfloat16m2_t vs3,
                             size_t vl);
void __riscv_vse16_v_f16m4_m(vbool4_t vm, _Float16 *rs1, vfloat16m4_t vs3,
                             size_t vl);
void __riscv_vse16_v_f16m8_m(vbool2_t vm, _Float16 *rs1, vfloat16m8_t vs3,
                             size_t vl);
void __riscv_vse32_v_f32mf2_m(vbool64_t vm, float *rs1, vfloat32mf2_t vs3,
                              size_t vl);
void __riscv_vse32_v_f32m1_m(vbool32_t vm, float *rs1, vfloat32m1_t vs3,
                             size_t vl);
void __riscv_vse32_v_f32m2_m(vbool16_t vm, float *rs1, vfloat32m2_t vs3,
                             size_t vl);
void __riscv_vse32_v_f32m4_m(vbool8_t vm, float *rs1, vfloat32m4_t vs3,
                             size_t vl);
void __riscv_vse32_v_f32m8_m(vbool4_t vm, float *rs1, vfloat32m8_t vs3,
                             size_t vl);
void __riscv_vse64_v_f64m1_m(vbool64_t vm, double *rs1, vfloat64m1_t vs3,
                             size_t vl);
void __riscv_vse64_v_f64m2_m(vbool32_t vm, double *rs1, vfloat64m2_t vs3,
                             size_t vl);
void __riscv_vse64_v_f64m4_m(vbool16_t vm, double *rs1, vfloat64m4_t vs3,
                             size_t vl);
void __riscv_vse64_v_f64m8_m(vbool8_t vm, double *rs1, vfloat64m8_t vs3,
                             size_t vl);
void __riscv_vse8_v_i8mf8_m(vbool64_t vm, int8_t *rs1, vint8mf8_t vs3,
                            size_t vl);
void __riscv_vse8_v_i8mf4_m(vbool32_t vm, int8_t *rs1, vint8mf4_t vs3,
                            size_t vl);
void __riscv_vse8_v_i8mf2_m(vbool16_t vm, int8_t *rs1, vint8mf2_t vs3,
                            size_t vl);
void __riscv_vse8_v_i8m1_m(vbool8_t vm, int8_t *rs1, vint8m1_t vs3, size_t vl);
void __riscv_vse8_v_i8m2_m(vbool4_t vm, int8_t *rs1, vint8m2_t vs3, size_t vl);
void __riscv_vse8_v_i8m4_m(vbool2_t vm, int8_t *rs1, vint8m4_t vs3, size_t vl);
void __riscv_vse8_v_i8m8_m(vbool1_t vm, int8_t *rs1, vint8m8_t vs3, size_t vl);
void __riscv_vse16_v_i16mf4_m(vbool64_t vm, int16_t *rs1, vint16mf4_t vs3,
                              size_t vl);
void __riscv_vse16_v_i16mf2_m(vbool32_t vm, int16_t *rs1, vint16mf2_t vs3,
```

```
                              size_t vl);
void __riscv_vse16_v_i16m1_m(vbool16_t vm, int16_t *rs1, vint16m1_t vs3,
                             size_t vl);
void __riscv_vse16_v_i16m2_m(vbool8_t vm, int16_t *rs1, vint16m2_t vs3,
                             size_t vl);
void __riscv_vse16_v_i16m4_m(vbool4_t vm, int16_t *rs1, vint16m4_t vs3,
                             size_t vl);
void __riscv_vse16_v_i16m8_m(vbool2_t vm, int16_t *rs1, vint16m8_t vs3,
                             size_t vl);
void __riscv_vse32_v_i32mf2_m(vbool64_t vm, int32_t *rs1, vint32mf2_t vs3,
                              size_t vl);
void __riscv_vse32_v_i32m1_m(vbool32_t vm, int32_t *rs1, vint32m1_t vs3,
                             size_t vl);
void __riscv_vse32_v_i32m2_m(vbool16_t vm, int32_t *rs1, vint32m2_t vs3,
                             size_t vl);
void __riscv_vse32_v_i32m4_m(vbool8_t vm, int32_t *rs1, vint32m4_t vs3,
                             size_t vl);
void __riscv_vse32_v_i32m8_m(vbool4_t vm, int32_t *rs1, vint32m8_t vs3,
                             size_t vl);
void __riscv_vse64_v_i64m1_m(vbool64_t vm, int64_t *rs1, vint64m1_t vs3,
                             size_t vl);
void __riscv_vse64_v_i64m2_m(vbool32_t vm, int64_t *rs1, vint64m2_t vs3,
                             size_t vl);
void __riscv_vse64_v_i64m4_m(vbool16_t vm, int64_t *rs1, vint64m4_t vs3,
                             size_t vl);
void __riscv_vse64_v_i64m8_m(vbool8_t vm, int64_t *rs1, vint64m8_t vs3,
                             size_t vl);
void __riscv_vse8_v_u8mf8_m(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs3,
                            size_t vl);
void __riscv_vse8_v_u8mf4_m(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs3,
                            size_t vl);
void __riscv_vse8_v_u8mf2_m(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs3,
                            size_t vl);
void __riscv_vse8_v_u8m1_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs3,
                           size_t vl);
void __riscv_vse8_v_u8m2_m(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs3,
                           size_t vl);
void __riscv_vse8_v_u8m4_m(vbool2_t vm, uint8_t *rs1, vuint8m4_t vs3,
                           size_t vl);
void __riscv_vse8_v_u8m8_m(vbool1_t vm, uint8_t *rs1, vuint8m8_t vs3,
                           size_t vl);
void __riscv_vse16_v_u16mf4_m(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs3,
                              size_t vl);
void __riscv_vse16_v_u16mf2_m(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs3,
                              size_t vl);
void __riscv_vse16_v_u16m1_m(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs3,
                             size_t vl);
void __riscv_vse16_v_u16m2_m(vbool8_t vm, uint16_t *rs1, vuint16m2_t vs3,
                             size_t vl);
void __riscv_vse16_v_u16m4_m(vbool4_t vm, uint16_t *rs1, vuint16m4_t vs3,
                             size_t vl);
void __riscv_vse16_v_u16m8_m(vbool2_t vm, uint16_t *rs1, vuint16m8_t vs3,
                             size_t vl);
void __riscv_vse32_v_u32mf2_m(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs3,
                              size_t vl);
void __riscv_vse32_v_u32m1_m(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs3,
                             size_t vl);
void __riscv_vse32_v_u32m2_m(vbool16_t vm, uint32_t *rs1, vuint32m2_t vs3,
                             size_t vl);
void __riscv_vse32_v_u32m4_m(vbool8_t vm, uint32_t *rs1, vuint32m4_t vs3,
                             size_t vl);
void __riscv_vse32_v_u32m8_m(vbool4_t vm, uint32_t *rs1, vuint32m8_t vs3,
                             size_t vl);
void __riscv_vse64_v_u64m1_m(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs3,
                             size_t vl);
void __riscv_vse64_v_u64m2_m(vbool32_t vm, uint64_t *rs1, vuint64m2_t vs3,
                             size_t vl);
```

```
void __riscv_vse64_v_u64m4_m(vbool16_t vm, uint64_t *rs1, vuint64m4_t vs3,
                             size_t vl);
void __riscv_vse64_v_u64m8_m(vbool8_t vm, uint64_t *rs1, vuint64m8_t vs3,
                             size_t vl);
```

A.1.3. Vector Mask Load/Store Intrinsics

```
vbool1_t __riscv_vlm_v_b1(const uint8_t *rs1, size_t vl);
vbool2_t __riscv_vlm_v_b2(const uint8_t *rs1, size_t vl);
vbool4_t __riscv_vlm_v_b4(const uint8_t *rs1, size_t vl);
vbool8_t __riscv_vlm_v_b8(const uint8_t *rs1, size_t vl);
vbool16_t __riscv_vlm_v_b16(const uint8_t *rs1, size_t vl);
vbool32_t __riscv_vlm_v_b32(const uint8_t *rs1, size_t vl);
vbool64_t __riscv_vlm_v_b64(const uint8_t *rs1, size_t vl);
void __riscv_vsm_v_b1(uint8_t *rs1, vbool1_t vs3, size_t vl);
void __riscv_vsm_v_b2(uint8_t *rs1, vbool2_t vs3, size_t vl);
void __riscv_vsm_v_b4(uint8_t *rs1, vbool4_t vs3, size_t vl);
void __riscv_vsm_v_b8(uint8_t *rs1, vbool8_t vs3, size_t vl);
void __riscv_vsm_v_b16(uint8_t *rs1, vbool16_t vs3, size_t vl);
void __riscv_vsm_v_b32(uint8_t *rs1, vbool32_t vs3, size_t vl);
void __riscv_vsm_v_b64(uint8_t *rs1, vbool64_t vs3, size_t vl);
```

A.1.4. Vector Strided Load Intrinsics

```
vfloat16mf4_t __riscv_vlse16_v_f16mf4(const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16mf2_t __riscv_vlse16_v_f16mf2(const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1_t __riscv_vlse16_v_f16m1(const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m2_t __riscv_vlse16_v_f16m2(const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m4_t __riscv_vlse16_v_f16m4(const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m8_t __riscv_vlse16_v_f16m8(const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32mf2_t __riscv_vlse32_v_f32mf2(const float *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat32m1_t __riscv_vlse32_v_f32m1(const float *rs1, ptrdiff_t rs2, size_t vl);
vfloat32m2_t __riscv_vlse32_v_f32m2(const float *rs1, ptrdiff_t rs2, size_t vl);
vfloat32m4_t __riscv_vlse32_v_f32m4(const float *rs1, ptrdiff_t rs2, size_t vl);
vfloat32m8_t __riscv_vlse32_v_f32m8(const float *rs1, ptrdiff_t rs2, size_t vl);
vfloat64m1_t __riscv_vlse64_v_f64m1(const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m2_t __riscv_vlse64_v_f64m2(const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m4_t __riscv_vlse64_v_f64m4(const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m8_t __riscv_vlse64_v_f64m8(const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf8_t __riscv_vlse8_v_i8mf8(const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4_t __riscv_vlse8_v_i8mf4(const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2_t __riscv_vlse8_v_i8mf2(const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1_t __riscv_vlse8_v_i8m1(const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m2_t __riscv_vlse8_v_i8m2(const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m4_t __riscv_vlse8_v_i8m4(const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m8_t __riscv_vlse8_v_i8m8(const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint16mf4_t __riscv_vlse16_v_i16mf4(const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf2_t __riscv_vlse16_v_i16mf2(const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m1_t __riscv_vlse16_v_i16m1(const int16_t *rs1, ptrdiff_t rs2, size_t vl);
```

```
vint16m2_t __riscv_vlse16_v_i16m2(const int16_t *rs1, ptrdiff_t rs2, size_t vl);
vint16m4_t __riscv_vlse16_v_i16m4(const int16_t *rs1, ptrdiff_t rs2, size_t vl);
vint16m8_t __riscv_vlse16_v_i16m8(const int16_t *rs1, ptrdiff_t rs2, size_t vl);
vint32mf2_t __riscv_vlse32_v_i32mf2(const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1_t __riscv_vlse32_v_i32m1(const int32_t *rs1, ptrdiff_t rs2, size_t vl);
vint32m2_t __riscv_vlse32_v_i32m2(const int32_t *rs1, ptrdiff_t rs2, size_t vl);
vint32m4_t __riscv_vlse32_v_i32m4(const int32_t *rs1, ptrdiff_t rs2, size_t vl);
vint32m8_t __riscv_vlse32_v_i32m8(const int32_t *rs1, ptrdiff_t rs2, size_t vl);
vint64m1_t __riscv_vlse64_v_i64m1(const int64_t *rs1, ptrdiff_t rs2, size_t vl);
vint64m2_t __riscv_vlse64_v_i64m2(const int64_t *rs1, ptrdiff_t rs2, size_t vl);
vint64m4_t __riscv_vlse64_v_i64m4(const int64_t *rs1, ptrdiff_t rs2, size_t vl);
vint64m8_t __riscv_vlse64_v_i64m8(const int64_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8mf8_t __riscv_vlse8_v_u8mf8(const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8mf4_t __riscv_vlse8_v_u8mf4(const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8mf2_t __riscv_vlse8_v_u8mf2(const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m1_t __riscv_vlse8_v_u8m1(const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m2_t __riscv_vlse8_v_u8m2(const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m4_t __riscv_vlse8_v_u8m4(const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m8_t __riscv_vlse8_v_u8m8(const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16mf4_t __riscv_vlse16_v_u16mf4(const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf2_t __riscv_vlse16_v_u16mf2(const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16m1_t __riscv_vlse16_v_u16m1(const uint16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint16m2_t __riscv_vlse16_v_u16m2(const uint16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint16m4_t __riscv_vlse16_v_u16m4(const uint16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint16m8_t __riscv_vlse16_v_u16m8(const uint16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint32mf2_t __riscv_vlse32_v_u32mf2(const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32m1_t __riscv_vlse32_v_u32m1(const uint32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint32m2_t __riscv_vlse32_v_u32m2(const uint32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint32m4_t __riscv_vlse32_v_u32m4(const uint32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint32m8_t __riscv_vlse32_v_u32m8(const uint32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint64m1_t __riscv_vlse64_v_u64m1(const uint64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint64m2_t __riscv_vlse64_v_u64m2(const uint64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint64m4_t __riscv_vlse64_v_u64m4(const uint64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint64m8_t __riscv_vlse64_v_u64m8(const uint64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
// masked functions
vfloat16mf4_t __riscv_vlse16_v_f16mf4_m(vbool64_t vm, const _Float16 *rs1,
                                        ptrdiff_t rs2, size_t vl);
vfloat16mf2_t __riscv_vlse16_v_f16mf2_m(vbool32_t vm, const _Float16 *rs1,
                                        ptrdiff_t rs2, size_t vl);
vfloat16m1_t __riscv_vlse16_v_f16m1_m(vbool16_t vm, const _Float16 *rs1,
                                      ptrdiff_t rs2, size_t vl);
vfloat16m2_t __riscv_vlse16_v_f16m2_m(vbool8_t vm, const _Float16 *rs1,
                                      ptrdiff_t rs2, size_t vl);
vfloat16m4_t __riscv_vlse16_v_f16m4_m(vbool4_t vm, const _Float16 *rs1,
                                      ptrdiff_t rs2, size_t vl);
vfloat16m8_t __riscv_vlse16_v_f16m8_m(vbool2_t vm, const _Float16 *rs1,
                                      ptrdiff_t rs2, size_t vl);
vfloat32mf2_t __riscv_vlse32_v_f32mf2_m(vbool64_t vm, const float *rs1,
                                        ptrdiff_t rs2, size_t vl);
vfloat32m1_t __riscv_vlse32_v_f32m1_m(vbool32_t vm, const float *rs1,
                                      ptrdiff_t rs2, size_t vl);
```

```
vfloat32m2_t __riscv_vlse32_v_f32m2_m(vbool16_t vm, const float *rs1,
                                      ptrdiff_t rs2, size_t vl);
vfloat32m4_t __riscv_vlse32_v_f32m4_m(vbool8_t vm, const float *rs1,
                                      ptrdiff_t rs2, size_t vl);
vfloat32m8_t __riscv_vlse32_v_f32m8_m(vbool4_t vm, const float *rs1,
                                      ptrdiff_t rs2, size_t vl);
vfloat64m1_t __riscv_vlse64_v_f64m1_m(vbool64_t vm, const double *rs1,
                                      ptrdiff_t rs2, size_t vl);
vfloat64m2_t __riscv_vlse64_v_f64m2_m(vbool32_t vm, const double *rs1,
                                      ptrdiff_t rs2, size_t vl);
vfloat64m4_t __riscv_vlse64_v_f64m4_m(vbool16_t vm, const double *rs1,
                                      ptrdiff_t rs2, size_t vl);
vfloat64m8_t __riscv_vlse64_v_f64m8_m(vbool8_t vm, const double *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint8mf8_t __riscv_vlse8_v_i8mf8_m(vbool64_t vm, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8mf4_t __riscv_vlse8_v_i8mf4_m(vbool32_t vm, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8mf2_t __riscv_vlse8_v_i8mf2_m(vbool16_t vm, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m1_t __riscv_vlse8_v_i8m1_m(vbool8_t vm, const int8_t *rs1, ptrdiff_t rs2,
                                 size_t vl);
vint8m2_t __riscv_vlse8_v_i8m2_m(vbool4_t vm, const int8_t *rs1, ptrdiff_t rs2,
                                 size_t vl);
vint8m4_t __riscv_vlse8_v_i8m4_m(vbool2_t vm, const int8_t *rs1, ptrdiff_t rs2,
                                 size_t vl);
vint8m8_t __riscv_vlse8_v_i8m8_m(vbool1_t vm, const int8_t *rs1, ptrdiff_t rs2,
                                 size_t vl);
vint16mf4_t __riscv_vlse16_v_i16mf4_m(vbool64_t vm, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf2_t __riscv_vlse16_v_i16mf2_m(vbool32_t vm, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16m1_t __riscv_vlse16_v_i16m1_m(vbool16_t vm, const int16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint16m2_t __riscv_vlse16_v_i16m2_m(vbool8_t vm, const int16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint16m4_t __riscv_vlse16_v_i16m4_m(vbool4_t vm, const int16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint16m8_t __riscv_vlse16_v_i16m8_m(vbool2_t vm, const int16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint32mf2_t __riscv_vlse32_v_i32mf2_m(vbool64_t vm, const int32_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint32m1_t __riscv_vlse32_v_i32m1_m(vbool32_t vm, const int32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint32m2_t __riscv_vlse32_v_i32m2_m(vbool16_t vm, const int32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint32m4_t __riscv_vlse32_v_i32m4_m(vbool8_t vm, const int32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint32m8_t __riscv_vlse32_v_i32m8_m(vbool4_t vm, const int32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint64m1_t __riscv_vlse64_v_i64m1_m(vbool64_t vm, const int64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint64m2_t __riscv_vlse64_v_i64m2_m(vbool32_t vm, const int64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint64m4_t __riscv_vlse64_v_i64m4_m(vbool16_t vm, const int64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint64m8_t __riscv_vlse64_v_i64m8_m(vbool8_t vm, const int64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf8_t __riscv_vlse8_v_u8mf8_m(vbool64_t vm, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf4_t __riscv_vlse8_v_u8mf4_m(vbool32_t vm, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf2_t __riscv_vlse8_v_u8mf2_m(vbool16_t vm, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8m1_t __riscv_vlse8_v_u8m1_m(vbool8_t vm, const uint8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint8m2_t __riscv_vlse8_v_u8m2_m(vbool4_t vm, const uint8_t *rs1,
```

```
                                    ptrdiff_t rs2, size_t vl);
vuint8m4_t __riscv_vlse8_v_u8m4_m(vbool2_t vm, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8m8_t __riscv_vlse8_v_u8m8_m(vbool1_t vm, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint16mf4_t __riscv_vlse16_v_u16mf4_m(vbool64_t vm, const uint16_t *rs1,
                                       ptrdiff_t rs2, size_t vl);
vuint16mf2_t __riscv_vlse16_v_u16mf2_m(vbool32_t vm, const uint16_t *rs1,
                                       ptrdiff_t rs2, size_t vl);
vuint16m1_t __riscv_vlse16_v_u16m1_m(vbool16_t vm, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16m2_t __riscv_vlse16_v_u16m2_m(vbool8_t vm, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16m4_t __riscv_vlse16_v_u16m4_m(vbool4_t vm, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16m8_t __riscv_vlse16_v_u16m8_m(vbool2_t vm, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint32mf2_t __riscv_vlse32_v_u32mf2_m(vbool64_t vm, const uint32_t *rs1,
                                       ptrdiff_t rs2, size_t vl);
vuint32m1_t __riscv_vlse32_v_u32m1_m(vbool32_t vm, const uint32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint32m2_t __riscv_vlse32_v_u32m2_m(vbool16_t vm, const uint32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint32m4_t __riscv_vlse32_v_u32m4_m(vbool8_t vm, const uint32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint32m8_t __riscv_vlse32_v_u32m8_m(vbool4_t vm, const uint32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint64m1_t __riscv_vlse64_v_u64m1_m(vbool64_t vm, const uint64_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint64m2_t __riscv_vlse64_v_u64m2_m(vbool32_t vm, const uint64_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint64m4_t __riscv_vlse64_v_u64m4_m(vbool16_t vm, const uint64_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint64m8_t __riscv_vlse64_v_u64m8_m(vbool8_t vm, const uint64_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
```

A.1.5. Vector Strided Store Intrinsics

```
void __riscv_vsse16_v_f16mf4(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf4_t vs3,
                             size_t vl);
void __riscv_vsse16_v_f16mf2(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf2_t vs3,
                             size_t vl);
void __riscv_vsse16_v_f16m1(_Float16 *rs1, ptrdiff_t rs2, vfloat16m1_t vs3,
                            size_t vl);
void __riscv_vsse16_v_f16m2(_Float16 *rs1, ptrdiff_t rs2, vfloat16m2_t vs3,
                            size_t vl);
void __riscv_vsse16_v_f16m4(_Float16 *rs1, ptrdiff_t rs2, vfloat16m4_t vs3,
                            size_t vl);
void __riscv_vsse16_v_f16m8(_Float16 *rs1, ptrdiff_t rs2, vfloat16m8_t vs3,
                            size_t vl);
void __riscv_vsse32_v_f32mf2(float *rs1, ptrdiff_t rs2, vfloat32mf2_t vs3,
                             size_t vl);
void __riscv_vsse32_v_f32m1(float *rs1, ptrdiff_t rs2, vfloat32m1_t vs3,
                            size_t vl);
void __riscv_vsse32_v_f32m2(float *rs1, ptrdiff_t rs2, vfloat32m2_t vs3,
                            size_t vl);
void __riscv_vsse32_v_f32m4(float *rs1, ptrdiff_t rs2, vfloat32m4_t vs3,
                            size_t vl);
void __riscv_vsse32_v_f32m8(float *rs1, ptrdiff_t rs2, vfloat32m8_t vs3,
                            size_t vl);
void __riscv_vsse64_v_f64m1(double *rs1, ptrdiff_t rs2, vfloat64m1_t vs3,
                            size_t vl);
void __riscv_vsse64_v_f64m2(double *rs1, ptrdiff_t rs2, vfloat64m2_t vs3,
                            size_t vl);
void __riscv_vsse64_v_f64m4(double *rs1, ptrdiff_t rs2, vfloat64m4_t vs3,
```

```
                            size_t vl);
void __riscv_vsse64_v_f64m8(double *rs1, ptrdiff_t rs2, vfloat64m8_t vs3,
                            size_t vl);
void __riscv_vsse8_v_i8mf8(int8_t *rs1, ptrdiff_t rs2, vint8mf8_t vs3,
                           size_t vl);
void __riscv_vsse8_v_i8mf4(int8_t *rs1, ptrdiff_t rs2, vint8mf4_t vs3,
                           size_t vl);
void __riscv_vsse8_v_i8mf2(int8_t *rs1, ptrdiff_t rs2, vint8mf2_t vs3,
                           size_t vl);
void __riscv_vsse8_v_i8m1(int8_t *rs1, ptrdiff_t rs2, vint8m1_t vs3, size_t vl);
void __riscv_vsse8_v_i8m2(int8_t *rs1, ptrdiff_t rs2, vint8m2_t vs3, size_t vl);
void __riscv_vsse8_v_i8m4(int8_t *rs1, ptrdiff_t rs2, vint8m4_t vs3, size_t vl);
void __riscv_vsse8_v_i8m8(int8_t *rs1, ptrdiff_t rs2, vint8m8_t vs3, size_t vl);
void __riscv_vsse16_v_i16mf4(int16_t *rs1, ptrdiff_t rs2, vint16mf4_t vs3,
                             size_t vl);
void __riscv_vsse16_v_i16mf2(int16_t *rs1, ptrdiff_t rs2, vint16mf2_t vs3,
                             size_t vl);
void __riscv_vsse16_v_i16m1(int16_t *rs1, ptrdiff_t rs2, vint16m1_t vs3,
                            size_t vl);
void __riscv_vsse16_v_i16m2(int16_t *rs1, ptrdiff_t rs2, vint16m2_t vs3,
                            size_t vl);
void __riscv_vsse16_v_i16m4(int16_t *rs1, ptrdiff_t rs2, vint16m4_t vs3,
                            size_t vl);
void __riscv_vsse16_v_i16m8(int16_t *rs1, ptrdiff_t rs2, vint16m8_t vs3,
                            size_t vl);
void __riscv_vsse32_v_i32mf2(int32_t *rs1, ptrdiff_t rs2, vint32mf2_t vs3,
                             size_t vl);
void __riscv_vsse32_v_i32m1(int32_t *rs1, ptrdiff_t rs2, vint32m1_t vs3,
                            size_t vl);
void __riscv_vsse32_v_i32m2(int32_t *rs1, ptrdiff_t rs2, vint32m2_t vs3,
                            size_t vl);
void __riscv_vsse32_v_i32m4(int32_t *rs1, ptrdiff_t rs2, vint32m4_t vs3,
                            size_t vl);
void __riscv_vsse32_v_i32m8(int32_t *rs1, ptrdiff_t rs2, vint32m8_t vs3,
                            size_t vl);
void __riscv_vsse64_v_i64m1(int64_t *rs1, ptrdiff_t rs2, vint64m1_t vs3,
                            size_t vl);
void __riscv_vsse64_v_i64m2(int64_t *rs1, ptrdiff_t rs2, vint64m2_t vs3,
                            size_t vl);
void __riscv_vsse64_v_i64m4(int64_t *rs1, ptrdiff_t rs2, vint64m4_t vs3,
                            size_t vl);
void __riscv_vsse64_v_i64m8(int64_t *rs1, ptrdiff_t rs2, vint64m8_t vs3,
                            size_t vl);
void __riscv_vsse8_v_u8mf8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8_t vs3,
                           size_t vl);
void __riscv_vsse8_v_u8mf4(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4_t vs3,
                           size_t vl);
void __riscv_vsse8_v_u8mf2(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2_t vs3,
                           size_t vl);
void __riscv_vsse8_v_u8m1(uint8_t *rs1, ptrdiff_t rs2, vuint8m1_t vs3,
                          size_t vl);
void __riscv_vsse8_v_u8m2(uint8_t *rs1, ptrdiff_t rs2, vuint8m2_t vs3,
                          size_t vl);
void __riscv_vsse8_v_u8m4(uint8_t *rs1, ptrdiff_t rs2, vuint8m4_t vs3,
                          size_t vl);
void __riscv_vsse8_v_u8m8(uint8_t *rs1, ptrdiff_t rs2, vuint8m8_t vs3,
                          size_t vl);
void __riscv_vsse16_v_u16mf4(uint16_t *rs1, ptrdiff_t rs2, vuint16mf4_t vs3,
                             size_t vl);
void __riscv_vsse16_v_u16mf2(uint16_t *rs1, ptrdiff_t rs2, vuint16mf2_t vs3,
                             size_t vl);
void __riscv_vsse16_v_u16m1(uint16_t *rs1, ptrdiff_t rs2, vuint16m1_t vs3,
                            size_t vl);
void __riscv_vsse16_v_u16m2(uint16_t *rs1, ptrdiff_t rs2, vuint16m2_t vs3,
                            size_t vl);
void __riscv_vsse16_v_u16m4(uint16_t *rs1, ptrdiff_t rs2, vuint16m4_t vs3,
                            size_t vl);
```

```
void __riscv_vsse16_v_u16m8(uint16_t *rs1, ptrdiff_t rs2, vuint16m8_t vs3,
                            size_t vl);
void __riscv_vsse32_v_u32mf2(uint32_t *rs1, ptrdiff_t rs2, vuint32mf2_t vs3,
                             size_t vl);
void __riscv_vsse32_v_u32m1(uint32_t *rs1, ptrdiff_t rs2, vuint32m1_t vs3,
                            size_t vl);
void __riscv_vsse32_v_u32m2(uint32_t *rs1, ptrdiff_t rs2, vuint32m2_t vs3,
                            size_t vl);
void __riscv_vsse32_v_u32m4(uint32_t *rs1, ptrdiff_t rs2, vuint32m4_t vs3,
                            size_t vl);
void __riscv_vsse32_v_u32m8(uint32_t *rs1, ptrdiff_t rs2, vuint32m8_t vs3,
                            size_t vl);
void __riscv_vsse64_v_u64m1(uint64_t *rs1, ptrdiff_t rs2, vuint64m1_t vs3,
                            size_t vl);
void __riscv_vsse64_v_u64m2(uint64_t *rs1, ptrdiff_t rs2, vuint64m2_t vs3,
                            size_t vl);
void __riscv_vsse64_v_u64m4(uint64_t *rs1, ptrdiff_t rs2, vuint64m4_t vs3,
                            size_t vl);
void __riscv_vsse64_v_u64m8(uint64_t *rs1, ptrdiff_t rs2, vuint64m8_t vs3,
                            size_t vl);
// masked functions
void __riscv_vsse16_v_f16mf4_m(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                               vfloat16mf4_t vs3, size_t vl);
void __riscv_vsse16_v_f16mf2_m(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                               vfloat16mf2_t vs3, size_t vl);
void __riscv_vsse16_v_f16m1_m(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                              vfloat16m1_t vs3, size_t vl);
void __riscv_vsse16_v_f16m2_m(vbool8_t vm, _Float16 *rs1, ptrdiff_t rs2,
                              vfloat16m2_t vs3, size_t vl);
void __riscv_vsse16_v_f16m4_m(vbool4_t vm, _Float16 *rs1, ptrdiff_t rs2,
                              vfloat16m4_t vs3, size_t vl);
void __riscv_vsse16_v_f16m8_m(vbool2_t vm, _Float16 *rs1, ptrdiff_t rs2,
                              vfloat16m8_t vs3, size_t vl);
void __riscv_vsse32_v_f32mf2_m(vbool64_t vm, float *rs1, ptrdiff_t rs2,
                               vfloat32mf2_t vs3, size_t vl);
void __riscv_vsse32_v_f32m1_m(vbool32_t vm, float *rs1, ptrdiff_t rs2,
                              vfloat32m1_t vs3, size_t vl);
void __riscv_vsse32_v_f32m2_m(vbool16_t vm, float *rs1, ptrdiff_t rs2,
                              vfloat32m2_t vs3, size_t vl);
void __riscv_vsse32_v_f32m4_m(vbool8_t vm, float *rs1, ptrdiff_t rs2,
                              vfloat32m4_t vs3, size_t vl);
void __riscv_vsse32_v_f32m8_m(vbool4_t vm, float *rs1, ptrdiff_t rs2,
                              vfloat32m8_t vs3, size_t vl);
void __riscv_vsse64_v_f64m1_m(vbool64_t vm, double *rs1, ptrdiff_t rs2,
                              vfloat64m1_t vs3, size_t vl);
void __riscv_vsse64_v_f64m2_m(vbool32_t vm, double *rs1, ptrdiff_t rs2,
                              vfloat64m2_t vs3, size_t vl);
void __riscv_vsse64_v_f64m4_m(vbool16_t vm, double *rs1, ptrdiff_t rs2,
                              vfloat64m4_t vs3, size_t vl);
void __riscv_vsse64_v_f64m8_m(vbool8_t vm, double *rs1, ptrdiff_t rs2,
                              vfloat64m8_t vs3, size_t vl);
void __riscv_vsse8_v_i8mf8_m(vbool64_t vm, int8_t *rs1, ptrdiff_t rs2,
                             vint8mf8_t vs3, size_t vl);
void __riscv_vsse8_v_i8mf4_m(vbool32_t vm, int8_t *rs1, ptrdiff_t rs2,
                             vint8mf4_t vs3, size_t vl);
void __riscv_vsse8_v_i8mf2_m(vbool16_t vm, int8_t *rs1, ptrdiff_t rs2,
                             vint8mf2_t vs3, size_t vl);
void __riscv_vsse8_v_i8m1_m(vbool8_t vm, int8_t *rs1, ptrdiff_t rs2,
                            vint8m1_t vs3, size_t vl);
void __riscv_vsse8_v_i8m2_m(vbool4_t vm, int8_t *rs1, ptrdiff_t rs2,
                            vint8m2_t vs3, size_t vl);
void __riscv_vsse8_v_i8m4_m(vbool2_t vm, int8_t *rs1, ptrdiff_t rs2,
                            vint8m4_t vs3, size_t vl);
void __riscv_vsse8_v_i8m8_m(vbool1_t vm, int8_t *rs1, ptrdiff_t rs2,
                            vint8m8_t vs3, size_t vl);
void __riscv_vsse16_v_i16mf4_m(vbool64_t vm, int16_t *rs1, ptrdiff_t rs2,
                               vint16mf4_t vs3, size_t vl);
```

```
void __riscv_vsse16_v_i16mf2_m(vbool32_t vm, int16_t *rs1, ptrdiff_t rs2,
                               vint16mf2_t vs3, size_t vl);
void __riscv_vsse16_v_i16m1_m(vbool16_t vm, int16_t *rs1, ptrdiff_t rs2,
                              vint16m1_t vs3, size_t vl);
void __riscv_vsse16_v_i16m2_m(vbool8_t vm, int16_t *rs1, ptrdiff_t rs2,
                              vint16m2_t vs3, size_t vl);
void __riscv_vsse16_v_i16m4_m(vbool4_t vm, int16_t *rs1, ptrdiff_t rs2,
                              vint16m4_t vs3, size_t vl);
void __riscv_vsse16_v_i16m8_m(vbool2_t vm, int16_t *rs1, ptrdiff_t rs2,
                              vint16m8_t vs3, size_t vl);
void __riscv_vsse32_v_i32mf2_m(vbool64_t vm, int32_t *rs1, ptrdiff_t rs2,
                               vint32mf2_t vs3, size_t vl);
void __riscv_vsse32_v_i32m1_m(vbool32_t vm, int32_t *rs1, ptrdiff_t rs2,
                              vint32m1_t vs3, size_t vl);
void __riscv_vsse32_v_i32m2_m(vbool16_t vm, int32_t *rs1, ptrdiff_t rs2,
                              vint32m2_t vs3, size_t vl);
void __riscv_vsse32_v_i32m4_m(vbool8_t vm, int32_t *rs1, ptrdiff_t rs2,
                              vint32m4_t vs3, size_t vl);
void __riscv_vsse32_v_i32m8_m(vbool4_t vm, int32_t *rs1, ptrdiff_t rs2,
                              vint32m8_t vs3, size_t vl);
void __riscv_vsse64_v_i64m1_m(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                              vint64m1_t vs3, size_t vl);
void __riscv_vsse64_v_i64m2_m(vbool32_t vm, int64_t *rs1, ptrdiff_t rs2,
                              vint64m2_t vs3, size_t vl);
void __riscv_vsse64_v_i64m4_m(vbool16_t vm, int64_t *rs1, ptrdiff_t rs2,
                              vint64m4_t vs3, size_t vl);
void __riscv_vsse64_v_i64m8_m(vbool8_t vm, int64_t *rs1, ptrdiff_t rs2,
                              vint64m8_t vs3, size_t vl);
void __riscv_vsse8_v_u8mf8_m(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                             vuint8mf8_t vs3, size_t vl);
void __riscv_vsse8_v_u8mf4_m(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                             vuint8mf4_t vs3, size_t vl);
void __riscv_vsse8_v_u8mf2_m(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                             vuint8mf2_t vs3, size_t vl);
void __riscv_vsse8_v_u8m1_m(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                            vuint8m1_t vs3, size_t vl);
void __riscv_vsse8_v_u8m2_m(vbool4_t vm, uint8_t *rs1, ptrdiff_t rs2,
                            vuint8m2_t vs3, size_t vl);
void __riscv_vsse8_v_u8m4_m(vbool2_t vm, uint8_t *rs1, ptrdiff_t rs2,
                            vuint8m4_t vs3, size_t vl);
void __riscv_vsse8_v_u8m8_m(vbool1_t vm, uint8_t *rs1, ptrdiff_t rs2,
                            vuint8m8_t vs3, size_t vl);
void __riscv_vsse16_v_u16mf4_m(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                               vuint16mf4_t vs3, size_t vl);
void __riscv_vsse16_v_u16mf2_m(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                               vuint16mf2_t vs3, size_t vl);
void __riscv_vsse16_v_u16m1_m(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                              vuint16m1_t vs3, size_t vl);
void __riscv_vsse16_v_u16m2_m(vbool8_t vm, uint16_t *rs1, ptrdiff_t rs2,
                              vuint16m2_t vs3, size_t vl);
void __riscv_vsse16_v_u16m4_m(vbool4_t vm, uint16_t *rs1, ptrdiff_t rs2,
                              vuint16m4_t vs3, size_t vl);
void __riscv_vsse16_v_u16m8_m(vbool2_t vm, uint16_t *rs1, ptrdiff_t rs2,
                              vuint16m8_t vs3, size_t vl);
void __riscv_vsse32_v_u32mf2_m(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                               vuint32mf2_t vs3, size_t vl);
void __riscv_vsse32_v_u32m1_m(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                              vuint32m1_t vs3, size_t vl);
void __riscv_vsse32_v_u32m2_m(vbool16_t vm, uint32_t *rs1, ptrdiff_t rs2,
                              vuint32m2_t vs3, size_t vl);
void __riscv_vsse32_v_u32m4_m(vbool8_t vm, uint32_t *rs1, ptrdiff_t rs2,
                              vuint32m4_t vs3, size_t vl);
void __riscv_vsse32_v_u32m8_m(vbool4_t vm, uint32_t *rs1, ptrdiff_t rs2,
                              vuint32m8_t vs3, size_t vl);
void __riscv_vsse64_v_u64m1_m(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                              vuint64m1_t vs3, size_t vl);
void __riscv_vsse64_v_u64m2_m(vbool32_t vm, uint64_t *rs1, ptrdiff_t rs2,
```

```
                                vuint64m2_t vs3, size_t vl);
void __riscv_vsse64_v_u64m4_m(vbool16_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                vuint64m4_t vs3, size_t vl);
void __riscv_vsse64_v_u64m8_m(vbool8_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                vuint64m8_t vs3, size_t vl);
```

A.1.6. Vector Indexed Load Intrinsics

```
vfloat16mf4_t __riscv_vloxei8_v_f16mf4(const _Float16 *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat16mf2_t __riscv_vloxei8_v_f16mf2(const _Float16 *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat16m1_t __riscv_vloxei8_v_f16m1(const _Float16 *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat16m2_t __riscv_vloxei8_v_f16m2(const _Float16 *rs1, vuint8m1_t rs2,
                                     size_t vl);
vfloat16m4_t __riscv_vloxei8_v_f16m4(const _Float16 *rs1, vuint8m2_t rs2,
                                     size_t vl);
vfloat16m8_t __riscv_vloxei8_v_f16m8(const _Float16 *rs1, vuint8m4_t rs2,
                                     size_t vl);
vfloat16mf4_t __riscv_vloxei16_v_f16mf4(const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vloxei16_v_f16mf2(const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16m1_t __riscv_vloxei16_v_f16m1(const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m2_t __riscv_vloxei16_v_f16m2(const _Float16 *rs1, vuint16m2_t rs2,
                                      size_t vl);
vfloat16m4_t __riscv_vloxei16_v_f16m4(const _Float16 *rs1, vuint16m4_t rs2,
                                      size_t vl);
vfloat16m8_t __riscv_vloxei16_v_f16m8(const _Float16 *rs1, vuint16m8_t rs2,
                                      size_t vl);
vfloat16mf4_t __riscv_vloxei32_v_f16mf4(const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vloxei32_v_f16mf2(const _Float16 *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat16m1_t __riscv_vloxei32_v_f16m1(const _Float16 *rs1, vuint32m2_t rs2,
                                      size_t vl);
vfloat16m2_t __riscv_vloxei32_v_f16m2(const _Float16 *rs1, vuint32m4_t rs2,
                                      size_t vl);
vfloat16m4_t __riscv_vloxei32_v_f16m4(const _Float16 *rs1, vuint32m8_t rs2,
                                      size_t vl);
vfloat16mf4_t __riscv_vloxei64_v_f16mf4(const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vloxei64_v_f16mf2(const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16m1_t __riscv_vloxei64_v_f16m1(const _Float16 *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat16m2_t __riscv_vloxei64_v_f16m2(const _Float16 *rs1, vuint64m8_t rs2,
                                      size_t vl);
vfloat32mf2_t __riscv_vloxei8_v_f32mf2(const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32m1_t __riscv_vloxei8_v_f32m1(const float *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat32m2_t __riscv_vloxei8_v_f32m2(const float *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat32m4_t __riscv_vloxei8_v_f32m4(const float *rs1, vuint8m1_t rs2,
                                     size_t vl);
vfloat32m8_t __riscv_vloxei8_v_f32m8(const float *rs1, vuint8m2_t rs2,
                                     size_t vl);
vfloat32mf2_t __riscv_vloxei16_v_f32mf2(const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32m1_t __riscv_vloxei16_v_f32m1(const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m2_t __riscv_vloxei16_v_f32m2(const float *rs1, vuint16m1_t rs2,
```

```
                                     size_t vl);
vfloat32m4_t __riscv_vloxei16_v_f32m4(const float *rs1, vuint16m2_t rs2,
                                     size_t vl);
vfloat32m8_t __riscv_vloxei16_v_f32m8(const float *rs1, vuint16m4_t rs2,
                                     size_t vl);
vfloat32mf2_t __riscv_vloxei32_v_f32mf2(const float *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat32m1_t __riscv_vloxei32_v_f32m1(const float *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat32m2_t __riscv_vloxei32_v_f32m2(const float *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat32m4_t __riscv_vloxei32_v_f32m4(const float *rs1, vuint32m4_t rs2,
                                     size_t vl);
vfloat32m8_t __riscv_vloxei32_v_f32m8(const float *rs1, vuint32m8_t rs2,
                                     size_t vl);
vfloat32mf2_t __riscv_vloxei64_v_f32mf2(const float *rs1, vuint64m1_t rs2,
                                       size_t vl);
vfloat32m1_t __riscv_vloxei64_v_f32m1(const float *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat32m2_t __riscv_vloxei64_v_f32m2(const float *rs1, vuint64m4_t rs2,
                                     size_t vl);
vfloat32m4_t __riscv_vloxei64_v_f32m4(const float *rs1, vuint64m8_t rs2,
                                     size_t vl);
vfloat64m1_t __riscv_vloxei8_v_f64m1(const double *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat64m2_t __riscv_vloxei8_v_f64m2(const double *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat64m4_t __riscv_vloxei8_v_f64m4(const double *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vfloat64m8_t __riscv_vloxei8_v_f64m8(const double *rs1, vuint8m1_t rs2,
                                    size_t vl);
vfloat64m1_t __riscv_vloxei16_v_f64m1(const double *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat64m2_t __riscv_vloxei16_v_f64m2(const double *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat64m4_t __riscv_vloxei16_v_f64m4(const double *rs1, vuint16m1_t rs2,
                                     size_t vl);
vfloat64m8_t __riscv_vloxei16_v_f64m8(const double *rs1, vuint16m2_t rs2,
                                     size_t vl);
vfloat64m1_t __riscv_vloxei32_v_f64m1(const double *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat64m2_t __riscv_vloxei32_v_f64m2(const double *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat64m4_t __riscv_vloxei32_v_f64m4(const double *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat64m8_t __riscv_vloxei32_v_f64m8(const double *rs1, vuint32m4_t rs2,
                                     size_t vl);
vfloat64m1_t __riscv_vloxei64_v_f64m1(const double *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat64m2_t __riscv_vloxei64_v_f64m2(const double *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat64m4_t __riscv_vloxei64_v_f64m4(const double *rs1, vuint64m4_t rs2,
                                     size_t vl);
vfloat64m8_t __riscv_vloxei64_v_f64m8(const double *rs1, vuint64m8_t rs2,
                                     size_t vl);
vfloat16mf4_t __riscv_vluxei8_v_f16mf4(const _Float16 *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat16mf2_t __riscv_vluxei8_v_f16mf2(const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16m1_t __riscv_vluxei8_v_f16m1(const _Float16 *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vfloat16m2_t __riscv_vluxei8_v_f16m2(const _Float16 *rs1, vuint8m1_t rs2,
                                    size_t vl);
vfloat16m4_t __riscv_vluxei8_v_f16m4(const _Float16 *rs1, vuint8m2_t rs2,
                                    size_t vl);
vfloat16m8_t __riscv_vluxei8_v_f16m8(const _Float16 *rs1, vuint8m4_t rs2,
                                    size_t vl);
```

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vfloat16mf4_t __riscv_vluxei16_v_f16mf4(const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vluxei16_v_f16mf2(const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16m1_t __riscv_vluxei16_v_f16m1(const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m2_t __riscv_vluxei16_v_f16m2(const _Float16 *rs1, vuint16m2_t rs2,
                                      size_t vl);
vfloat16m4_t __riscv_vluxei16_v_f16m4(const _Float16 *rs1, vuint16m4_t rs2,
                                      size_t vl);
vfloat16m8_t __riscv_vluxei16_v_f16m8(const _Float16 *rs1, vuint16m8_t rs2,
                                      size_t vl);
vfloat16mf4_t __riscv_vluxei32_v_f16mf4(const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vluxei32_v_f16mf2(const _Float16 *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat16m1_t __riscv_vluxei32_v_f16m1(const _Float16 *rs1, vuint32m2_t rs2,
                                      size_t vl);
vfloat16m2_t __riscv_vluxei32_v_f16m2(const _Float16 *rs1, vuint32m4_t rs2,
                                      size_t vl);
vfloat16m4_t __riscv_vluxei32_v_f16m4(const _Float16 *rs1, vuint32m8_t rs2,
                                      size_t vl);
vfloat16mf4_t __riscv_vluxei64_v_f16mf4(const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vluxei64_v_f16mf2(const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16m1_t __riscv_vluxei64_v_f16m1(const _Float16 *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat16m2_t __riscv_vluxei64_v_f16m2(const _Float16 *rs1, vuint64m8_t rs2,
                                      size_t vl);
vfloat32mf2_t __riscv_vluxei8_v_f32mf2(const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32m1_t __riscv_vluxei8_v_f32m1(const float *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat32m2_t __riscv_vluxei8_v_f32m2(const float *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat32m4_t __riscv_vluxei8_v_f32m4(const float *rs1, vuint8m1_t rs2,
                                     size_t vl);
vfloat32m8_t __riscv_vluxei8_v_f32m8(const float *rs1, vuint8m2_t rs2,
                                     size_t vl);
vfloat32mf2_t __riscv_vluxei16_v_f32mf2(const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32m1_t __riscv_vluxei16_v_f32m1(const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m2_t __riscv_vluxei16_v_f32m2(const float *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat32m4_t __riscv_vluxei16_v_f32m4(const float *rs1, vuint16m2_t rs2,
                                      size_t vl);
vfloat32m8_t __riscv_vluxei16_v_f32m8(const float *rs1, vuint16m4_t rs2,
                                      size_t vl);
vfloat32mf2_t __riscv_vluxei32_v_f32mf2(const float *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat32m1_t __riscv_vluxei32_v_f32m1(const float *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat32m2_t __riscv_vluxei32_v_f32m2(const float *rs1, vuint32m2_t rs2,
                                      size_t vl);
vfloat32m4_t __riscv_vluxei32_v_f32m4(const float *rs1, vuint32m4_t rs2,
                                      size_t vl);
vfloat32m8_t __riscv_vluxei32_v_f32m8(const float *rs1, vuint32m8_t rs2,
                                      size_t vl);
vfloat32mf2_t __riscv_vluxei64_v_f32mf2(const float *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat32m1_t __riscv_vluxei64_v_f32m1(const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m2_t __riscv_vluxei64_v_f32m2(const float *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat32m4_t __riscv_vluxei64_v_f32m4(const float *rs1, vuint64m8_t rs2,
```

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                                     size_t vl);
vfloat64m1_t __riscv_vluxei8_v_f64m1(const double *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vfloat64m2_t __riscv_vluxei8_v_f64m2(const double *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat64m4_t __riscv_vluxei8_v_f64m4(const double *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat64m8_t __riscv_vluxei8_v_f64m8(const double *rs1, vuint8m1_t rs2,
                                     size_t vl);
vfloat64m1_t __riscv_vluxei16_v_f64m1(const double *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vfloat64m2_t __riscv_vluxei16_v_f64m2(const double *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat64m4_t __riscv_vluxei16_v_f64m4(const double *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat64m8_t __riscv_vluxei16_v_f64m8(const double *rs1, vuint16m2_t rs2,
                                      size_t vl);
vfloat64m1_t __riscv_vluxei32_v_f64m1(const double *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vfloat64m2_t __riscv_vluxei32_v_f64m2(const double *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat64m4_t __riscv_vluxei32_v_f64m4(const double *rs1, vuint32m2_t rs2,
                                      size_t vl);
vfloat64m8_t __riscv_vluxei32_v_f64m8(const double *rs1, vuint32m4_t rs2,
                                      size_t vl);
vfloat64m1_t __riscv_vluxei64_v_f64m1(const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m2_t __riscv_vluxei64_v_f64m2(const double *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat64m4_t __riscv_vluxei64_v_f64m4(const double *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat64m8_t __riscv_vluxei64_v_f64m8(const double *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8mf8_t __riscv_vloxei8_v_i8mf8(const int8_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint8mf4_t __riscv_vloxei8_v_i8mf4(const int8_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint8mf2_t __riscv_vloxei8_v_i8mf2(const int8_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint8m1_t __riscv_vloxei8_v_i8m1(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vloxei8_v_i8m2(const int8_t *rs1, vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vloxei8_v_i8m4(const int8_t *rs1, vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vloxei8_v_i8m8(const int8_t *rs1, vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei16_v_i8mf8(const int8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint8mf4_t __riscv_vloxei16_v_i8mf4(const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf2_t __riscv_vloxei16_v_i8mf2(const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8m1_t __riscv_vloxei16_v_i8m1(const int8_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vint8m2_t __riscv_vloxei16_v_i8m2(const int8_t *rs1, vuint16m4_t rs2,
                                  size_t vl);
vint8m4_t __riscv_vloxei16_v_i8m4(const int8_t *rs1, vuint16m8_t rs2,
                                  size_t vl);
vint8mf8_t __riscv_vloxei32_v_i8mf8(const int8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint8mf4_t __riscv_vloxei32_v_i8mf4(const int8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint8mf2_t __riscv_vloxei32_v_i8mf2(const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8m1_t __riscv_vloxei32_v_i8m1(const int8_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vint8m2_t __riscv_vloxei32_v_i8m2(const int8_t *rs1, vuint32m8_t rs2,
                                  size_t vl);
vint8mf8_t __riscv_vloxei64_v_i8mf8(const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
```

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vint8mf4_t __riscv_vloxei64_v_i8mf4(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf2_t __riscv_vloxei64_v_i8mf2(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8m1_t __riscv_vloxei64_v_i8m1(const int8_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vint16mf4_t __riscv_vloxei8_v_i16mf4(const int16_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint16mf2_t __riscv_vloxei8_v_i16mf2(const int16_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint16m1_t __riscv_vloxei8_v_i16m1(const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m2_t __riscv_vloxei8_v_i16m2(const int16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint16m4_t __riscv_vloxei8_v_i16m4(const int16_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint16m8_t __riscv_vloxei8_v_i16m8(const int16_t *rs1, vuint8m4_t rs2,
                                   size_t vl);
vint16mf4_t __riscv_vloxei16_v_i16mf4(const int16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint16mf2_t __riscv_vloxei16_v_i16mf2(const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16m1_t __riscv_vloxei16_v_i16m1(const int16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint16m2_t __riscv_vloxei16_v_i16m2(const int16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint16m4_t __riscv_vloxei16_v_i16m4(const int16_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vint16m8_t __riscv_vloxei16_v_i16m8(const int16_t *rs1, vuint16m8_t rs2,
                                    size_t vl);
vint16mf4_t __riscv_vloxei32_v_i16mf4(const int16_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint16mf2_t __riscv_vloxei32_v_i16mf2(const int16_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint16m1_t __riscv_vloxei32_v_i16m1(const int16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint16m2_t __riscv_vloxei32_v_i16m2(const int16_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint16m4_t __riscv_vloxei32_v_i16m4(const int16_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint16mf4_t __riscv_vloxei64_v_i16mf4(const int16_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint16mf2_t __riscv_vloxei64_v_i16mf2(const int16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint16m1_t __riscv_vloxei64_v_i16m1(const int16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint16m2_t __riscv_vloxei64_v_i16m2(const int16_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint32mf2_t __riscv_vloxei8_v_i32mf2(const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32m1_t __riscv_vloxei8_v_i32m1(const int32_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint32m2_t __riscv_vloxei8_v_i32m2(const int32_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint32m4_t __riscv_vloxei8_v_i32m4(const int32_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint32m8_t __riscv_vloxei8_v_i32m8(const int32_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint32mf2_t __riscv_vloxei16_v_i32mf2(const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32m1_t __riscv_vloxei16_v_i32m1(const int32_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint32m2_t __riscv_vloxei16_v_i32m2(const int32_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint32m4_t __riscv_vloxei16_v_i32m4(const int32_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint32m8_t __riscv_vloxei16_v_i32m8(const int32_t *rs1, vuint16m4_t rs2,
```

```
                                    size_t vl);
vint32mf2_t __riscv_vloxei32_v_i32mf2(const int32_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint32m1_t __riscv_vloxei32_v_i32m1(const int32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint32m2_t __riscv_vloxei32_v_i32m2(const int32_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint32m4_t __riscv_vloxei32_v_i32m4(const int32_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint32m8_t __riscv_vloxei32_v_i32m8(const int32_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint32mf2_t __riscv_vloxei64_v_i32mf2(const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32m1_t __riscv_vloxei64_v_i32m1(const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m2_t __riscv_vloxei64_v_i32m2(const int32_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint32m4_t __riscv_vloxei64_v_i32m4(const int32_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint64m1_t __riscv_vloxei8_v_i64m1(const int64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint64m2_t __riscv_vloxei8_v_i64m2(const int64_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint64m4_t __riscv_vloxei8_v_i64m4(const int64_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint64m8_t __riscv_vloxei8_v_i64m8(const int64_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint64m1_t __riscv_vloxei16_v_i64m1(const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m2_t __riscv_vloxei16_v_i64m2(const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m4_t __riscv_vloxei16_v_i64m4(const int64_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint64m8_t __riscv_vloxei16_v_i64m8(const int64_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint64m1_t __riscv_vloxei32_v_i64m1(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m2_t __riscv_vloxei32_v_i64m2(const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m4_t __riscv_vloxei32_v_i64m4(const int64_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint64m8_t __riscv_vloxei32_v_i64m8(const int64_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint64m1_t __riscv_vloxei64_v_i64m1(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m2_t __riscv_vloxei64_v_i64m2(const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m4_t __riscv_vloxei64_v_i64m4(const int64_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint64m8_t __riscv_vloxei64_v_i64m8(const int64_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint8mf8_t __riscv_vluxei8_v_i8mf8(const int8_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint8mf4_t __riscv_vluxei8_v_i8mf4(const int8_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint8mf2_t __riscv_vluxei8_v_i8mf2(const int8_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint8m1_t __riscv_vluxei8_v_i8m1(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vluxei8_v_i8m2(const int8_t *rs1, vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vluxei8_v_i8m4(const int8_t *rs1, vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vluxei8_v_i8m8(const int8_t *rs1, vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei16_v_i8mf8(const int8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint8mf4_t __riscv_vluxei16_v_i8mf4(const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf2_t __riscv_vluxei16_v_i8mf2(const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
```

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vint8m1_t __riscv_vluxei16_v_i8m1(const int8_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vint8m2_t __riscv_vluxei16_v_i8m2(const int8_t *rs1, vuint16m4_t rs2,
                                  size_t vl);
vint8m4_t __riscv_vluxei16_v_i8m4(const int8_t *rs1, vuint16m8_t rs2,
                                  size_t vl);
vint8mf8_t __riscv_vluxei32_v_i8mf8(const int8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint8mf4_t __riscv_vluxei32_v_i8mf4(const int8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint8mf2_t __riscv_vluxei32_v_i8mf2(const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8m1_t __riscv_vluxei32_v_i8m1(const int8_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vint8m2_t __riscv_vluxei32_v_i8m2(const int8_t *rs1, vuint32m8_t rs2,
                                  size_t vl);
vint8mf8_t __riscv_vluxei64_v_i8mf8(const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf4_t __riscv_vluxei64_v_i8mf4(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf2_t __riscv_vluxei64_v_i8mf2(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8m1_t __riscv_vluxei64_v_i8m1(const int8_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vint16mf4_t __riscv_vluxei8_v_i16mf4(const int16_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint16mf2_t __riscv_vluxei8_v_i16mf2(const int16_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint16m1_t __riscv_vluxei8_v_i16m1(const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m2_t __riscv_vluxei8_v_i16m2(const int16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint16m4_t __riscv_vluxei8_v_i16m4(const int16_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint16m8_t __riscv_vluxei8_v_i16m8(const int16_t *rs1, vuint8m4_t rs2,
                                   size_t vl);
vint16mf4_t __riscv_vluxei16_v_i16mf4(const int16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint16mf2_t __riscv_vluxei16_v_i16mf2(const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16m1_t __riscv_vluxei16_v_i16m1(const int16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint16m2_t __riscv_vluxei16_v_i16m2(const int16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint16m4_t __riscv_vluxei16_v_i16m4(const int16_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vint16m8_t __riscv_vluxei16_v_i16m8(const int16_t *rs1, vuint16m8_t rs2,
                                    size_t vl);
vint16mf4_t __riscv_vluxei32_v_i16mf4(const int16_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint16mf2_t __riscv_vluxei32_v_i16mf2(const int16_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint16m1_t __riscv_vluxei32_v_i16m1(const int16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint16m2_t __riscv_vluxei32_v_i16m2(const int16_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint16m4_t __riscv_vluxei32_v_i16m4(const int16_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint16mf4_t __riscv_vluxei64_v_i16mf4(const int16_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint16mf2_t __riscv_vluxei64_v_i16mf2(const int16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint16m1_t __riscv_vluxei64_v_i16m1(const int16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint16m2_t __riscv_vluxei64_v_i16m2(const int16_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint32mf2_t __riscv_vluxei8_v_i32mf2(const int32_t *rs1, vuint8mf8_t rs2,
```

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                                     size_t vl);
vint32m1_t __riscv_vluxei8_v_i32m1(const int32_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint32m2_t __riscv_vluxei8_v_i32m2(const int32_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint32m4_t __riscv_vluxei8_v_i32m4(const int32_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint32m8_t __riscv_vluxei8_v_i32m8(const int32_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint32mf2_t __riscv_vluxei16_v_i32mf2(const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32m1_t __riscv_vluxei16_v_i32m1(const int32_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint32m2_t __riscv_vluxei16_v_i32m2(const int32_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint32m4_t __riscv_vluxei16_v_i32m4(const int32_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint32m8_t __riscv_vluxei16_v_i32m8(const int32_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vint32mf2_t __riscv_vluxei32_v_i32mf2(const int32_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint32m1_t __riscv_vluxei32_v_i32m1(const int32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint32m2_t __riscv_vluxei32_v_i32m2(const int32_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint32m4_t __riscv_vluxei32_v_i32m4(const int32_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint32m8_t __riscv_vluxei32_v_i32m8(const int32_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint32mf2_t __riscv_vluxei64_v_i32mf2(const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32m1_t __riscv_vluxei64_v_i32m1(const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m2_t __riscv_vluxei64_v_i32m2(const int32_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint32m4_t __riscv_vluxei64_v_i32m4(const int32_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint64m1_t __riscv_vluxei8_v_i64m1(const int64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint64m2_t __riscv_vluxei8_v_i64m2(const int64_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint64m4_t __riscv_vluxei8_v_i64m4(const int64_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint64m8_t __riscv_vluxei8_v_i64m8(const int64_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint64m1_t __riscv_vluxei16_v_i64m1(const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m2_t __riscv_vluxei16_v_i64m2(const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m4_t __riscv_vluxei16_v_i64m4(const int64_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint64m8_t __riscv_vluxei16_v_i64m8(const int64_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint64m1_t __riscv_vluxei32_v_i64m1(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m2_t __riscv_vluxei32_v_i64m2(const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m4_t __riscv_vluxei32_v_i64m4(const int64_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint64m8_t __riscv_vluxei32_v_i64m8(const int64_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint64m1_t __riscv_vluxei64_v_i64m1(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m2_t __riscv_vluxei64_v_i64m2(const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m4_t __riscv_vluxei64_v_i64m4(const int64_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
```

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vint64m8_t __riscv_vluxei64_v_i64m8(const int64_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vuint8mf8_t __riscv_vloxei8_v_u8mf8(const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf4_t __riscv_vloxei8_v_u8mf4(const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf2_t __riscv_vloxei8_v_u8mf2(const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8m1_t __riscv_vloxei8_v_u8m1(const uint8_t *rs1, vuint8m1_t rs2,
                                  size_t vl);
vuint8m2_t __riscv_vloxei8_v_u8m2(const uint8_t *rs1, vuint8m2_t rs2,
                                  size_t vl);
vuint8m4_t __riscv_vloxei8_v_u8m4(const uint8_t *rs1, vuint8m4_t rs2,
                                  size_t vl);
vuint8m8_t __riscv_vloxei8_v_u8m8(const uint8_t *rs1, vuint8m8_t rs2,
                                  size_t vl);
vuint8mf8_t __riscv_vloxei16_v_u8mf8(const uint8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint8mf4_t __riscv_vloxei16_v_u8mf4(const uint8_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint8mf2_t __riscv_vloxei16_v_u8mf2(const uint8_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint8m1_t __riscv_vloxei16_v_u8m1(const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m2_t __riscv_vloxei16_v_u8m2(const uint8_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vuint8m4_t __riscv_vloxei16_v_u8m4(const uint8_t *rs1, vuint16m8_t rs2,
                                   size_t vl);
vuint8mf8_t __riscv_vloxei32_v_u8mf8(const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf4_t __riscv_vloxei32_v_u8mf4(const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf2_t __riscv_vloxei32_v_u8mf2(const uint8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint8m1_t __riscv_vloxei32_v_u8m1(const uint8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint8m2_t __riscv_vloxei32_v_u8m2(const uint8_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vuint8mf8_t __riscv_vloxei64_v_u8mf8(const uint8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint8mf4_t __riscv_vloxei64_v_u8mf4(const uint8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint8mf2_t __riscv_vloxei64_v_u8mf2(const uint8_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint8m1_t __riscv_vloxei64_v_u8m1(const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint16mf4_t __riscv_vloxei8_v_u16mf4(const uint16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint16mf2_t __riscv_vloxei8_v_u16mf2(const uint16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint16m1_t __riscv_vloxei8_v_u16m1(const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m2_t __riscv_vloxei8_v_u16m2(const uint16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint16m4_t __riscv_vloxei8_v_u16m4(const uint16_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint16m8_t __riscv_vloxei8_v_u16m8(const uint16_t *rs1, vuint8m4_t rs2,
                                    size_t vl);
vuint16mf4_t __riscv_vloxei16_v_u16mf4(const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf2_t __riscv_vloxei16_v_u16mf2(const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16m1_t __riscv_vloxei16_v_u16m1(const uint16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint16m2_t __riscv_vloxei16_v_u16m2(const uint16_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vuint16m4_t __riscv_vloxei16_v_u16m4(const uint16_t *rs1, vuint16m4_t rs2,
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                                     size_t vl);
vuint16m8_t __riscv_vloxei16_v_u16m8(const uint16_t *rs1, vuint16m8_t rs2,
                                     size_t vl);
vuint16mf4_t __riscv_vloxei32_v_u16mf4(const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf2_t __riscv_vloxei32_v_u16mf2(const uint16_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint16m1_t __riscv_vloxei32_v_u16m1(const uint16_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint16m2_t __riscv_vloxei32_v_u16m2(const uint16_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint16m4_t __riscv_vloxei32_v_u16m4(const uint16_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint16mf4_t __riscv_vloxei64_v_u16mf4(const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf2_t __riscv_vloxei64_v_u16mf2(const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16m1_t __riscv_vloxei64_v_u16m1(const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m2_t __riscv_vloxei64_v_u16m2(const uint16_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint32mf2_t __riscv_vloxei8_v_u32mf2(const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32m1_t __riscv_vloxei8_v_u32m1(const uint32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint32m2_t __riscv_vloxei8_v_u32m2(const uint32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint32m4_t __riscv_vloxei8_v_u32m4(const uint32_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint32m8_t __riscv_vloxei8_v_u32m8(const uint32_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint32mf2_t __riscv_vloxei16_v_u32mf2(const uint32_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint32m1_t __riscv_vloxei16_v_u32m1(const uint32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint32m2_t __riscv_vloxei16_v_u32m2(const uint32_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint32m4_t __riscv_vloxei16_v_u32m4(const uint32_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vuint32m8_t __riscv_vloxei16_v_u32m8(const uint32_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vuint32mf2_t __riscv_vloxei32_v_u32mf2(const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32m1_t __riscv_vloxei32_v_u32m1(const uint32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint32m2_t __riscv_vloxei32_v_u32m2(const uint32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint32m4_t __riscv_vloxei32_v_u32m4(const uint32_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint32m8_t __riscv_vloxei32_v_u32m8(const uint32_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint32mf2_t __riscv_vloxei64_v_u32mf2(const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32m1_t __riscv_vloxei64_v_u32m1(const uint32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint32m2_t __riscv_vloxei64_v_u32m2(const uint32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint32m4_t __riscv_vloxei64_v_u32m4(const uint32_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint64m1_t __riscv_vloxei8_v_u64m1(const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m2_t __riscv_vloxei8_v_u64m2(const uint64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint64m4_t __riscv_vloxei8_v_u64m4(const uint64_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint64m8_t __riscv_vloxei8_v_u64m8(const uint64_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
```

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vuint64m1_t __riscv_vloxei16_v_u64m1(const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m2_t __riscv_vloxei16_v_u64m2(const uint64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint64m4_t __riscv_vloxei16_v_u64m4(const uint64_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint64m8_t __riscv_vloxei16_v_u64m8(const uint64_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vuint64m1_t __riscv_vloxei32_v_u64m1(const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m2_t __riscv_vloxei32_v_u64m2(const uint64_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint64m4_t __riscv_vloxei32_v_u64m4(const uint64_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint64m8_t __riscv_vloxei32_v_u64m8(const uint64_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint64m1_t __riscv_vloxei64_v_u64m1(const uint64_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint64m2_t __riscv_vloxei64_v_u64m2(const uint64_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint64m4_t __riscv_vloxei64_v_u64m4(const uint64_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint64m8_t __riscv_vloxei64_v_u64m8(const uint64_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint8mf8_t __riscv_vluxei8_v_u8mf8(const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf4_t __riscv_vluxei8_v_u8mf4(const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf2_t __riscv_vluxei8_v_u8mf2(const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8m1_t __riscv_vluxei8_v_u8m1(const uint8_t *rs1, vuint8m1_t rs2,
                                  size_t vl);
vuint8m2_t __riscv_vluxei8_v_u8m2(const uint8_t *rs1, vuint8m2_t rs2,
                                  size_t vl);
vuint8m4_t __riscv_vluxei8_v_u8m4(const uint8_t *rs1, vuint8m4_t rs2,
                                  size_t vl);
vuint8m8_t __riscv_vluxei8_v_u8m8(const uint8_t *rs1, vuint8m8_t rs2,
                                  size_t vl);
vuint8mf8_t __riscv_vluxei16_v_u8mf8(const uint8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint8mf4_t __riscv_vluxei16_v_u8mf4(const uint8_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint8mf2_t __riscv_vluxei16_v_u8mf2(const uint8_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint8m1_t __riscv_vluxei16_v_u8m1(const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m2_t __riscv_vluxei16_v_u8m2(const uint8_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vuint8m4_t __riscv_vluxei16_v_u8m4(const uint8_t *rs1, vuint16m8_t rs2,
                                   size_t vl);
vuint8mf8_t __riscv_vluxei32_v_u8mf8(const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf4_t __riscv_vluxei32_v_u8mf4(const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf2_t __riscv_vluxei32_v_u8mf2(const uint8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint8m1_t __riscv_vluxei32_v_u8m1(const uint8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint8m2_t __riscv_vluxei32_v_u8m2(const uint8_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vuint8mf8_t __riscv_vluxei64_v_u8mf8(const uint8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint8mf4_t __riscv_vluxei64_v_u8mf4(const uint8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint8mf2_t __riscv_vluxei64_v_u8mf2(const uint8_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint8m1_t __riscv_vluxei64_v_u8m1(const uint8_t *rs1, vuint64m8_t rs2,
```

```
                                    size_t vl);
vuint16mf4_t __riscv_vluxei8_v_u16mf4(const uint16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint16mf2_t __riscv_vluxei8_v_u16mf2(const uint16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint16m1_t __riscv_vluxei8_v_u16m1(const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m2_t __riscv_vluxei8_v_u16m2(const uint16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint16m4_t __riscv_vluxei8_v_u16m4(const uint16_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint16m8_t __riscv_vluxei8_v_u16m8(const uint16_t *rs1, vuint8m4_t rs2,
                                    size_t vl);
vuint16mf4_t __riscv_vluxei16_v_u16mf4(const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf2_t __riscv_vluxei16_v_u16mf2(const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16m1_t __riscv_vluxei16_v_u16m1(const uint16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint16m2_t __riscv_vluxei16_v_u16m2(const uint16_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vuint16m4_t __riscv_vluxei16_v_u16m4(const uint16_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vuint16m8_t __riscv_vluxei16_v_u16m8(const uint16_t *rs1, vuint16m8_t rs2,
                                     size_t vl);
vuint16mf4_t __riscv_vluxei32_v_u16mf4(const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf2_t __riscv_vluxei32_v_u16mf2(const uint16_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint16m1_t __riscv_vluxei32_v_u16m1(const uint16_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint16m2_t __riscv_vluxei32_v_u16m2(const uint16_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint16m4_t __riscv_vluxei32_v_u16m4(const uint16_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint16mf4_t __riscv_vluxei64_v_u16mf4(const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf2_t __riscv_vluxei64_v_u16mf2(const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16m1_t __riscv_vluxei64_v_u16m1(const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m2_t __riscv_vluxei64_v_u16m2(const uint16_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint32mf2_t __riscv_vluxei8_v_u32mf2(const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32m1_t __riscv_vluxei8_v_u32m1(const uint32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint32m2_t __riscv_vluxei8_v_u32m2(const uint32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint32m4_t __riscv_vluxei8_v_u32m4(const uint32_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint32m8_t __riscv_vluxei8_v_u32m8(const uint32_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint32mf2_t __riscv_vluxei16_v_u32mf2(const uint32_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint32m1_t __riscv_vluxei16_v_u32m1(const uint32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint32m2_t __riscv_vluxei16_v_u32m2(const uint32_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint32m4_t __riscv_vluxei16_v_u32m4(const uint32_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vuint32m8_t __riscv_vluxei16_v_u32m8(const uint32_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vuint32mf2_t __riscv_vluxei32_v_u32mf2(const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32m1_t __riscv_vluxei32_v_u32m1(const uint32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
```

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vuint32m2_t __riscv_vluxei32_v_u32m2(const uint32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint32m4_t __riscv_vluxei32_v_u32m4(const uint32_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint32m8_t __riscv_vluxei32_v_u32m8(const uint32_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint32mf2_t __riscv_vluxei64_v_u32mf2(const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32m1_t __riscv_vluxei64_v_u32m1(const uint32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint32m2_t __riscv_vluxei64_v_u32m2(const uint32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint32m4_t __riscv_vluxei64_v_u32m4(const uint32_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint64m1_t __riscv_vluxei8_v_u64m1(const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m2_t __riscv_vluxei8_v_u64m2(const uint64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint64m4_t __riscv_vluxei8_v_u64m4(const uint64_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint64m8_t __riscv_vluxei8_v_u64m8(const uint64_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint64m1_t __riscv_vluxei16_v_u64m1(const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m2_t __riscv_vluxei16_v_u64m2(const uint64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint64m4_t __riscv_vluxei16_v_u64m4(const uint64_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint64m8_t __riscv_vluxei16_v_u64m8(const uint64_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vuint64m1_t __riscv_vluxei32_v_u64m1(const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m2_t __riscv_vluxei32_v_u64m2(const uint64_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint64m4_t __riscv_vluxei32_v_u64m4(const uint64_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint64m8_t __riscv_vluxei32_v_u64m8(const uint64_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint64m1_t __riscv_vluxei64_v_u64m1(const uint64_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint64m2_t __riscv_vluxei64_v_u64m2(const uint64_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint64m4_t __riscv_vluxei64_v_u64m4(const uint64_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint64m8_t __riscv_vluxei64_v_u64m8(const uint64_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
// masked functions
vfloat16mf4_t __riscv_vloxei8_v_f16mf4_m(vbool64_t vm, const _Float16 *rs1,
                                         vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei8_v_f16mf2_m(vbool32_t vm, const _Float16 *rs1,
                                         vuint8mf4_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei8_v_f16m1_m(vbool16_t vm, const _Float16 *rs1,
                                       vuint8mf2_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei8_v_f16m2_m(vbool8_t vm, const _Float16 *rs1,
                                       vuint8m1_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei8_v_f16m4_m(vbool4_t vm, const _Float16 *rs1,
                                       vuint8m2_t rs2, size_t vl);
vfloat16m8_t __riscv_vloxei8_v_f16m8_m(vbool2_t vm, const _Float16 *rs1,
                                       vuint8m4_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei16_v_f16mf4_m(vbool64_t vm, const _Float16 *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei16_v_f16mf2_m(vbool32_t vm, const _Float16 *rs1,
                                          vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei16_v_f16m1_m(vbool16_t vm, const _Float16 *rs1,
                                        vuint16m1_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei16_v_f16m2_m(vbool8_t vm, const _Float16 *rs1,
                                        vuint16m2_t rs2, size_t vl);
```

```
vfloat16m4_t __riscv_vloxei16_v_f16m4_m(vbool4_t vm, const _Float16 *rs1,
                                        vuint16m4_t rs2, size_t vl);
vfloat16m8_t __riscv_vloxei16_v_f16m8_m(vbool2_t vm, const _Float16 *rs1,
                                        vuint16m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei32_v_f16mf4_m(vbool64_t vm, const _Float16 *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei32_v_f16mf2_m(vbool32_t vm, const _Float16 *rs1,
                                          vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei32_v_f16m1_m(vbool16_t vm, const _Float16 *rs1,
                                        vuint32m2_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei32_v_f16m2_m(vbool8_t vm, const _Float16 *rs1,
                                        vuint32m4_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei32_v_f16m4_m(vbool4_t vm, const _Float16 *rs1,
                                        vuint32m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei64_v_f16mf4_m(vbool64_t vm, const _Float16 *rs1,
                                          vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei64_v_f16mf2_m(vbool32_t vm, const _Float16 *rs1,
                                          vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei64_v_f16m1_m(vbool16_t vm, const _Float16 *rs1,
                                        vuint64m4_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei64_v_f16m2_m(vbool8_t vm, const _Float16 *rs1,
                                        vuint64m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei8_v_f32mf2_m(vbool64_t vm, const float *rs1,
                                         vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei8_v_f32m1_m(vbool32_t vm, const float *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei8_v_f32m2_m(vbool16_t vm, const float *rs1,
                                       vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei8_v_f32m4_m(vbool8_t vm, const float *rs1,
                                       vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei8_v_f32m8_m(vbool4_t vm, const float *rs1,
                                       vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei16_v_f32mf2_m(vbool64_t vm, const float *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei16_v_f32m1_m(vbool32_t vm, const float *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei16_v_f32m2_m(vbool16_t vm, const float *rs1,
                                        vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei16_v_f32m4_m(vbool8_t vm, const float *rs1,
                                        vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei16_v_f32m8_m(vbool4_t vm, const float *rs1,
                                        vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei32_v_f32mf2_m(vbool64_t vm, const float *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei32_v_f32m1_m(vbool32_t vm, const float *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei32_v_f32m2_m(vbool16_t vm, const float *rs1,
                                        vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei32_v_f32m4_m(vbool8_t vm, const float *rs1,
                                        vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei32_v_f32m8_m(vbool4_t vm, const float *rs1,
                                        vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei64_v_f32mf2_m(vbool64_t vm, const float *rs1,
                                          vuint64m1_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei64_v_f32m1_m(vbool32_t vm, const float *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei64_v_f32m2_m(vbool16_t vm, const float *rs1,
                                        vuint64m4_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei64_v_f32m4_m(vbool8_t vm, const float *rs1,
                                        vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei8_v_f64m1_m(vbool64_t vm, const double *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei8_v_f64m2_m(vbool32_t vm, const double *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei8_v_f64m4_m(vbool16_t vm, const double *rs1,
                                       vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei8_v_f64m8_m(vbool8_t vm, const double *rs1,
```

```
                                      vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei16_v_f64m1_m(vbool64_t vm, const double *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei16_v_f64m2_m(vbool32_t vm, const double *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei16_v_f64m4_m(vbool16_t vm, const double *rs1,
                                        vuint16m1_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei16_v_f64m8_m(vbool8_t vm, const double *rs1,
                                        vuint16m2_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei32_v_f64m1_m(vbool64_t vm, const double *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei32_v_f64m2_m(vbool32_t vm, const double *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei32_v_f64m4_m(vbool16_t vm, const double *rs1,
                                        vuint32m2_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei32_v_f64m8_m(vbool8_t vm, const double *rs1,
                                        vuint32m4_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei64_v_f64m1_m(vbool64_t vm, const double *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei64_v_f64m2_m(vbool32_t vm, const double *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei64_v_f64m4_m(vbool16_t vm, const double *rs1,
                                        vuint64m4_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei64_v_f64m8_m(vbool8_t vm, const double *rs1,
                                        vuint64m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei8_v_f16mf4_m(vbool64_t vm, const _Float16 *rs1,
                                         vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei8_v_f16mf2_m(vbool32_t vm, const _Float16 *rs1,
                                         vuint8mf4_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei8_v_f16m1_m(vbool16_t vm, const _Float16 *rs1,
                                       vuint8mf2_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei8_v_f16m2_m(vbool8_t vm, const _Float16 *rs1,
                                       vuint8m1_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei8_v_f16m4_m(vbool4_t vm, const _Float16 *rs1,
                                       vuint8m2_t rs2, size_t vl);
vfloat16m8_t __riscv_vluxei8_v_f16m8_m(vbool2_t vm, const _Float16 *rs1,
                                       vuint8m4_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei16_v_f16mf4_m(vbool64_t vm, const _Float16 *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei16_v_f16mf2_m(vbool32_t vm, const _Float16 *rs1,
                                          vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei16_v_f16m1_m(vbool16_t vm, const _Float16 *rs1,
                                        vuint16m1_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei16_v_f16m2_m(vbool8_t vm, const _Float16 *rs1,
                                        vuint16m2_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei16_v_f16m4_m(vbool4_t vm, const _Float16 *rs1,
                                        vuint16m4_t rs2, size_t vl);
vfloat16m8_t __riscv_vluxei16_v_f16m8_m(vbool2_t vm, const _Float16 *rs1,
                                        vuint16m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei32_v_f16mf4_m(vbool64_t vm, const _Float16 *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei32_v_f16mf2_m(vbool32_t vm, const _Float16 *rs1,
                                          vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei32_v_f16m1_m(vbool16_t vm, const _Float16 *rs1,
                                        vuint32m2_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei32_v_f16m2_m(vbool8_t vm, const _Float16 *rs1,
                                        vuint32m4_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei32_v_f16m4_m(vbool4_t vm, const _Float16 *rs1,
                                        vuint32m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei64_v_f16mf4_m(vbool64_t vm, const _Float16 *rs1,
                                          vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei64_v_f16mf2_m(vbool32_t vm, const _Float16 *rs1,
                                          vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei64_v_f16m1_m(vbool16_t vm, const _Float16 *rs1,
                                        vuint64m4_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei64_v_f16m2_m(vbool8_t vm, const _Float16 *rs1,
                                        vuint64m8_t rs2, size_t vl);
```

```
vfloat32mf2_t __riscv_vluxei8_v_f32mf2_m(vbool64_t vm, const float *rs1,
                                         vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei8_v_f32m1_m(vbool32_t vm, const float *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei8_v_f32m2_m(vbool16_t vm, const float *rs1,
                                       vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei8_v_f32m4_m(vbool8_t vm, const float *rs1,
                                       vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei8_v_f32m8_m(vbool4_t vm, const float *rs1,
                                       vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei16_v_f32mf2_m(vbool64_t vm, const float *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei16_v_f32m1_m(vbool32_t vm, const float *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei16_v_f32m2_m(vbool16_t vm, const float *rs1,
                                        vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei16_v_f32m4_m(vbool8_t vm, const float *rs1,
                                        vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei16_v_f32m8_m(vbool4_t vm, const float *rs1,
                                        vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei32_v_f32mf2_m(vbool64_t vm, const float *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei32_v_f32m1_m(vbool32_t vm, const float *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei32_v_f32m2_m(vbool16_t vm, const float *rs1,
                                        vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei32_v_f32m4_m(vbool8_t vm, const float *rs1,
                                        vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei32_v_f32m8_m(vbool4_t vm, const float *rs1,
                                        vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei64_v_f32mf2_m(vbool64_t vm, const float *rs1,
                                          vuint64m1_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei64_v_f32m1_m(vbool32_t vm, const float *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei64_v_f32m2_m(vbool16_t vm, const float *rs1,
                                        vuint64m4_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei64_v_f32m4_m(vbool8_t vm, const float *rs1,
                                        vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei8_v_f64m1_m(vbool64_t vm, const double *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei8_v_f64m2_m(vbool32_t vm, const double *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei8_v_f64m4_m(vbool16_t vm, const double *rs1,
                                       vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei8_v_f64m8_m(vbool8_t vm, const double *rs1,
                                       vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei16_v_f64m1_m(vbool64_t vm, const double *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei16_v_f64m2_m(vbool32_t vm, const double *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei16_v_f64m4_m(vbool16_t vm, const double *rs1,
                                        vuint16m1_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei16_v_f64m8_m(vbool8_t vm, const double *rs1,
                                        vuint16m2_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei32_v_f64m1_m(vbool64_t vm, const double *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei32_v_f64m2_m(vbool32_t vm, const double *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei32_v_f64m4_m(vbool16_t vm, const double *rs1,
                                        vuint32m2_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei32_v_f64m8_m(vbool8_t vm, const double *rs1,
                                        vuint32m4_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei64_v_f64m1_m(vbool64_t vm, const double *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei64_v_f64m2_m(vbool32_t vm, const double *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei64_v_f64m4_m(vbool16_t vm, const double *rs1,
```

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                                        vuint64m4_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei64_v_f64m8_m(vbool8_t vm, const double *rs1,
                                        vuint64m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei8_v_i8mf8_m(vbool64_t vm, const int8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei8_v_i8mf4_m(vbool32_t vm, const int8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei8_v_i8mf2_m(vbool16_t vm, const int8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei8_v_i8m1_m(vbool8_t vm, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vloxei8_v_i8m2_m(vbool4_t vm, const int8_t *rs1,
                                   vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vloxei8_v_i8m4_m(vbool2_t vm, const int8_t *rs1,
                                   vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vloxei8_v_i8m8_m(vbool1_t vm, const int8_t *rs1,
                                   vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei16_v_i8mf8_m(vbool64_t vm, const int8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei16_v_i8mf4_m(vbool32_t vm, const int8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei16_v_i8mf2_m(vbool16_t vm, const int8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vloxei16_v_i8m1_m(vbool8_t vm, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m2_t __riscv_vloxei16_v_i8m2_m(vbool4_t vm, const int8_t *rs1,
                                    vuint16m4_t rs2, size_t vl);
vint8m4_t __riscv_vloxei16_v_i8m4_m(vbool2_t vm, const int8_t *rs1,
                                    vuint16m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei32_v_i8mf8_m(vbool64_t vm, const int8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei32_v_i8mf4_m(vbool32_t vm, const int8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei32_v_i8mf2_m(vbool16_t vm, const int8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei32_v_i8m1_m(vbool8_t vm, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m2_t __riscv_vloxei32_v_i8m2_m(vbool4_t vm, const int8_t *rs1,
                                    vuint32m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei64_v_i8mf8_m(vbool64_t vm, const int8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei64_v_i8mf4_m(vbool32_t vm, const int8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei64_v_i8mf2_m(vbool16_t vm, const int8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vloxei64_v_i8m1_m(vbool8_t vm, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei8_v_i16mf4_m(vbool64_t vm, const int16_t *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei8_v_i16mf2_m(vbool32_t vm, const int16_t *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vint16m1_t __riscv_vloxei8_v_i16m1_m(vbool16_t vm, const int16_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei8_v_i16m2_m(vbool8_t vm, const int16_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vint16m4_t __riscv_vloxei8_v_i16m4_m(vbool4_t vm, const int16_t *rs1,
                                     vuint8m2_t rs2, size_t vl);
vint16m8_t __riscv_vloxei8_v_i16m8_m(vbool2_t vm, const int16_t *rs1,
                                     vuint8m4_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei16_v_i16mf4_m(vbool64_t vm, const int16_t *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei16_v_i16mf2_m(vbool32_t vm, const int16_t *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vint16m1_t __riscv_vloxei16_v_i16m1_m(vbool16_t vm, const int16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vint16m2_t __riscv_vloxei16_v_i16m2_m(vbool8_t vm, const int16_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
```

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vint16m4_t __riscv_vloxei16_v_i16m4_m(vbool4_t vm, const int16_t *rs1,
                                      vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vloxei16_v_i16m8_m(vbool2_t vm, const int16_t *rs1,
                                      vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei32_v_i16mf4_m(vbool64_t vm, const int16_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei32_v_i16mf2_m(vbool32_t vm, const int16_t *rs1,
                                        vuint32m1_t rs2, size_t vl);
vint16m1_t __riscv_vloxei32_v_i16m1_m(vbool16_t vm, const int16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei32_v_i16m2_m(vbool8_t vm, const int16_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vloxei32_v_i16m4_m(vbool4_t vm, const int16_t *rs1,
                                      vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei64_v_i16mf4_m(vbool64_t vm, const int16_t *rs1,
                                        vuint64m1_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei64_v_i16mf2_m(vbool32_t vm, const int16_t *rs1,
                                        vuint64m2_t rs2, size_t vl);
vint16m1_t __riscv_vloxei64_v_i16m1_m(vbool16_t vm, const int16_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vint16m2_t __riscv_vloxei64_v_i16m2_m(vbool8_t vm, const int16_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei8_v_i32mf2_m(vbool64_t vm, const int32_t *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vint32m1_t __riscv_vloxei8_v_i32m1_m(vbool32_t vm, const int32_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vloxei8_v_i32m2_m(vbool16_t vm, const int32_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei8_v_i32m4_m(vbool8_t vm, const int32_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vint32m8_t __riscv_vloxei8_v_i32m8_m(vbool4_t vm, const int32_t *rs1,
                                     vuint8m2_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei16_v_i32mf2_m(vbool64_t vm, const int32_t *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vint32m1_t __riscv_vloxei16_v_i32m1_m(vbool32_t vm, const int32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint32m2_t __riscv_vloxei16_v_i32m2_m(vbool16_t vm, const int32_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vint32m4_t __riscv_vloxei16_v_i32m4_m(vbool8_t vm, const int32_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vint32m8_t __riscv_vloxei16_v_i32m8_m(vbool4_t vm, const int32_t *rs1,
                                      vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei32_v_i32mf2_m(vbool64_t vm, const int32_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vint32m1_t __riscv_vloxei32_v_i32m1_m(vbool32_t vm, const int32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint32m2_t __riscv_vloxei32_v_i32m2_m(vbool16_t vm, const int32_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei32_v_i32m4_m(vbool8_t vm, const int32_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vloxei32_v_i32m8_m(vbool4_t vm, const int32_t *rs1,
                                      vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei64_v_i32mf2_m(vbool64_t vm, const int32_t *rs1,
                                        vuint64m1_t rs2, size_t vl);
vint32m1_t __riscv_vloxei64_v_i32m1_m(vbool32_t vm, const int32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint32m2_t __riscv_vloxei64_v_i32m2_m(vbool16_t vm, const int32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vint32m4_t __riscv_vloxei64_v_i32m4_m(vbool8_t vm, const int32_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vloxei8_v_i64m1_m(vbool64_t vm, const int64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vloxei8_v_i64m2_m(vbool32_t vm, const int64_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vloxei8_v_i64m4_m(vbool16_t vm, const int64_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vloxei8_v_i64m8_m(vbool8_t vm, const int64_t *rs1,
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                                     vuint8m1_t rs2, size_t vl);
vint64m1_t __riscv_vloxei16_v_i64m1_m(vbool64_t vm, const int64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint64m2_t __riscv_vloxei16_v_i64m2_m(vbool32_t vm, const int64_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint64m4_t __riscv_vloxei16_v_i64m4_m(vbool16_t vm, const int64_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vint64m8_t __riscv_vloxei16_v_i64m8_m(vbool8_t vm, const int64_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vloxei32_v_i64m1_m(vbool64_t vm, const int64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint64m2_t __riscv_vloxei32_v_i64m2_m(vbool32_t vm, const int64_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint64m4_t __riscv_vloxei32_v_i64m4_m(vbool16_t vm, const int64_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vint64m8_t __riscv_vloxei32_v_i64m8_m(vbool8_t vm, const int64_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vint64m1_t __riscv_vloxei64_v_i64m1_m(vbool64_t vm, const int64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint64m2_t __riscv_vloxei64_v_i64m2_m(vbool32_t vm, const int64_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint64m4_t __riscv_vloxei64_v_i64m4_m(vbool16_t vm, const int64_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vint64m8_t __riscv_vloxei64_v_i64m8_m(vbool8_t vm, const int64_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei8_v_i8mf8_m(vbool64_t vm, const int8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei8_v_i8mf4_m(vbool32_t vm, const int8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei8_v_i8mf2_m(vbool16_t vm, const int8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vluxei8_v_i8m1_m(vbool8_t vm, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vluxei8_v_i8m2_m(vbool4_t vm, const int8_t *rs1,
                                   vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vluxei8_v_i8m4_m(vbool2_t vm, const int8_t *rs1,
                                   vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vluxei8_v_i8m8_m(vbool1_t vm, const int8_t *rs1,
                                   vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei16_v_i8mf8_m(vbool64_t vm, const int8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei16_v_i8mf4_m(vbool32_t vm, const int8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei16_v_i8mf2_m(vbool16_t vm, const int8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vluxei16_v_i8m1_m(vbool8_t vm, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m2_t __riscv_vluxei16_v_i8m2_m(vbool4_t vm, const int8_t *rs1,
                                    vuint16m4_t rs2, size_t vl);
vint8m4_t __riscv_vluxei16_v_i8m4_m(vbool2_t vm, const int8_t *rs1,
                                    vuint16m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei32_v_i8mf8_m(vbool64_t vm, const int8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei32_v_i8mf4_m(vbool32_t vm, const int8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei32_v_i8mf2_m(vbool16_t vm, const int8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vluxei32_v_i8m1_m(vbool8_t vm, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m2_t __riscv_vluxei32_v_i8m2_m(vbool4_t vm, const int8_t *rs1,
                                    vuint32m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei64_v_i8mf8_m(vbool64_t vm, const int8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei64_v_i8mf4_m(vbool32_t vm, const int8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei64_v_i8mf2_m(vbool16_t vm, const int8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
```

```
vint8m1_t __riscv_vluxei64_v_i8m1_m(vbool8_t vm, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei8_v_i16mf4_m(vbool64_t vm, const int16_t *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei8_v_i16mf2_m(vbool32_t vm, const int16_t *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vint16m1_t __riscv_vluxei8_v_i16m1_m(vbool16_t vm, const int16_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vluxei8_v_i16m2_m(vbool8_t vm, const int16_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vint16m4_t __riscv_vluxei8_v_i16m4_m(vbool4_t vm, const int16_t *rs1,
                                     vuint8m2_t rs2, size_t vl);
vint16m8_t __riscv_vluxei8_v_i16m8_m(vbool2_t vm, const int16_t *rs1,
                                     vuint8m4_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei16_v_i16mf4_m(vbool64_t vm, const int16_t *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei16_v_i16mf2_m(vbool32_t vm, const int16_t *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vint16m1_t __riscv_vluxei16_v_i16m1_m(vbool16_t vm, const int16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vint16m2_t __riscv_vluxei16_v_i16m2_m(vbool8_t vm, const int16_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vint16m4_t __riscv_vluxei16_v_i16m4_m(vbool4_t vm, const int16_t *rs1,
                                      vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vluxei16_v_i16m8_m(vbool2_t vm, const int16_t *rs1,
                                      vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei32_v_i16mf4_m(vbool64_t vm, const int16_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei32_v_i16mf2_m(vbool32_t vm, const int16_t *rs1,
                                        vuint32m1_t rs2, size_t vl);
vint16m1_t __riscv_vluxei32_v_i16m1_m(vbool16_t vm, const int16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vint16m2_t __riscv_vluxei32_v_i16m2_m(vbool8_t vm, const int16_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vluxei32_v_i16m4_m(vbool4_t vm, const int16_t *rs1,
                                      vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei64_v_i16mf4_m(vbool64_t vm, const int16_t *rs1,
                                        vuint64m1_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei64_v_i16mf2_m(vbool32_t vm, const int16_t *rs1,
                                        vuint64m2_t rs2, size_t vl);
vint16m1_t __riscv_vluxei64_v_i16m1_m(vbool16_t vm, const int16_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vint16m2_t __riscv_vluxei64_v_i16m2_m(vbool8_t vm, const int16_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei8_v_i32mf2_m(vbool64_t vm, const int32_t *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vint32m1_t __riscv_vluxei8_v_i32m1_m(vbool32_t vm, const int32_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vluxei8_v_i32m2_m(vbool16_t vm, const int32_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vluxei8_v_i32m4_m(vbool8_t vm, const int32_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vint32m8_t __riscv_vluxei8_v_i32m8_m(vbool4_t vm, const int32_t *rs1,
                                     vuint8m2_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei16_v_i32mf2_m(vbool64_t vm, const int32_t *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vint32m1_t __riscv_vluxei16_v_i32m1_m(vbool32_t vm, const int32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint32m2_t __riscv_vluxei16_v_i32m2_m(vbool16_t vm, const int32_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vint32m4_t __riscv_vluxei16_v_i32m4_m(vbool8_t vm, const int32_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vint32m8_t __riscv_vluxei16_v_i32m8_m(vbool4_t vm, const int32_t *rs1,
                                      vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei32_v_i32mf2_m(vbool64_t vm, const int32_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vint32m1_t __riscv_vluxei32_v_i32m1_m(vbool32_t vm, const int32_t *rs1,
```

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                                      vuint32m1_t rs2, size_t vl);
vint32m2_t __riscv_vluxei32_v_i32m2_m(vbool16_t vm, const int32_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vint32m4_t __riscv_vluxei32_v_i32m4_m(vbool8_t vm, const int32_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vluxei32_v_i32m8_m(vbool4_t vm, const int32_t *rs1,
                                      vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei64_v_i32mf2_m(vbool64_t vm, const int32_t *rs1,
                                        vuint64m1_t rs2, size_t vl);
vint32m1_t __riscv_vluxei64_v_i32m1_m(vbool32_t vm, const int32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint32m2_t __riscv_vluxei64_v_i32m2_m(vbool16_t vm, const int32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vint32m4_t __riscv_vluxei64_v_i32m4_m(vbool8_t vm, const int32_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vluxei8_v_i64m1_m(vbool64_t vm, const int64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vluxei8_v_i64m2_m(vbool32_t vm, const int64_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vluxei8_v_i64m4_m(vbool16_t vm, const int64_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vluxei8_v_i64m8_m(vbool8_t vm, const int64_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vint64m1_t __riscv_vluxei16_v_i64m1_m(vbool64_t vm, const int64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint64m2_t __riscv_vluxei16_v_i64m2_m(vbool32_t vm, const int64_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint64m4_t __riscv_vluxei16_v_i64m4_m(vbool16_t vm, const int64_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vint64m8_t __riscv_vluxei16_v_i64m8_m(vbool8_t vm, const int64_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vluxei32_v_i64m1_m(vbool64_t vm, const int64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint64m2_t __riscv_vluxei32_v_i64m2_m(vbool32_t vm, const int64_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint64m4_t __riscv_vluxei32_v_i64m4_m(vbool16_t vm, const int64_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vint64m8_t __riscv_vluxei32_v_i64m8_m(vbool8_t vm, const int64_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vint64m1_t __riscv_vluxei64_v_i64m1_m(vbool64_t vm, const int64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint64m2_t __riscv_vluxei64_v_i64m2_m(vbool32_t vm, const int64_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint64m4_t __riscv_vluxei64_v_i64m4_m(vbool16_t vm, const int64_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vint64m8_t __riscv_vluxei64_v_i64m8_m(vbool8_t vm, const int64_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei8_v_u8mf8_m(vbool64_t vm, const uint8_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei8_v_u8mf4_m(vbool32_t vm, const uint8_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei8_v_u8mf2_m(vbool16_t vm, const uint8_t *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei8_v_u8m1_m(vbool8_t vm, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei8_v_u8m2_m(vbool4_t vm, const uint8_t *rs1,
                                    vuint8m2_t rs2, size_t vl);
vuint8m4_t __riscv_vloxei8_v_u8m4_m(vbool2_t vm, const uint8_t *rs1,
                                    vuint8m4_t rs2, size_t vl);
vuint8m8_t __riscv_vloxei8_v_u8m8_m(vbool1_t vm, const uint8_t *rs1,
                                    vuint8m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei16_v_u8mf8_m(vbool64_t vm, const uint8_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei16_v_u8mf4_m(vbool32_t vm, const uint8_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei16_v_u8mf2_m(vbool16_t vm, const uint8_t *rs1,
                                       vuint16m1_t rs2, size_t vl);
```

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vuint8m1_t __riscv_vloxei16_v_u8m1_m(vbool8_t vm, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei16_v_u8m2_m(vbool4_t vm, const uint8_t *rs1,
                                     vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vloxei16_v_u8m4_m(vbool2_t vm, const uint8_t *rs1,
                                     vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei32_v_u8mf8_m(vbool64_t vm, const uint8_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei32_v_u8mf4_m(vbool32_t vm, const uint8_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei32_v_u8mf2_m(vbool16_t vm, const uint8_t *rs1,
                                       vuint32m2_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei32_v_u8m1_m(vbool8_t vm, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei32_v_u8m2_m(vbool4_t vm, const uint8_t *rs1,
                                     vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei64_v_u8mf8_m(vbool64_t vm, const uint8_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei64_v_u8mf4_m(vbool32_t vm, const uint8_t *rs1,
                                       vuint64m2_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei64_v_u8mf2_m(vbool16_t vm, const uint8_t *rs1,
                                       vuint64m4_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei64_v_u8m1_m(vbool8_t vm, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei8_v_u16mf4_m(vbool64_t vm, const uint16_t *rs1,
                                        vuint8mf8_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei8_v_u16mf2_m(vbool32_t vm, const uint16_t *rs1,
                                        vuint8mf4_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei8_v_u16m1_m(vbool16_t vm, const uint16_t *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei8_v_u16m2_m(vbool8_t vm, const uint16_t *rs1,
                                      vuint8m1_t rs2, size_t vl);
vuint16m4_t __riscv_vloxei8_v_u16m4_m(vbool4_t vm, const uint16_t *rs1,
                                      vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vloxei8_v_u16m8_m(vbool2_t vm, const uint16_t *rs1,
                                      vuint8m4_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei16_v_u16mf4_m(vbool64_t vm, const uint16_t *rs1,
                                         vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei16_v_u16mf2_m(vbool32_t vm, const uint16_t *rs1,
                                         vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei16_v_u16m1_m(vbool16_t vm, const uint16_t *rs1,
                                       vuint16m1_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei16_v_u16m2_m(vbool8_t vm, const uint16_t *rs1,
                                       vuint16m2_t rs2, size_t vl);
vuint16m4_t __riscv_vloxei16_v_u16m4_m(vbool4_t vm, const uint16_t *rs1,
                                       vuint16m4_t rs2, size_t vl);
vuint16m8_t __riscv_vloxei16_v_u16m8_m(vbool2_t vm, const uint16_t *rs1,
                                       vuint16m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei32_v_u16mf4_m(vbool64_t vm, const uint16_t *rs1,
                                         vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei32_v_u16mf2_m(vbool32_t vm, const uint16_t *rs1,
                                         vuint32m1_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei32_v_u16m1_m(vbool16_t vm, const uint16_t *rs1,
                                       vuint32m2_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei32_v_u16m2_m(vbool8_t vm, const uint16_t *rs1,
                                       vuint32m4_t rs2, size_t vl);
vuint16m4_t __riscv_vloxei32_v_u16m4_m(vbool4_t vm, const uint16_t *rs1,
                                       vuint32m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei64_v_u16mf4_m(vbool64_t vm, const uint16_t *rs1,
                                         vuint64m1_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei64_v_u16mf2_m(vbool32_t vm, const uint16_t *rs1,
                                         vuint64m2_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei64_v_u16m1_m(vbool16_t vm, const uint16_t *rs1,
                                       vuint64m4_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei64_v_u16m2_m(vbool8_t vm, const uint16_t *rs1,
                                       vuint64m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei8_v_u32mf2_m(vbool64_t vm, const uint32_t *rs1,
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                                        vuint8mf8_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei8_v_u32m1_m(vbool32_t vm, const uint32_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei8_v_u32m2_m(vbool16_t vm, const uint32_t *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei8_v_u32m4_m(vbool8_t vm, const uint32_t *rs1,
                                      vuint8m1_t rs2, size_t vl);
vuint32m8_t __riscv_vloxei8_v_u32m8_m(vbool4_t vm, const uint32_t *rs1,
                                      vuint8m2_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei16_v_u32mf2_m(vbool64_t vm, const uint32_t *rs1,
                                         vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei16_v_u32m1_m(vbool32_t vm, const uint32_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei16_v_u32m2_m(vbool16_t vm, const uint32_t *rs1,
                                       vuint16m1_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei16_v_u32m4_m(vbool8_t vm, const uint32_t *rs1,
                                       vuint16m2_t rs2, size_t vl);
vuint32m8_t __riscv_vloxei16_v_u32m8_m(vbool4_t vm, const uint32_t *rs1,
                                       vuint16m4_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei32_v_u32mf2_m(vbool64_t vm, const uint32_t *rs1,
                                         vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei32_v_u32m1_m(vbool32_t vm, const uint32_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei32_v_u32m2_m(vbool16_t vm, const uint32_t *rs1,
                                       vuint32m2_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei32_v_u32m4_m(vbool8_t vm, const uint32_t *rs1,
                                       vuint32m4_t rs2, size_t vl);
vuint32m8_t __riscv_vloxei32_v_u32m8_m(vbool4_t vm, const uint32_t *rs1,
                                       vuint32m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei64_v_u32mf2_m(vbool64_t vm, const uint32_t *rs1,
                                         vuint64m1_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei64_v_u32m1_m(vbool32_t vm, const uint32_t *rs1,
                                       vuint64m2_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei64_v_u32m2_m(vbool16_t vm, const uint32_t *rs1,
                                       vuint64m4_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei64_v_u32m4_m(vbool8_t vm, const uint32_t *rs1,
                                       vuint64m8_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei8_v_u64m1_m(vbool64_t vm, const uint64_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei8_v_u64m2_m(vbool32_t vm, const uint64_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei8_v_u64m4_m(vbool16_t vm, const uint64_t *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vuint64m8_t __riscv_vloxei8_v_u64m8_m(vbool8_t vm, const uint64_t *rs1,
                                      vuint8m1_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei16_v_u64m1_m(vbool64_t vm, const uint64_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei16_v_u64m2_m(vbool32_t vm, const uint64_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei16_v_u64m4_m(vbool16_t vm, const uint64_t *rs1,
                                       vuint16m1_t rs2, size_t vl);
vuint64m8_t __riscv_vloxei16_v_u64m8_m(vbool8_t vm, const uint64_t *rs1,
                                       vuint16m2_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei32_v_u64m1_m(vbool64_t vm, const uint64_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei32_v_u64m2_m(vbool32_t vm, const uint64_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei32_v_u64m4_m(vbool16_t vm, const uint64_t *rs1,
                                       vuint32m2_t rs2, size_t vl);
vuint64m8_t __riscv_vloxei32_v_u64m8_m(vbool8_t vm, const uint64_t *rs1,
                                       vuint32m4_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei64_v_u64m1_m(vbool64_t vm, const uint64_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei64_v_u64m2_m(vbool32_t vm, const uint64_t *rs1,
                                       vuint64m2_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei64_v_u64m4_m(vbool16_t vm, const uint64_t *rs1,
                                       vuint64m4_t rs2, size_t vl);
```

```
vuint64m8_t __riscv_vloxei64_v_u64m8_m(vbool8_t vm, const uint64_t *rs1,
                                       vuint64m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei8_v_u8mf8_m(vbool64_t vm, const uint8_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei8_v_u8mf4_m(vbool32_t vm, const uint8_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei8_v_u8mf2_m(vbool16_t vm, const uint8_t *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei8_v_u8m1_m(vbool8_t vm, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei8_v_u8m2_m(vbool4_t vm, const uint8_t *rs1,
                                    vuint8m2_t rs2, size_t vl);
vuint8m4_t __riscv_vluxei8_v_u8m4_m(vbool2_t vm, const uint8_t *rs1,
                                    vuint8m4_t rs2, size_t vl);
vuint8m8_t __riscv_vluxei8_v_u8m8_m(vbool1_t vm, const uint8_t *rs1,
                                    vuint8m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei16_v_u8mf8_m(vbool64_t vm, const uint8_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei16_v_u8mf4_m(vbool32_t vm, const uint8_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei16_v_u8mf2_m(vbool16_t vm, const uint8_t *rs1,
                                       vuint16m1_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei16_v_u8m1_m(vbool8_t vm, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei16_v_u8m2_m(vbool4_t vm, const uint8_t *rs1,
                                     vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vluxei16_v_u8m4_m(vbool2_t vm, const uint8_t *rs1,
                                     vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei32_v_u8mf8_m(vbool64_t vm, const uint8_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei32_v_u8mf4_m(vbool32_t vm, const uint8_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei32_v_u8mf2_m(vbool16_t vm, const uint8_t *rs1,
                                       vuint32m2_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei32_v_u8m1_m(vbool8_t vm, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei32_v_u8m2_m(vbool4_t vm, const uint8_t *rs1,
                                     vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei64_v_u8mf8_m(vbool64_t vm, const uint8_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei64_v_u8mf4_m(vbool32_t vm, const uint8_t *rs1,
                                       vuint64m2_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei64_v_u8mf2_m(vbool16_t vm, const uint8_t *rs1,
                                       vuint64m4_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei64_v_u8m1_m(vbool8_t vm, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei8_v_u16mf4_m(vbool64_t vm, const uint16_t *rs1,
                                        vuint8mf8_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei8_v_u16mf2_m(vbool32_t vm, const uint16_t *rs1,
                                        vuint8mf4_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei8_v_u16m1_m(vbool16_t vm, const uint16_t *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei8_v_u16m2_m(vbool8_t vm, const uint16_t *rs1,
                                      vuint8m1_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei8_v_u16m4_m(vbool4_t vm, const uint16_t *rs1,
                                      vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vluxei8_v_u16m8_m(vbool2_t vm, const uint16_t *rs1,
                                      vuint8m4_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei16_v_u16mf4_m(vbool64_t vm, const uint16_t *rs1,
                                         vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei16_v_u16mf2_m(vbool32_t vm, const uint16_t *rs1,
                                         vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei16_v_u16m1_m(vbool16_t vm, const uint16_t *rs1,
                                       vuint16m1_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei16_v_u16m2_m(vbool8_t vm, const uint16_t *rs1,
                                       vuint16m2_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei16_v_u16m4_m(vbool4_t vm, const uint16_t *rs1,
```

```
                                      vuint16m4_t rs2, size_t vl);
vuint16m8_t __riscv_vluxei16_v_u16m8_m(vbool2_t vm, const uint16_t *rs1,
                                      vuint16m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei32_v_u16mf4_m(vbool64_t vm, const uint16_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei32_v_u16mf2_m(vbool32_t vm, const uint16_t *rs1,
                                        vuint32m1_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei32_v_u16m1_m(vbool16_t vm, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei32_v_u16m2_m(vbool8_t vm, const uint16_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei32_v_u16m4_m(vbool4_t vm, const uint16_t *rs1,
                                      vuint32m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei64_v_u16mf4_m(vbool64_t vm, const uint16_t *rs1,
                                        vuint64m1_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei64_v_u16mf2_m(vbool32_t vm, const uint16_t *rs1,
                                        vuint64m2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei64_v_u16m1_m(vbool16_t vm, const uint16_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei64_v_u16m2_m(vbool8_t vm, const uint16_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei8_v_u32mf2_m(vbool64_t vm, const uint32_t *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei8_v_u32m1_m(vbool32_t vm, const uint32_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei8_v_u32m2_m(vbool16_t vm, const uint32_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei8_v_u32m4_m(vbool8_t vm, const uint32_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei8_v_u32m8_m(vbool4_t vm, const uint32_t *rs1,
                                     vuint8m2_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei16_v_u32mf2_m(vbool64_t vm, const uint32_t *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei16_v_u32m1_m(vbool32_t vm, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei16_v_u32m2_m(vbool16_t vm, const uint32_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei16_v_u32m4_m(vbool8_t vm, const uint32_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei16_v_u32m8_m(vbool4_t vm, const uint32_t *rs1,
                                      vuint16m4_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei32_v_u32mf2_m(vbool64_t vm, const uint32_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei32_v_u32m1_m(vbool32_t vm, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei32_v_u32m2_m(vbool16_t vm, const uint32_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei32_v_u32m4_m(vbool8_t vm, const uint32_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei32_v_u32m8_m(vbool4_t vm, const uint32_t *rs1,
                                      vuint32m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei64_v_u32mf2_m(vbool64_t vm, const uint32_t *rs1,
                                        vuint64m1_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei64_v_u32m1_m(vbool32_t vm, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei64_v_u32m2_m(vbool16_t vm, const uint32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei64_v_u32m4_m(vbool8_t vm, const uint32_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei8_v_u64m1_m(vbool64_t vm, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei8_v_u64m2_m(vbool32_t vm, const uint64_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei8_v_u64m4_m(vbool16_t vm, const uint64_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei8_v_u64m8_m(vbool8_t vm, const uint64_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
```

```
vuint64m1_t __riscv_vluxei16_v_u64m1_m(vbool64_t vm, const uint64_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei16_v_u64m2_m(vbool32_t vm, const uint64_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei16_v_u64m4_m(vbool16_t vm, const uint64_t *rs1,
                                       vuint16m1_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei16_v_u64m8_m(vbool8_t vm, const uint64_t *rs1,
                                       vuint16m2_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei32_v_u64m1_m(vbool64_t vm, const uint64_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei32_v_u64m2_m(vbool32_t vm, const uint64_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei32_v_u64m4_m(vbool16_t vm, const uint64_t *rs1,
                                       vuint32m2_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei32_v_u64m8_m(vbool8_t vm, const uint64_t *rs1,
                                       vuint32m4_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei64_v_u64m1_m(vbool64_t vm, const uint64_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei64_v_u64m2_m(vbool32_t vm, const uint64_t *rs1,
                                       vuint64m2_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei64_v_u64m4_m(vbool16_t vm, const uint64_t *rs1,
                                       vuint64m4_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei64_v_u64m8_m(vbool8_t vm, const uint64_t *rs1,
                                       vuint64m8_t rs2, size_t vl);
```

A.1.7. Vector Indexed Store Intrinsics

```
void __riscv_vsoxei8_v_f16mf4(_Float16 *rs1, vuint8mf8_t rs2, vfloat16mf4_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_f16mf2(_Float16 *rs1, vuint8mf4_t rs2, vfloat16mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_f16m1(_Float16 *rs1, vuint8mf2_t rs2, vfloat16m1_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_f16m2(_Float16 *rs1, vuint8m1_t rs2, vfloat16m2_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_f16m4(_Float16 *rs1, vuint8m2_t rs2, vfloat16m4_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_f16m8(_Float16 *rs1, vuint8m4_t rs2, vfloat16m8_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_f16mf4(_Float16 *rs1, vuint16mf4_t rs2,
                               vfloat16mf4_t vs3, size_t vl);
void __riscv_vsoxei16_v_f16mf2(_Float16 *rs1, vuint16mf2_t rs2,
                               vfloat16mf2_t vs3, size_t vl);
void __riscv_vsoxei16_v_f16m1(_Float16 *rs1, vuint16m1_t rs2, vfloat16m1_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_f16m2(_Float16 *rs1, vuint16m2_t rs2, vfloat16m2_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_f16m4(_Float16 *rs1, vuint16m4_t rs2, vfloat16m4_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_f16m8(_Float16 *rs1, vuint16m8_t rs2, vfloat16m8_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_f16mf4(_Float16 *rs1, vuint32mf2_t rs2,
                               vfloat16mf4_t vs3, size_t vl);
void __riscv_vsoxei32_v_f16mf2(_Float16 *rs1, vuint32m1_t rs2,
                               vfloat16mf2_t vs3, size_t vl);
void __riscv_vsoxei32_v_f16m1(_Float16 *rs1, vuint32m2_t rs2, vfloat16m1_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_f16m2(_Float16 *rs1, vuint32m4_t rs2, vfloat16m2_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_f16m4(_Float16 *rs1, vuint32m8_t rs2, vfloat16m4_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_f16mf4(_Float16 *rs1, vuint64m1_t rs2,
                               vfloat16mf4_t vs3, size_t vl);
void __riscv_vsoxei64_v_f16mf2(_Float16 *rs1, vuint64m2_t rs2,
                               vfloat16mf2_t vs3, size_t vl);
```

```
void __riscv_vsoxei64_v_f16m1(_Float16 *rs1, vuint64m4_t rs2, vfloat16m1_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_f16m2(_Float16 *rs1, vuint64m8_t rs2, vfloat16m2_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_f32mf2(float *rs1, vuint8mf8_t rs2, vfloat32mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_f32m1(float *rs1, vuint8mf4_t rs2, vfloat32m1_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_f32m2(float *rs1, vuint8mf2_t rs2, vfloat32m2_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_f32m4(float *rs1, vuint8m1_t rs2, vfloat32m4_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_f32m8(float *rs1, vuint8m2_t rs2, vfloat32m8_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_f32mf2(float *rs1, vuint16mf4_t rs2, vfloat32mf2_t vs3,
                               size_t vl);
void __riscv_vsoxei16_v_f32m1(float *rs1, vuint16mf2_t rs2, vfloat32m1_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_f32m2(float *rs1, vuint16m1_t rs2, vfloat32m2_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_f32m4(float *rs1, vuint16m2_t rs2, vfloat32m4_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_f32m8(float *rs1, vuint16m4_t rs2, vfloat32m8_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_f32mf2(float *rs1, vuint32mf2_t rs2, vfloat32mf2_t vs3,
                               size_t vl);
void __riscv_vsoxei32_v_f32m1(float *rs1, vuint32m1_t rs2, vfloat32m1_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_f32m2(float *rs1, vuint32m2_t rs2, vfloat32m2_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_f32m4(float *rs1, vuint32m4_t rs2, vfloat32m4_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_f32m8(float *rs1, vuint32m8_t rs2, vfloat32m8_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_f32mf2(float *rs1, vuint64m1_t rs2, vfloat32mf2_t vs3,
                               size_t vl);
void __riscv_vsoxei64_v_f32m1(float *rs1, vuint64m2_t rs2, vfloat32m1_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_f32m2(float *rs1, vuint64m4_t rs2, vfloat32m2_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_f32m4(float *rs1, vuint64m8_t rs2, vfloat32m4_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_f64m1(double *rs1, vuint8mf8_t rs2, vfloat64m1_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_f64m2(double *rs1, vuint8mf4_t rs2, vfloat64m2_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_f64m4(double *rs1, vuint8mf2_t rs2, vfloat64m4_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_f64m8(double *rs1, vuint8m1_t rs2, vfloat64m8_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_f64m1(double *rs1, vuint16mf4_t rs2, vfloat64m1_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_f64m2(double *rs1, vuint16mf2_t rs2, vfloat64m2_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_f64m4(double *rs1, vuint16m1_t rs2, vfloat64m4_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_f64m8(double *rs1, vuint16m2_t rs2, vfloat64m8_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_f64m1(double *rs1, vuint32mf2_t rs2, vfloat64m1_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_f64m2(double *rs1, vuint32m1_t rs2, vfloat64m2_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_f64m4(double *rs1, vuint32m2_t rs2, vfloat64m4_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_f64m8(double *rs1, vuint32m4_t rs2, vfloat64m8_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_f64m1(double *rs1, vuint64m1_t rs2, vfloat64m1_t vs3,
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                              size_t vl);
void __riscv_vsoxei64_v_f64m2(double *rs1, vuint64m2_t rs2, vfloat64m2_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_f64m4(double *rs1, vuint64m4_t rs2, vfloat64m4_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_f64m8(double *rs1, vuint64m8_t rs2, vfloat64m8_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_f16mf4(_Float16 *rs1, vuint8mf8_t rs2, vfloat16mf4_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_f16mf2(_Float16 *rs1, vuint8mf4_t rs2, vfloat16mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_f16m1(_Float16 *rs1, vuint8mf2_t rs2, vfloat16m1_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_f16m2(_Float16 *rs1, vuint8m1_t rs2, vfloat16m2_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_f16m4(_Float16 *rs1, vuint8m2_t rs2, vfloat16m4_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_f16m8(_Float16 *rs1, vuint8m4_t rs2, vfloat16m8_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_f16mf4(_Float16 *rs1, vuint16mf4_t rs2,
                               vfloat16mf4_t vs3, size_t vl);
void __riscv_vsuxei16_v_f16mf2(_Float16 *rs1, vuint16mf2_t rs2,
                               vfloat16mf2_t vs3, size_t vl);
void __riscv_vsuxei16_v_f16m1(_Float16 *rs1, vuint16m1_t rs2, vfloat16m1_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_f16m2(_Float16 *rs1, vuint16m2_t rs2, vfloat16m2_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_f16m4(_Float16 *rs1, vuint16m4_t rs2, vfloat16m4_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_f16m8(_Float16 *rs1, vuint16m8_t rs2, vfloat16m8_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_f16mf4(_Float16 *rs1, vuint32mf2_t rs2,
                               vfloat16mf4_t vs3, size_t vl);
void __riscv_vsuxei32_v_f16mf2(_Float16 *rs1, vuint32m1_t rs2,
                               vfloat16mf2_t vs3, size_t vl);
void __riscv_vsuxei32_v_f16m1(_Float16 *rs1, vuint32m2_t rs2, vfloat16m1_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_f16m2(_Float16 *rs1, vuint32m4_t rs2, vfloat16m2_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_f16m4(_Float16 *rs1, vuint32m8_t rs2, vfloat16m4_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_f16mf4(_Float16 *rs1, vuint64m1_t rs2,
                               vfloat16mf4_t vs3, size_t vl);
void __riscv_vsuxei64_v_f16mf2(_Float16 *rs1, vuint64m2_t rs2,
                               vfloat16mf2_t vs3, size_t vl);
void __riscv_vsuxei64_v_f16m1(_Float16 *rs1, vuint64m4_t rs2, vfloat16m1_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_f16m2(_Float16 *rs1, vuint64m8_t rs2, vfloat16m2_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_f32mf2(float *rs1, vuint8mf8_t rs2, vfloat32mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_f32m1(float *rs1, vuint8mf4_t rs2, vfloat32m1_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_f32m2(float *rs1, vuint8mf2_t rs2, vfloat32m2_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_f32m4(float *rs1, vuint8m1_t rs2, vfloat32m4_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_f32m8(float *rs1, vuint8m2_t rs2, vfloat32m8_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_f32mf2(float *rs1, vuint16mf4_t rs2, vfloat32mf2_t vs3,
                               size_t vl);
void __riscv_vsuxei16_v_f32m1(float *rs1, vuint16mf2_t rs2, vfloat32m1_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_f32m2(float *rs1, vuint16m1_t rs2, vfloat32m2_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_f32m4(float *rs1, vuint16m2_t rs2, vfloat32m4_t vs3,
                              size_t vl);
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void __riscv_vsuxei16_v_f32m8(float *rs1, vuint16m4_t rs2, vfloat32m8_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_f32mf2(float *rs1, vuint32mf2_t rs2, vfloat32mf2_t vs3,
                               size_t vl);
void __riscv_vsuxei32_v_f32m1(float *rs1, vuint32m1_t rs2, vfloat32m1_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_f32m2(float *rs1, vuint32m2_t rs2, vfloat32m2_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_f32m4(float *rs1, vuint32m4_t rs2, vfloat32m4_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_f32m8(float *rs1, vuint32m8_t rs2, vfloat32m8_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_f32mf2(float *rs1, vuint64m1_t rs2, vfloat32mf2_t vs3,
                               size_t vl);
void __riscv_vsuxei64_v_f32m1(float *rs1, vuint64m2_t rs2, vfloat32m1_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_f32m2(float *rs1, vuint64m4_t rs2, vfloat32m2_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_f32m4(float *rs1, vuint64m8_t rs2, vfloat32m4_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_f64m1(double *rs1, vuint8mf8_t rs2, vfloat64m1_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_f64m2(double *rs1, vuint8mf4_t rs2, vfloat64m2_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_f64m4(double *rs1, vuint8mf2_t rs2, vfloat64m4_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_f64m8(double *rs1, vuint8m1_t rs2, vfloat64m8_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_f64m1(double *rs1, vuint16mf4_t rs2, vfloat64m1_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_f64m2(double *rs1, vuint16mf2_t rs2, vfloat64m2_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_f64m4(double *rs1, vuint16m1_t rs2, vfloat64m4_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_f64m8(double *rs1, vuint16m2_t rs2, vfloat64m8_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_f64m1(double *rs1, vuint32mf2_t rs2, vfloat64m1_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_f64m2(double *rs1, vuint32m1_t rs2, vfloat64m2_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_f64m4(double *rs1, vuint32m2_t rs2, vfloat64m4_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_f64m8(double *rs1, vuint32m4_t rs2, vfloat64m8_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_f64m1(double *rs1, vuint64m1_t rs2, vfloat64m1_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_f64m2(double *rs1, vuint64m2_t rs2, vfloat64m2_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_f64m4(double *rs1, vuint64m4_t rs2, vfloat64m4_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_f64m8(double *rs1, vuint64m8_t rs2, vfloat64m8_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_i8mf8(int8_t *rs1, vuint8mf8_t rs2, vint8mf8_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i8mf4(int8_t *rs1, vuint8mf4_t rs2, vint8mf4_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i8mf2(int8_t *rs1, vuint8mf2_t rs2, vint8mf2_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i8m1(int8_t *rs1, vuint8m1_t rs2, vint8m1_t vs3,
                            size_t vl);
void __riscv_vsoxei8_v_i8m2(int8_t *rs1, vuint8m2_t rs2, vint8m2_t vs3,
                            size_t vl);
void __riscv_vsoxei8_v_i8m4(int8_t *rs1, vuint8m4_t rs2, vint8m4_t vs3,
                            size_t vl);
void __riscv_vsoxei8_v_i8m8(int8_t *rs1, vuint8m8_t rs2, vint8m8_t vs3,
                            size_t vl);
void __riscv_vsoxei16_v_i8mf8(int8_t *rs1, vuint16mf4_t rs2, vint8mf8_t vs3,
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                              size_t vl);
void __riscv_vsoxei16_v_i8mf4(int8_t *rs1, vuint16mf2_t rs2, vint8mf4_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_i8mf2(int8_t *rs1, vuint16m1_t rs2, vint8mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_i8m1(int8_t *rs1, vuint16m2_t rs2, vint8m1_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_i8m2(int8_t *rs1, vuint16m4_t rs2, vint8m2_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_i8m4(int8_t *rs1, vuint16m8_t rs2, vint8m4_t vs3,
                             size_t vl);
void __riscv_vsoxei32_v_i8mf8(int8_t *rs1, vuint32mf2_t rs2, vint8mf8_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i8mf4(int8_t *rs1, vuint32m1_t rs2, vint8mf4_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i8mf2(int8_t *rs1, vuint32m2_t rs2, vint8mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i8m1(int8_t *rs1, vuint32m4_t rs2, vint8m1_t vs3,
                             size_t vl);
void __riscv_vsoxei32_v_i8m2(int8_t *rs1, vuint32m8_t rs2, vint8m2_t vs3,
                             size_t vl);
void __riscv_vsoxei64_v_i8mf8(int8_t *rs1, vuint64m1_t rs2, vint8mf8_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_i8mf4(int8_t *rs1, vuint64m2_t rs2, vint8mf4_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_i8mf2(int8_t *rs1, vuint64m4_t rs2, vint8mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_i8m1(int8_t *rs1, vuint64m8_t rs2, vint8m1_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i16mf4(int16_t *rs1, vuint8mf8_t rs2, vint16mf4_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_i16mf2(int16_t *rs1, vuint8mf4_t rs2, vint16mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_i16m1(int16_t *rs1, vuint8mf2_t rs2, vint16m1_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i16m2(int16_t *rs1, vuint8m1_t rs2, vint16m2_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i16m4(int16_t *rs1, vuint8m2_t rs2, vint16m4_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i16m8(int16_t *rs1, vuint8m4_t rs2, vint16m8_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_i16mf4(int16_t *rs1, vuint16mf4_t rs2, vint16mf4_t vs3,
                               size_t vl);
void __riscv_vsoxei16_v_i16mf2(int16_t *rs1, vuint16mf2_t rs2, vint16mf2_t vs3,
                               size_t vl);
void __riscv_vsoxei16_v_i16m1(int16_t *rs1, vuint16m1_t rs2, vint16m1_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_i16m2(int16_t *rs1, vuint16m2_t rs2, vint16m2_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_i16m4(int16_t *rs1, vuint16m4_t rs2, vint16m4_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_i16m8(int16_t *rs1, vuint16m8_t rs2, vint16m8_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i16mf4(int16_t *rs1, vuint32mf2_t rs2, vint16mf4_t vs3,
                               size_t vl);
void __riscv_vsoxei32_v_i16mf2(int16_t *rs1, vuint32m1_t rs2, vint16mf2_t vs3,
                               size_t vl);
void __riscv_vsoxei32_v_i16m1(int16_t *rs1, vuint32m2_t rs2, vint16m1_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i16m2(int16_t *rs1, vuint32m4_t rs2, vint16m2_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i16m4(int16_t *rs1, vuint32m8_t rs2, vint16m4_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_i16mf4(int16_t *rs1, vuint64m1_t rs2, vint16mf4_t vs3,
                               size_t vl);
void __riscv_vsoxei64_v_i16mf2(int16_t *rs1, vuint64m2_t rs2, vint16mf2_t vs3,
                               size_t vl);
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void __riscv_vsoxei64_v_i16m1(int16_t *rs1, vuint64m4_t rs2, vint16m1_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_i16m2(int16_t *rs1, vuint64m8_t rs2, vint16m2_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_i32mf2(int32_t *rs1, vuint8mf8_t rs2, vint32mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_i32m1(int32_t *rs1, vuint8mf4_t rs2, vint32m1_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i32m2(int32_t *rs1, vuint8mf2_t rs2, vint32m2_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i32m4(int32_t *rs1, vuint8m1_t rs2, vint32m4_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i32m8(int32_t *rs1, vuint8m2_t rs2, vint32m8_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_i32mf2(int32_t *rs1, vuint16mf4_t rs2, vint32mf2_t vs3,
                               size_t vl);
void __riscv_vsoxei16_v_i32m1(int32_t *rs1, vuint16mf2_t rs2, vint32m1_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_i32m2(int32_t *rs1, vuint16m1_t rs2, vint32m2_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_i32m4(int32_t *rs1, vuint16m2_t rs2, vint32m4_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_i32m8(int32_t *rs1, vuint16m4_t rs2, vint32m8_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i32mf2(int32_t *rs1, vuint32mf2_t rs2, vint32mf2_t vs3,
                               size_t vl);
void __riscv_vsoxei32_v_i32m1(int32_t *rs1, vuint32m1_t rs2, vint32m1_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i32m2(int32_t *rs1, vuint32m2_t rs2, vint32m2_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i32m4(int32_t *rs1, vuint32m4_t rs2, vint32m4_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i32m8(int32_t *rs1, vuint32m8_t rs2, vint32m8_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_i32mf2(int32_t *rs1, vuint64m1_t rs2, vint32mf2_t vs3,
                               size_t vl);
void __riscv_vsoxei64_v_i32m1(int32_t *rs1, vuint64m2_t rs2, vint32m1_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_i32m2(int32_t *rs1, vuint64m4_t rs2, vint32m2_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_i32m4(int32_t *rs1, vuint64m8_t rs2, vint32m4_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_i64m1(int64_t *rs1, vuint8mf8_t rs2, vint64m1_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i64m2(int64_t *rs1, vuint8mf4_t rs2, vint64m2_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i64m4(int64_t *rs1, vuint8mf2_t rs2, vint64m4_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_i64m8(int64_t *rs1, vuint8m1_t rs2, vint64m8_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_i64m1(int64_t *rs1, vuint16mf4_t rs2, vint64m1_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_i64m2(int64_t *rs1, vuint16mf2_t rs2, vint64m2_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_i64m4(int64_t *rs1, vuint16m1_t rs2, vint64m4_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_i64m8(int64_t *rs1, vuint16m2_t rs2, vint64m8_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i64m1(int64_t *rs1, vuint32mf2_t rs2, vint64m1_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i64m2(int64_t *rs1, vuint32m1_t rs2, vint64m2_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i64m4(int64_t *rs1, vuint32m2_t rs2, vint64m4_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_i64m8(int64_t *rs1, vuint32m4_t rs2, vint64m8_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_i64m1(int64_t *rs1, vuint64m1_t rs2, vint64m1_t vs3,
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                              size_t vl);
void __riscv_vsoxei64_v_i64m2(int64_t *rs1, vuint64m2_t rs2, vint64m2_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_i64m4(int64_t *rs1, vuint64m4_t rs2, vint64m4_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_i64m8(int64_t *rs1, vuint64m8_t rs2, vint64m8_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_i8mf8(int8_t *rs1, vuint8mf8_t rs2, vint8mf8_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i8mf4(int8_t *rs1, vuint8mf4_t rs2, vint8mf4_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i8mf2(int8_t *rs1, vuint8mf2_t rs2, vint8mf2_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i8m1(int8_t *rs1, vuint8m1_t rs2, vint8m1_t vs3,
                            size_t vl);
void __riscv_vsuxei8_v_i8m2(int8_t *rs1, vuint8m2_t rs2, vint8m2_t vs3,
                            size_t vl);
void __riscv_vsuxei8_v_i8m4(int8_t *rs1, vuint8m4_t rs2, vint8m4_t vs3,
                            size_t vl);
void __riscv_vsuxei8_v_i8m8(int8_t *rs1, vuint8m8_t rs2, vint8m8_t vs3,
                            size_t vl);
void __riscv_vsuxei16_v_i8mf8(int8_t *rs1, vuint16mf4_t rs2, vint8mf8_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i8mf4(int8_t *rs1, vuint16mf2_t rs2, vint8mf4_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i8mf2(int8_t *rs1, vuint16m1_t rs2, vint8mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i8m1(int8_t *rs1, vuint16m2_t rs2, vint8m1_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_i8m2(int8_t *rs1, vuint16m4_t rs2, vint8m2_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_i8m4(int8_t *rs1, vuint16m8_t rs2, vint8m4_t vs3,
                             size_t vl);
void __riscv_vsuxei32_v_i8mf8(int8_t *rs1, vuint32mf2_t rs2, vint8mf8_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i8mf4(int8_t *rs1, vuint32m1_t rs2, vint8mf4_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i8mf2(int8_t *rs1, vuint32m2_t rs2, vint8mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i8m1(int8_t *rs1, vuint32m4_t rs2, vint8m1_t vs3,
                             size_t vl);
void __riscv_vsuxei32_v_i8m2(int8_t *rs1, vuint32m8_t rs2, vint8m2_t vs3,
                             size_t vl);
void __riscv_vsuxei64_v_i8mf8(int8_t *rs1, vuint64m1_t rs2, vint8mf8_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i8mf4(int8_t *rs1, vuint64m2_t rs2, vint8mf4_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i8mf2(int8_t *rs1, vuint64m4_t rs2, vint8mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i8m1(int8_t *rs1, vuint64m8_t rs2, vint8m1_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i16mf4(int16_t *rs1, vuint8mf8_t rs2, vint16mf4_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_i16mf2(int16_t *rs1, vuint8mf4_t rs2, vint16mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_i16m1(int16_t *rs1, vuint8mf2_t rs2, vint16m1_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i16m2(int16_t *rs1, vuint8m1_t rs2, vint16m2_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i16m4(int16_t *rs1, vuint8m2_t rs2, vint16m4_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i16m8(int16_t *rs1, vuint8m4_t rs2, vint16m8_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_i16mf4(int16_t *rs1, vuint16mf4_t rs2, vint16mf4_t vs3,
                               size_t vl);
void __riscv_vsuxei16_v_i16mf2(int16_t *rs1, vuint16mf2_t rs2, vint16mf2_t vs3,
                               size_t vl);
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void __riscv_vsuxei16_v_i16m1(int16_t *rs1, vuint16m1_t rs2, vint16m1_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i16m2(int16_t *rs1, vuint16m2_t rs2, vint16m2_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i16m4(int16_t *rs1, vuint16m4_t rs2, vint16m4_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i16m8(int16_t *rs1, vuint16m8_t rs2, vint16m8_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i16mf4(int16_t *rs1, vuint32mf2_t rs2, vint16mf4_t vs3,
                               size_t vl);
void __riscv_vsuxei32_v_i16mf2(int16_t *rs1, vuint32m1_t rs2, vint16mf2_t vs3,
                               size_t vl);
void __riscv_vsuxei32_v_i16m1(int16_t *rs1, vuint32m2_t rs2, vint16m1_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i16m2(int16_t *rs1, vuint32m4_t rs2, vint16m2_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i16m4(int16_t *rs1, vuint32m8_t rs2, vint16m4_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i16mf4(int16_t *rs1, vuint64m1_t rs2, vint16mf4_t vs3,
                               size_t vl);
void __riscv_vsuxei64_v_i16mf2(int16_t *rs1, vuint64m2_t rs2, vint16mf2_t vs3,
                               size_t vl);
void __riscv_vsuxei64_v_i16m1(int16_t *rs1, vuint64m4_t rs2, vint16m1_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i16m2(int16_t *rs1, vuint64m8_t rs2, vint16m2_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_i32mf2(int32_t *rs1, vuint8mf8_t rs2, vint32mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_i32m1(int32_t *rs1, vuint8mf4_t rs2, vint32m1_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i32m2(int32_t *rs1, vuint8mf2_t rs2, vint32m2_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i32m4(int32_t *rs1, vuint8m1_t rs2, vint32m4_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i32m8(int32_t *rs1, vuint8m2_t rs2, vint32m8_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_i32mf2(int32_t *rs1, vuint16mf4_t rs2, vint32mf2_t vs3,
                               size_t vl);
void __riscv_vsuxei16_v_i32m1(int32_t *rs1, vuint16mf2_t rs2, vint32m1_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i32m2(int32_t *rs1, vuint16m1_t rs2, vint32m2_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i32m4(int32_t *rs1, vuint16m2_t rs2, vint32m4_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i32m8(int32_t *rs1, vuint16m4_t rs2, vint32m8_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i32mf2(int32_t *rs1, vuint32mf2_t rs2, vint32mf2_t vs3,
                               size_t vl);
void __riscv_vsuxei32_v_i32m1(int32_t *rs1, vuint32m1_t rs2, vint32m1_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i32m2(int32_t *rs1, vuint32m2_t rs2, vint32m2_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i32m4(int32_t *rs1, vuint32m4_t rs2, vint32m4_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i32m8(int32_t *rs1, vuint32m8_t rs2, vint32m8_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i32mf2(int32_t *rs1, vuint64m1_t rs2, vint32mf2_t vs3,
                               size_t vl);
void __riscv_vsuxei64_v_i32m1(int32_t *rs1, vuint64m2_t rs2, vint32m1_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i32m2(int32_t *rs1, vuint64m4_t rs2, vint32m2_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i32m4(int32_t *rs1, vuint64m8_t rs2, vint32m4_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_i64m1(int64_t *rs1, vuint8mf8_t rs2, vint64m1_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i64m2(int64_t *rs1, vuint8mf4_t rs2, vint64m2_t vs3,
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                              size_t vl);
void __riscv_vsuxei8_v_i64m4(int64_t *rs1, vuint8mf2_t rs2, vint64m4_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_i64m8(int64_t *rs1, vuint8m1_t rs2, vint64m8_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_i64m1(int64_t *rs1, vuint16mf4_t rs2, vint64m1_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i64m2(int64_t *rs1, vuint16mf2_t rs2, vint64m2_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i64m4(int64_t *rs1, vuint16m1_t rs2, vint64m4_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_i64m8(int64_t *rs1, vuint16m2_t rs2, vint64m8_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i64m1(int64_t *rs1, vuint32mf2_t rs2, vint64m1_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i64m2(int64_t *rs1, vuint32m1_t rs2, vint64m2_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i64m4(int64_t *rs1, vuint32m2_t rs2, vint64m4_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_i64m8(int64_t *rs1, vuint32m4_t rs2, vint64m8_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i64m1(int64_t *rs1, vuint64m1_t rs2, vint64m1_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i64m2(int64_t *rs1, vuint64m2_t rs2, vint64m2_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i64m4(int64_t *rs1, vuint64m4_t rs2, vint64m4_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_i64m8(int64_t *rs1, vuint64m8_t rs2, vint64m8_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_u8mf8(uint8_t *rs1, vuint8mf8_t rs2, vuint8mf8_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u8mf4(uint8_t *rs1, vuint8mf4_t rs2, vuint8mf4_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u8mf2(uint8_t *rs1, vuint8mf2_t rs2, vuint8mf2_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u8m1(uint8_t *rs1, vuint8m1_t rs2, vuint8m1_t vs3,
                            size_t vl);
void __riscv_vsoxei8_v_u8m2(uint8_t *rs1, vuint8m2_t rs2, vuint8m2_t vs3,
                            size_t vl);
void __riscv_vsoxei8_v_u8m4(uint8_t *rs1, vuint8m4_t rs2, vuint8m4_t vs3,
                            size_t vl);
void __riscv_vsoxei8_v_u8m8(uint8_t *rs1, vuint8m8_t rs2, vuint8m8_t vs3,
                            size_t vl);
void __riscv_vsoxei16_v_u8mf8(uint8_t *rs1, vuint16mf4_t rs2, vuint8mf8_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u8mf4(uint8_t *rs1, vuint16mf2_t rs2, vuint8mf4_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u8mf2(uint8_t *rs1, vuint16m1_t rs2, vuint8mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u8m1(uint8_t *rs1, vuint16m2_t rs2, vuint8m1_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_u8m2(uint8_t *rs1, vuint16m4_t rs2, vuint8m2_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_u8m4(uint8_t *rs1, vuint16m8_t rs2, vuint8m4_t vs3,
                             size_t vl);
void __riscv_vsoxei32_v_u8mf8(uint8_t *rs1, vuint32mf2_t rs2, vuint8mf8_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u8mf4(uint8_t *rs1, vuint32m1_t rs2, vuint8mf4_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u8mf2(uint8_t *rs1, vuint32m2_t rs2, vuint8mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u8m1(uint8_t *rs1, vuint32m4_t rs2, vuint8m1_t vs3,
                             size_t vl);
void __riscv_vsoxei32_v_u8m2(uint8_t *rs1, vuint32m8_t rs2, vuint8m2_t vs3,
                             size_t vl);
void __riscv_vsoxei64_v_u8mf8(uint8_t *rs1, vuint64m1_t rs2, vuint8mf8_t vs3,
                              size_t vl);
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void __riscv_vsoxei64_v_u8mf4(uint8_t *rs1, vuint64m2_t rs2, vuint8mf4_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_u8mf2(uint8_t *rs1, vuint64m4_t rs2, vuint8mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_u8m1(uint8_t *rs1, vuint64m8_t rs2, vuint8m1_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u16mf4(uint16_t *rs1, vuint8mf8_t rs2, vuint16mf4_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_u16mf2(uint16_t *rs1, vuint8mf4_t rs2, vuint16mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_u16m1(uint16_t *rs1, vuint8mf2_t rs2, vuint16m1_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u16m2(uint16_t *rs1, vuint8m1_t rs2, vuint16m2_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u16m4(uint16_t *rs1, vuint8m2_t rs2, vuint16m4_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u16m8(uint16_t *rs1, vuint8m4_t rs2, vuint16m8_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_u16mf4(uint16_t *rs1, vuint16mf4_t rs2,
                               vuint16mf4_t vs3, size_t vl);
void __riscv_vsoxei16_v_u16mf2(uint16_t *rs1, vuint16mf2_t rs2,
                               vuint16mf2_t vs3, size_t vl);
void __riscv_vsoxei16_v_u16m1(uint16_t *rs1, vuint16m1_t rs2, vuint16m1_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u16m2(uint16_t *rs1, vuint16m2_t rs2, vuint16m2_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u16m4(uint16_t *rs1, vuint16m4_t rs2, vuint16m4_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u16m8(uint16_t *rs1, vuint16m8_t rs2, vuint16m8_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u16mf4(uint16_t *rs1, vuint32mf2_t rs2,
                               vuint16mf4_t vs3, size_t vl);
void __riscv_vsoxei32_v_u16mf2(uint16_t *rs1, vuint32m1_t rs2, vuint16mf2_t vs3,
                               size_t vl);
void __riscv_vsoxei32_v_u16m1(uint16_t *rs1, vuint32m2_t rs2, vuint16m1_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u16m2(uint16_t *rs1, vuint32m4_t rs2, vuint16m2_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u16m4(uint16_t *rs1, vuint32m8_t rs2, vuint16m4_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_u16mf4(uint16_t *rs1, vuint64m1_t rs2, vuint16mf4_t vs3,
                               size_t vl);
void __riscv_vsoxei64_v_u16mf2(uint16_t *rs1, vuint64m2_t rs2, vuint16mf2_t vs3,
                               size_t vl);
void __riscv_vsoxei64_v_u16m1(uint16_t *rs1, vuint64m4_t rs2, vuint16m1_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_u16m2(uint16_t *rs1, vuint64m8_t rs2, vuint16m2_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_u32mf2(uint32_t *rs1, vuint8mf8_t rs2, vuint32mf2_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_u32m1(uint32_t *rs1, vuint8mf4_t rs2, vuint32m1_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u32m2(uint32_t *rs1, vuint8mf2_t rs2, vuint32m2_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u32m4(uint32_t *rs1, vuint8m1_t rs2, vuint32m4_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u32m8(uint32_t *rs1, vuint8m2_t rs2, vuint32m8_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_u32mf2(uint32_t *rs1, vuint16mf4_t rs2,
                               vuint32mf2_t vs3, size_t vl);
void __riscv_vsoxei16_v_u32m1(uint32_t *rs1, vuint16mf2_t rs2, vuint32m1_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u32m2(uint32_t *rs1, vuint16m1_t rs2, vuint32m2_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u32m4(uint32_t *rs1, vuint16m2_t rs2, vuint32m4_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u32m8(uint32_t *rs1, vuint16m4_t rs2, vuint32m8_t vs3,
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                              size_t vl);
void __riscv_vsoxei32_v_u32mf2(uint32_t *rs1, vuint32mf2_t rs2,
                               vuint32mf2_t vs3, size_t vl);
void __riscv_vsoxei32_v_u32m1(uint32_t *rs1, vuint32m1_t rs2, vuint32m1_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u32m2(uint32_t *rs1, vuint32m2_t rs2, vuint32m2_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u32m4(uint32_t *rs1, vuint32m4_t rs2, vuint32m4_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u32m8(uint32_t *rs1, vuint32m8_t rs2, vuint32m8_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_u32mf2(uint32_t *rs1, vuint64m1_t rs2, vuint32mf2_t vs3,
                               size_t vl);
void __riscv_vsoxei64_v_u32m1(uint32_t *rs1, vuint64m2_t rs2, vuint32m1_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_u32m2(uint32_t *rs1, vuint64m4_t rs2, vuint32m2_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_u32m4(uint32_t *rs1, vuint64m8_t rs2, vuint32m4_t vs3,
                              size_t vl);
void __riscv_vsoxei8_v_u64m1(uint64_t *rs1, vuint8mf8_t rs2, vuint64m1_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u64m2(uint64_t *rs1, vuint8mf4_t rs2, vuint64m2_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u64m4(uint64_t *rs1, vuint8mf2_t rs2, vuint64m4_t vs3,
                             size_t vl);
void __riscv_vsoxei8_v_u64m8(uint64_t *rs1, vuint8m1_t rs2, vuint64m8_t vs3,
                             size_t vl);
void __riscv_vsoxei16_v_u64m1(uint64_t *rs1, vuint16mf4_t rs2, vuint64m1_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u64m2(uint64_t *rs1, vuint16mf2_t rs2, vuint64m2_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u64m4(uint64_t *rs1, vuint16m1_t rs2, vuint64m4_t vs3,
                              size_t vl);
void __riscv_vsoxei16_v_u64m8(uint64_t *rs1, vuint16m2_t rs2, vuint64m8_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u64m1(uint64_t *rs1, vuint32mf2_t rs2, vuint64m1_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u64m2(uint64_t *rs1, vuint32m1_t rs2, vuint64m2_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u64m4(uint64_t *rs1, vuint32m2_t rs2, vuint64m4_t vs3,
                              size_t vl);
void __riscv_vsoxei32_v_u64m8(uint64_t *rs1, vuint32m4_t rs2, vuint64m8_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_u64m1(uint64_t *rs1, vuint64m1_t rs2, vuint64m1_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_u64m2(uint64_t *rs1, vuint64m2_t rs2, vuint64m2_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_u64m4(uint64_t *rs1, vuint64m4_t rs2, vuint64m4_t vs3,
                              size_t vl);
void __riscv_vsoxei64_v_u64m8(uint64_t *rs1, vuint64m8_t rs2, vuint64m8_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_u8mf8(uint8_t *rs1, vuint8mf8_t rs2, vuint8mf8_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u8mf4(uint8_t *rs1, vuint8mf4_t rs2, vuint8mf4_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u8mf2(uint8_t *rs1, vuint8mf2_t rs2, vuint8mf2_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u8m1(uint8_t *rs1, vuint8m1_t rs2, vuint8m1_t vs3,
                            size_t vl);
void __riscv_vsuxei8_v_u8m2(uint8_t *rs1, vuint8m2_t rs2, vuint8m2_t vs3,
                            size_t vl);
void __riscv_vsuxei8_v_u8m4(uint8_t *rs1, vuint8m4_t rs2, vuint8m4_t vs3,
                            size_t vl);
void __riscv_vsuxei8_v_u8m8(uint8_t *rs1, vuint8m8_t rs2, vuint8m8_t vs3,
                            size_t vl);
void __riscv_vsuxei16_v_u8mf8(uint8_t *rs1, vuint16mf4_t rs2, vuint8mf8_t vs3,
                              size_t vl);
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void __riscv_vsuxei16_v_u8mf4(uint8_t *rs1, vuint16mf2_t rs2, vuint8mf4_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_u8mf2(uint8_t *rs1, vuint16m1_t rs2, vuint8mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_u8m1(uint8_t *rs1, vuint16m2_t rs2, vuint8m1_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_u8m2(uint8_t *rs1, vuint16m4_t rs2, vuint8m2_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_u8m4(uint8_t *rs1, vuint16m8_t rs2, vuint8m4_t vs3,
                             size_t vl);
void __riscv_vsuxei32_v_u8mf8(uint8_t *rs1, vuint32mf2_t rs2, vuint8mf8_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u8mf4(uint8_t *rs1, vuint32m1_t rs2, vuint8mf4_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u8mf2(uint8_t *rs1, vuint32m2_t rs2, vuint8mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u8m1(uint8_t *rs1, vuint32m4_t rs2, vuint8m1_t vs3,
                             size_t vl);
void __riscv_vsuxei32_v_u8m2(uint8_t *rs1, vuint32m8_t rs2, vuint8m2_t vs3,
                             size_t vl);
void __riscv_vsuxei64_v_u8mf8(uint8_t *rs1, vuint64m1_t rs2, vuint8mf8_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_u8mf4(uint8_t *rs1, vuint64m2_t rs2, vuint8mf4_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_u8mf2(uint8_t *rs1, vuint64m4_t rs2, vuint8mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_u8m1(uint8_t *rs1, vuint64m8_t rs2, vuint8m1_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u16mf4(uint16_t *rs1, vuint8mf8_t rs2, vuint16mf4_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_u16mf2(uint16_t *rs1, vuint8mf4_t rs2, vuint16mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_u16m1(uint16_t *rs1, vuint8mf2_t rs2, vuint16m1_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u16m2(uint16_t *rs1, vuint8m1_t rs2, vuint16m2_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u16m4(uint16_t *rs1, vuint8m2_t rs2, vuint16m4_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u16m8(uint16_t *rs1, vuint8m4_t rs2, vuint16m8_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_u16mf4(uint16_t *rs1, vuint16mf4_t rs2,
                               vuint16mf4_t vs3, size_t vl);
void __riscv_vsuxei16_v_u16mf2(uint16_t *rs1, vuint16mf2_t rs2,
                               vuint16mf2_t vs3, size_t vl);
void __riscv_vsuxei16_v_u16m1(uint16_t *rs1, vuint16m1_t rs2, vuint16m1_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_u16m2(uint16_t *rs1, vuint16m2_t rs2, vuint16m2_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_u16m4(uint16_t *rs1, vuint16m4_t rs2, vuint16m4_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_u16m8(uint16_t *rs1, vuint16m8_t rs2, vuint16m8_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u16mf4(uint16_t *rs1, vuint32mf2_t rs2,
                               vuint16mf4_t vs3, size_t vl);
void __riscv_vsuxei32_v_u16mf2(uint16_t *rs1, vuint32m1_t rs2, vuint16mf2_t vs3,
                               size_t vl);
void __riscv_vsuxei32_v_u16m1(uint16_t *rs1, vuint32m2_t rs2, vuint16m1_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u16m2(uint16_t *rs1, vuint32m4_t rs2, vuint16m2_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u16m4(uint16_t *rs1, vuint32m8_t rs2, vuint16m4_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_u16mf4(uint16_t *rs1, vuint64m1_t rs2, vuint16mf4_t vs3,
                               size_t vl);
void __riscv_vsuxei64_v_u16mf2(uint16_t *rs1, vuint64m2_t rs2, vuint16mf2_t vs3,
                               size_t vl);
void __riscv_vsuxei64_v_u16m1(uint16_t *rs1, vuint64m4_t rs2, vuint16m1_t vs3,
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                              size_t vl);
void __riscv_vsuxei64_v_u16m2(uint16_t *rs1, vuint64m8_t rs2, vuint16m2_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_u32mf2(uint32_t *rs1, vuint8mf8_t rs2, vuint32mf2_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_u32m1(uint32_t *rs1, vuint8mf4_t rs2, vuint32m1_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u32m2(uint32_t *rs1, vuint8mf2_t rs2, vuint32m2_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u32m4(uint32_t *rs1, vuint8m1_t rs2, vuint32m4_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u32m8(uint32_t *rs1, vuint8m2_t rs2, vuint32m8_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_u32mf2(uint32_t *rs1, vuint16mf4_t rs2,
                               vuint32mf2_t vs3, size_t vl);
void __riscv_vsuxei16_v_u32m1(uint32_t *rs1, vuint16mf2_t rs2, vuint32m1_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_u32m2(uint32_t *rs1, vuint16m1_t rs2, vuint32m2_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_u32m4(uint32_t *rs1, vuint16m2_t rs2, vuint32m4_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_u32m8(uint32_t *rs1, vuint16m4_t rs2, vuint32m8_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u32mf2(uint32_t *rs1, vuint32mf2_t rs2,
                               vuint32mf2_t vs3, size_t vl);
void __riscv_vsuxei32_v_u32m1(uint32_t *rs1, vuint32m1_t rs2, vuint32m1_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u32m2(uint32_t *rs1, vuint32m2_t rs2, vuint32m2_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u32m4(uint32_t *rs1, vuint32m4_t rs2, vuint32m4_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u32m8(uint32_t *rs1, vuint32m8_t rs2, vuint32m8_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_u32mf2(uint32_t *rs1, vuint64m1_t rs2, vuint32mf2_t vs3,
                               size_t vl);
void __riscv_vsuxei64_v_u32m1(uint32_t *rs1, vuint64m2_t rs2, vuint32m1_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_u32m2(uint32_t *rs1, vuint64m4_t rs2, vuint32m2_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_u32m4(uint32_t *rs1, vuint64m8_t rs2, vuint32m4_t vs3,
                              size_t vl);
void __riscv_vsuxei8_v_u64m1(uint64_t *rs1, vuint8mf8_t rs2, vuint64m1_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u64m2(uint64_t *rs1, vuint8mf4_t rs2, vuint64m2_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u64m4(uint64_t *rs1, vuint8mf2_t rs2, vuint64m4_t vs3,
                             size_t vl);
void __riscv_vsuxei8_v_u64m8(uint64_t *rs1, vuint8m1_t rs2, vuint64m8_t vs3,
                             size_t vl);
void __riscv_vsuxei16_v_u64m1(uint64_t *rs1, vuint16mf4_t rs2, vuint64m1_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_u64m2(uint64_t *rs1, vuint16mf2_t rs2, vuint64m2_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_u64m4(uint64_t *rs1, vuint16m1_t rs2, vuint64m4_t vs3,
                              size_t vl);
void __riscv_vsuxei16_v_u64m8(uint64_t *rs1, vuint16m2_t rs2, vuint64m8_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u64m1(uint64_t *rs1, vuint32mf2_t rs2, vuint64m1_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u64m2(uint64_t *rs1, vuint32m1_t rs2, vuint64m2_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u64m4(uint64_t *rs1, vuint32m2_t rs2, vuint64m4_t vs3,
                              size_t vl);
void __riscv_vsuxei32_v_u64m8(uint64_t *rs1, vuint32m4_t rs2, vuint64m8_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_u64m1(uint64_t *rs1, vuint64m1_t rs2, vuint64m1_t vs3,
                              size_t vl);
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void __riscv_vsuxei64_v_u64m2(uint64_t *rs1, vuint64m2_t rs2, vuint64m2_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_u64m4(uint64_t *rs1, vuint64m4_t rs2, vuint64m4_t vs3,
                              size_t vl);
void __riscv_vsuxei64_v_u64m8(uint64_t *rs1, vuint64m8_t rs2, vuint64m8_t vs3,
                              size_t vl);
// masked functions
void __riscv_vsoxei8_v_f16mf4_m(vbool64_t vm, _Float16 *rs1, vuint8mf8_t rs2,
                                vfloat16mf4_t vs3, size_t vl);
void __riscv_vsoxei8_v_f16mf2_m(vbool32_t vm, _Float16 *rs1, vuint8mf4_t rs2,
                                vfloat16mf2_t vs3, size_t vl);
void __riscv_vsoxei8_v_f16m1_m(vbool16_t vm, _Float16 *rs1, vuint8mf2_t rs2,
                               vfloat16m1_t vs3, size_t vl);
void __riscv_vsoxei8_v_f16m2_m(vbool8_t vm, _Float16 *rs1, vuint8m1_t rs2,
                               vfloat16m2_t vs3, size_t vl);
void __riscv_vsoxei8_v_f16m4_m(vbool4_t vm, _Float16 *rs1, vuint8m2_t rs2,
                               vfloat16m4_t vs3, size_t vl);
void __riscv_vsoxei8_v_f16m8_m(vbool2_t vm, _Float16 *rs1, vuint8m4_t rs2,
                               vfloat16m8_t vs3, size_t vl);
void __riscv_vsoxei16_v_f16mf4_m(vbool64_t vm, _Float16 *rs1, vuint16mf4_t rs2,
                                 vfloat16mf4_t vs3, size_t vl);
void __riscv_vsoxei16_v_f16mf2_m(vbool32_t vm, _Float16 *rs1, vuint16mf2_t rs2,
                                 vfloat16mf2_t vs3, size_t vl);
void __riscv_vsoxei16_v_f16m1_m(vbool16_t vm, _Float16 *rs1, vuint16m1_t rs2,
                                vfloat16m1_t vs3, size_t vl);
void __riscv_vsoxei16_v_f16m2_m(vbool8_t vm, _Float16 *rs1, vuint16m2_t rs2,
                                vfloat16m2_t vs3, size_t vl);
void __riscv_vsoxei16_v_f16m4_m(vbool4_t vm, _Float16 *rs1, vuint16m4_t rs2,
                                vfloat16m4_t vs3, size_t vl);
void __riscv_vsoxei16_v_f16m8_m(vbool2_t vm, _Float16 *rs1, vuint16m8_t rs2,
                                vfloat16m8_t vs3, size_t vl);
void __riscv_vsoxei32_v_f16mf4_m(vbool64_t vm, _Float16 *rs1, vuint32mf2_t rs2,
                                 vfloat16mf4_t vs3, size_t vl);
void __riscv_vsoxei32_v_f16mf2_m(vbool32_t vm, _Float16 *rs1, vuint32m1_t rs2,
                                 vfloat16mf2_t vs3, size_t vl);
void __riscv_vsoxei32_v_f16m1_m(vbool16_t vm, _Float16 *rs1, vuint32m2_t rs2,
                                vfloat16m1_t vs3, size_t vl);
void __riscv_vsoxei32_v_f16m2_m(vbool8_t vm, _Float16 *rs1, vuint32m4_t rs2,
                                vfloat16m2_t vs3, size_t vl);
void __riscv_vsoxei32_v_f16m4_m(vbool4_t vm, _Float16 *rs1, vuint32m8_t rs2,
                                vfloat16m4_t vs3, size_t vl);
void __riscv_vsoxei64_v_f16mf4_m(vbool64_t vm, _Float16 *rs1, vuint64m1_t rs2,
                                 vfloat16mf4_t vs3, size_t vl);
void __riscv_vsoxei64_v_f16mf2_m(vbool32_t vm, _Float16 *rs1, vuint64m2_t rs2,
                                 vfloat16mf2_t vs3, size_t vl);
void __riscv_vsoxei64_v_f16m1_m(vbool16_t vm, _Float16 *rs1, vuint64m4_t rs2,
                                vfloat16m1_t vs3, size_t vl);
void __riscv_vsoxei64_v_f16m2_m(vbool8_t vm, _Float16 *rs1, vuint64m8_t rs2,
                                vfloat16m2_t vs3, size_t vl);
void __riscv_vsoxei8_v_f32mf2_m(vbool64_t vm, float *rs1, vuint8mf8_t rs2,
                                vfloat32mf2_t vs3, size_t vl);
void __riscv_vsoxei8_v_f32m1_m(vbool32_t vm, float *rs1, vuint8mf4_t rs2,
                               vfloat32m1_t vs3, size_t vl);
void __riscv_vsoxei8_v_f32m2_m(vbool16_t vm, float *rs1, vuint8mf2_t rs2,
                               vfloat32m2_t vs3, size_t vl);
void __riscv_vsoxei8_v_f32m4_m(vbool8_t vm, float *rs1, vuint8m1_t rs2,
                               vfloat32m4_t vs3, size_t vl);
void __riscv_vsoxei8_v_f32m8_m(vbool4_t vm, float *rs1, vuint8m2_t rs2,
                               vfloat32m8_t vs3, size_t vl);
void __riscv_vsoxei16_v_f32mf2_m(vbool64_t vm, float *rs1, vuint16mf4_t rs2,
                                 vfloat32mf2_t vs3, size_t vl);
void __riscv_vsoxei16_v_f32m1_m(vbool32_t vm, float *rs1, vuint16mf2_t rs2,
                                vfloat32m1_t vs3, size_t vl);
void __riscv_vsoxei16_v_f32m2_m(vbool16_t vm, float *rs1, vuint16m1_t rs2,
                                vfloat32m2_t vs3, size_t vl);
void __riscv_vsoxei16_v_f32m4_m(vbool8_t vm, float *rs1, vuint16m2_t rs2,
                                vfloat32m4_t vs3, size_t vl);
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void __riscv_vsoxei16_v_f32m8_m(vbool4_t vm, float *rs1, vuint16m4_t rs2,
                                vfloat32m8_t vs3, size_t vl);
void __riscv_vsoxei32_v_f32mf2_m(vbool64_t vm, float *rs1, vuint32mf2_t rs2,
                                 vfloat32mf2_t vs3, size_t vl);
void __riscv_vsoxei32_v_f32m1_m(vbool32_t vm, float *rs1, vuint32m1_t rs2,
                                vfloat32m1_t vs3, size_t vl);
void __riscv_vsoxei32_v_f32m2_m(vbool16_t vm, float *rs1, vuint32m2_t rs2,
                                vfloat32m2_t vs3, size_t vl);
void __riscv_vsoxei32_v_f32m4_m(vbool8_t vm, float *rs1, vuint32m4_t rs2,
                                vfloat32m4_t vs3, size_t vl);
void __riscv_vsoxei32_v_f32m8_m(vbool4_t vm, float *rs1, vuint32m8_t rs2,
                                vfloat32m8_t vs3, size_t vl);
void __riscv_vsoxei64_v_f32mf2_m(vbool64_t vm, float *rs1, vuint64m1_t rs2,
                                 vfloat32mf2_t vs3, size_t vl);
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                                vfloat32m1_t vs3, size_t vl);
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                                vfloat64m1_t vs3, size_t vl);
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                                vfloat16mf2_t vs3, size_t vl);
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                               vfloat32m1_t vs3, size_t vl);
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                               vfloat32m2_t vs3, size_t vl);
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                                vfloat32m4_t vs3, size_t vl);
void __riscv_vsuxei16_v_f32m8_m(vbool4_t vm, float *rs1, vuint16m4_t rs2,
                                vfloat32m8_t vs3, size_t vl);
void __riscv_vsuxei32_v_f32mf2_m(vbool64_t vm, float *rs1, vuint32mf2_t rs2,
                                 vfloat32mf2_t vs3, size_t vl);
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                                 vfloat32mf2_t vs3, size_t vl);
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                                vfloat32m1_t vs3, size_t vl);
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                                vfloat32m2_t vs3, size_t vl);
void __riscv_vsuxei64_v_f32m4_m(vbool8_t vm, float *rs1, vuint64m8_t rs2,
                                vfloat32m4_t vs3, size_t vl);
void __riscv_vsuxei8_v_f64m1_m(vbool64_t vm, double *rs1, vuint8mf8_t rs2,
                               vfloat64m1_t vs3, size_t vl);
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void __riscv_vsuxei8_v_f64m2_m(vbool32_t vm, double *rs1, vuint8mf4_t rs2,
                               vfloat64m2_t vs3, size_t vl);
void __riscv_vsuxei8_v_f64m4_m(vbool16_t vm, double *rs1, vuint8mf2_t rs2,
                               vfloat64m4_t vs3, size_t vl);
void __riscv_vsuxei8_v_f64m8_m(vbool8_t vm, double *rs1, vuint8m1_t rs2,
                               vfloat64m8_t vs3, size_t vl);
void __riscv_vsuxei16_v_f64m1_m(vbool64_t vm, double *rs1, vuint16mf4_t rs2,
                                vfloat64m1_t vs3, size_t vl);
void __riscv_vsuxei16_v_f64m2_m(vbool32_t vm, double *rs1, vuint16mf2_t rs2,
                                vfloat64m2_t vs3, size_t vl);
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                                vfloat64m4_t vs3, size_t vl);
void __riscv_vsuxei16_v_f64m8_m(vbool8_t vm, double *rs1, vuint16m2_t rs2,
                                vfloat64m8_t vs3, size_t vl);
void __riscv_vsuxei32_v_f64m1_m(vbool64_t vm, double *rs1, vuint32mf2_t rs2,
                                vfloat64m1_t vs3, size_t vl);
void __riscv_vsuxei32_v_f64m2_m(vbool32_t vm, double *rs1, vuint32m1_t rs2,
                                vfloat64m2_t vs3, size_t vl);
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void __riscv_vsoxei8_v_i8mf8_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t rs2,
                               vint8mf8_t vs3, size_t vl);
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                              vint8m1_t vs3, size_t vl);
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                              vint8m4_t vs3, size_t vl);
void __riscv_vsoxei8_v_i8m8_m(vbool1_t vm, int8_t *rs1, vuint8m8_t rs2,
                              vint8m8_t vs3, size_t vl);
void __riscv_vsoxei16_v_i8mf8_m(vbool64_t vm, int8_t *rs1, vuint16mf4_t rs2,
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                                vint8mf8_t vs3, size_t vl);
void __riscv_vsoxei64_v_i8mf4_m(vbool32_t vm, int8_t *rs1, vuint64m2_t rs2,
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void __riscv_vsoxei16_v_i16m4_m(vbool4_t vm, int16_t *rs1, vuint16m4_t rs2,
                                vint16m4_t vs3, size_t vl);
void __riscv_vsoxei16_v_i16m8_m(vbool2_t vm, int16_t *rs1, vuint16m8_t rs2,
                                vint16m8_t vs3, size_t vl);
void __riscv_vsoxei32_v_i16mf4_m(vbool64_t vm, int16_t *rs1, vuint32mf2_t rs2,
                                 vint16mf4_t vs3, size_t vl);
void __riscv_vsoxei32_v_i16mf2_m(vbool32_t vm, int16_t *rs1, vuint32m1_t rs2,
                                 vint16mf2_t vs3, size_t vl);
void __riscv_vsoxei32_v_i16m1_m(vbool16_t vm, int16_t *rs1, vuint32m2_t rs2,
                                vint16m1_t vs3, size_t vl);
void __riscv_vsoxei32_v_i16m2_m(vbool8_t vm, int16_t *rs1, vuint32m4_t rs2,
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void __riscv_vsoxei64_v_i16mf4_m(vbool64_t vm, int16_t *rs1, vuint64m1_t rs2,
                                 vint16mf4_t vs3, size_t vl);
void __riscv_vsoxei64_v_i16mf2_m(vbool32_t vm, int16_t *rs1, vuint64m2_t rs2,
                                 vint16mf2_t vs3, size_t vl);
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                                vint16m2_t vs3, size_t vl);
void __riscv_vsoxei8_v_i32mf2_m(vbool64_t vm, int32_t *rs1, vuint8mf8_t rs2,
                                vint32mf2_t vs3, size_t vl);
void __riscv_vsoxei8_v_i32m1_m(vbool32_t vm, int32_t *rs1, vuint8mf4_t rs2,
                               vint32m1_t vs3, size_t vl);
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                               vint32m4_t vs3, size_t vl);
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                               vint32m8_t vs3, size_t vl);
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                                vint32m4_t vs3, size_t vl);
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void __riscv_vsoxei16_v_i32m8_m(vbool4_t vm, int32_t *rs1, vuint16m4_t rs2,
                                vint32m8_t vs3, size_t vl);
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                              vint8m4_t vs3, size_t vl);
void __riscv_vsuxei8_v_i8m8_m(vbool1_t vm, int8_t *rs1, vuint8m8_t rs2,
                              vint8m8_t vs3, size_t vl);
void __riscv_vsuxei16_v_i8mf8_m(vbool64_t vm, int8_t *rs1, vuint16mf4_t rs2,
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                                vint8mf8_t vs3, size_t vl);
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void __riscv_vsuxei64_v_i64m1_m(vbool64_t vm, int64_t *rs1, vuint64m1_t rs2,
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                                vint64m1_t vs3, size_t vl);
void __riscv_vsuxei64_v_i64m2_m(vbool32_t vm, int64_t *rs1, vuint64m2_t rs2,
                                vint64m2_t vs3, size_t vl);
void __riscv_vsuxei64_v_i64m4_m(vbool16_t vm, int64_t *rs1, vuint64m4_t rs2,
                                vint64m4_t vs3, size_t vl);
void __riscv_vsuxei64_v_i64m8_m(vbool8_t vm, int64_t *rs1, vuint64m8_t rs2,
                                vint64m8_t vs3, size_t vl);
void __riscv_vsoxei8_v_u8mf8_m(vbool64_t vm, uint8_t *rs1, vuint8mf8_t rs2,
                               vuint8mf8_t vs3, size_t vl);
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                              vuint8m8_t vs3, size_t vl);
void __riscv_vsoxei16_v_u8mf8_m(vbool64_t vm, uint8_t *rs1, vuint16mf4_t rs2,
                                vuint8mf8_t vs3, size_t vl);
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                                vuint16m1_t vs3, size_t vl);
void __riscv_vsuxei32_v_u16m2_m(vbool8_t vm, uint16_t *rs1, vuint32m4_t rs2,
                                vuint16m2_t vs3, size_t vl);
void __riscv_vsuxei32_v_u16m4_m(vbool4_t vm, uint16_t *rs1, vuint32m8_t rs2,
                                vuint16m4_t vs3, size_t vl);
void __riscv_vsuxei64_v_u16mf4_m(vbool64_t vm, uint16_t *rs1, vuint64m1_t rs2,
                                 vuint16mf4_t vs3, size_t vl);
void __riscv_vsuxei64_v_u16mf2_m(vbool32_t vm, uint16_t *rs1, vuint64m2_t rs2,
                                 vuint16mf2_t vs3, size_t vl);
void __riscv_vsuxei64_v_u16m1_m(vbool16_t vm, uint16_t *rs1, vuint64m4_t rs2,
                                vuint16m1_t vs3, size_t vl);
void __riscv_vsuxei64_v_u16m2_m(vbool8_t vm, uint16_t *rs1, vuint64m8_t rs2,
                                vuint16m2_t vs3, size_t vl);
void __riscv_vsuxei8_v_u32mf2_m(vbool64_t vm, uint32_t *rs1, vuint8mf8_t rs2,
                                vuint32mf2_t vs3, size_t vl);
void __riscv_vsuxei8_v_u32m1_m(vbool32_t vm, uint32_t *rs1, vuint8mf4_t rs2,
                               vuint32m1_t vs3, size_t vl);
void __riscv_vsuxei8_v_u32m2_m(vbool16_t vm, uint32_t *rs1, vuint8mf2_t rs2,
                               vuint32m2_t vs3, size_t vl);
void __riscv_vsuxei8_v_u32m4_m(vbool8_t vm, uint32_t *rs1, vuint8m1_t rs2,
                               vuint32m4_t vs3, size_t vl);
void __riscv_vsuxei8_v_u32m8_m(vbool4_t vm, uint32_t *rs1, vuint8m2_t rs2,
                               vuint32m8_t vs3, size_t vl);
void __riscv_vsuxei16_v_u32mf2_m(vbool64_t vm, uint32_t *rs1, vuint16mf4_t rs2,
                                 vuint32mf2_t vs3, size_t vl);
void __riscv_vsuxei16_v_u32m1_m(vbool32_t vm, uint32_t *rs1, vuint16mf2_t rs2,
                                vuint32m1_t vs3, size_t vl);
void __riscv_vsuxei16_v_u32m2_m(vbool16_t vm, uint32_t *rs1, vuint16m1_t rs2,
                                vuint32m2_t vs3, size_t vl);
void __riscv_vsuxei16_v_u32m4_m(vbool8_t vm, uint32_t *rs1, vuint16m2_t rs2,
                                vuint32m4_t vs3, size_t vl);
void __riscv_vsuxei16_v_u32m8_m(vbool4_t vm, uint32_t *rs1, vuint16m4_t rs2,
```

```
                                vuint32m8_t vs3, size_t vl);
void __riscv_vsuxei32_v_u32mf2_m(vbool64_t vm, uint32_t *rs1, vuint32mf2_t rs2,
                                 vuint32mf2_t vs3, size_t vl);
void __riscv_vsuxei32_v_u32m1_m(vbool32_t vm, uint32_t *rs1, vuint32m1_t rs2,
                                vuint32m1_t vs3, size_t vl);
void __riscv_vsuxei32_v_u32m2_m(vbool16_t vm, uint32_t *rs1, vuint32m2_t rs2,
                                vuint32m2_t vs3, size_t vl);
void __riscv_vsuxei32_v_u32m4_m(vbool8_t vm, uint32_t *rs1, vuint32m4_t rs2,
                                vuint32m4_t vs3, size_t vl);
void __riscv_vsuxei32_v_u32m8_m(vbool4_t vm, uint32_t *rs1, vuint32m8_t rs2,
                                vuint32m8_t vs3, size_t vl);
void __riscv_vsuxei64_v_u32mf2_m(vbool64_t vm, uint32_t *rs1, vuint64m1_t rs2,
                                 vuint32mf2_t vs3, size_t vl);
void __riscv_vsuxei64_v_u32m1_m(vbool32_t vm, uint32_t *rs1, vuint64m2_t rs2,
                                vuint32m1_t vs3, size_t vl);
void __riscv_vsuxei64_v_u32m2_m(vbool16_t vm, uint32_t *rs1, vuint64m4_t rs2,
                                vuint32m2_t vs3, size_t vl);
void __riscv_vsuxei64_v_u32m4_m(vbool8_t vm, uint32_t *rs1, vuint64m8_t rs2,
                                vuint32m4_t vs3, size_t vl);
void __riscv_vsuxei8_v_u64m1_m(vbool64_t vm, uint64_t *rs1, vuint8mf8_t rs2,
                               vuint64m1_t vs3, size_t vl);
void __riscv_vsuxei8_v_u64m2_m(vbool32_t vm, uint64_t *rs1, vuint8mf4_t rs2,
                               vuint64m2_t vs3, size_t vl);
void __riscv_vsuxei8_v_u64m4_m(vbool16_t vm, uint64_t *rs1, vuint8mf2_t rs2,
                               vuint64m4_t vs3, size_t vl);
void __riscv_vsuxei8_v_u64m8_m(vbool8_t vm, uint64_t *rs1, vuint8m1_t rs2,
                               vuint64m8_t vs3, size_t vl);
void __riscv_vsuxei16_v_u64m1_m(vbool64_t vm, uint64_t *rs1, vuint16mf4_t rs2,
                                vuint64m1_t vs3, size_t vl);
void __riscv_vsuxei16_v_u64m2_m(vbool32_t vm, uint64_t *rs1, vuint16mf2_t rs2,
                                vuint64m2_t vs3, size_t vl);
void __riscv_vsuxei16_v_u64m4_m(vbool16_t vm, uint64_t *rs1, vuint16m1_t rs2,
                                vuint64m4_t vs3, size_t vl);
void __riscv_vsuxei16_v_u64m8_m(vbool8_t vm, uint64_t *rs1, vuint16m2_t rs2,
                                vuint64m8_t vs3, size_t vl);
void __riscv_vsuxei32_v_u64m1_m(vbool64_t vm, uint64_t *rs1, vuint32mf2_t rs2,
                                vuint64m1_t vs3, size_t vl);
void __riscv_vsuxei32_v_u64m2_m(vbool32_t vm, uint64_t *rs1, vuint32m1_t rs2,
                                vuint64m2_t vs3, size_t vl);
void __riscv_vsuxei32_v_u64m4_m(vbool16_t vm, uint64_t *rs1, vuint32m2_t rs2,
                                vuint64m4_t vs3, size_t vl);
void __riscv_vsuxei32_v_u64m8_m(vbool8_t vm, uint64_t *rs1, vuint32m4_t rs2,
                                vuint64m8_t vs3, size_t vl);
void __riscv_vsuxei64_v_u64m1_m(vbool64_t vm, uint64_t *rs1, vuint64m1_t rs2,
                                vuint64m1_t vs3, size_t vl);
void __riscv_vsuxei64_v_u64m2_m(vbool32_t vm, uint64_t *rs1, vuint64m2_t rs2,
                                vuint64m2_t vs3, size_t vl);
void __riscv_vsuxei64_v_u64m4_m(vbool16_t vm, uint64_t *rs1, vuint64m4_t rs2,
                                vuint64m4_t vs3, size_t vl);
void __riscv_vsuxei64_v_u64m8_m(vbool8_t vm, uint64_t *rs1, vuint64m8_t rs2,
                                vuint64m8_t vs3, size_t vl);
```

A.1.8. Unit-stride Fault-Only-First Loads Intrinsics

```
vfloat16mf4_t __riscv_vle16ff_v_f16mf4(const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf2_t __riscv_vle16ff_v_f16mf2(const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1_t __riscv_vle16ff_v_f16m1(const _Float16 *rs1, size_t *new_vl,
                                     size_t vl);
vfloat16m2_t __riscv_vle16ff_v_f16m2(const _Float16 *rs1, size_t *new_vl,
                                     size_t vl);
vfloat16m4_t __riscv_vle16ff_v_f16m4(const _Float16 *rs1, size_t *new_vl,
                                     size_t vl);
vfloat16m8_t __riscv_vle16ff_v_f16m8(const _Float16 *rs1, size_t *new_vl,
```

```
                                    size_t vl);
vfloat32mf2_t __riscv_vle32ff_v_f32mf2(const float *rs1, size_t *new_vl,
                                      size_t vl);
vfloat32m1_t __riscv_vle32ff_v_f32m1(const float *rs1, size_t *new_vl,
                                    size_t vl);
vfloat32m2_t __riscv_vle32ff_v_f32m2(const float *rs1, size_t *new_vl,
                                    size_t vl);
vfloat32m4_t __riscv_vle32ff_v_f32m4(const float *rs1, size_t *new_vl,
                                    size_t vl);
vfloat32m8_t __riscv_vle32ff_v_f32m8(const float *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m1_t __riscv_vle64ff_v_f64m1(const double *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m2_t __riscv_vle64ff_v_f64m2(const double *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m4_t __riscv_vle64ff_v_f64m4(const double *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m8_t __riscv_vle64ff_v_f64m8(const double *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf8_t __riscv_vle8ff_v_i8mf8(const int8_t *rs1, size_t *new_vl, size_t vl);
vint8mf4_t __riscv_vle8ff_v_i8mf4(const int8_t *rs1, size_t *new_vl, size_t vl);
vint8mf2_t __riscv_vle8ff_v_i8mf2(const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m1_t __riscv_vle8ff_v_i8m1(const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m2_t __riscv_vle8ff_v_i8m2(const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m4_t __riscv_vle8ff_v_i8m4(const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m8_t __riscv_vle8ff_v_i8m8(const int8_t *rs1, size_t *new_vl, size_t vl);
vint16mf4_t __riscv_vle16ff_v_i16mf4(const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf2_t __riscv_vle16ff_v_i16mf2(const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m1_t __riscv_vle16ff_v_i16m1(const int16_t *rs1, size_t *new_vl,
                                  size_t vl);
vint16m2_t __riscv_vle16ff_v_i16m2(const int16_t *rs1, size_t *new_vl,
                                  size_t vl);
vint16m4_t __riscv_vle16ff_v_i16m4(const int16_t *rs1, size_t *new_vl,
                                  size_t vl);
vint16m8_t __riscv_vle16ff_v_i16m8(const int16_t *rs1, size_t *new_vl,
                                  size_t vl);
vint32mf2_t __riscv_vle32ff_v_i32mf2(const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1_t __riscv_vle32ff_v_i32m1(const int32_t *rs1, size_t *new_vl,
                                  size_t vl);
vint32m2_t __riscv_vle32ff_v_i32m2(const int32_t *rs1, size_t *new_vl,
                                  size_t vl);
vint32m4_t __riscv_vle32ff_v_i32m4(const int32_t *rs1, size_t *new_vl,
                                  size_t vl);
vint32m8_t __riscv_vle32ff_v_i32m8(const int32_t *rs1, size_t *new_vl,
                                  size_t vl);
vint64m1_t __riscv_vle64ff_v_i64m1(const int64_t *rs1, size_t *new_vl,
                                  size_t vl);
vint64m2_t __riscv_vle64ff_v_i64m2(const int64_t *rs1, size_t *new_vl,
                                  size_t vl);
vint64m4_t __riscv_vle64ff_v_i64m4(const int64_t *rs1, size_t *new_vl,
                                  size_t vl);
vint64m8_t __riscv_vle64ff_v_i64m8(const int64_t *rs1, size_t *new_vl,
                                  size_t vl);
vuint8mf8_t __riscv_vle8ff_v_u8mf8(const uint8_t *rs1, size_t *new_vl,
                                  size_t vl);
vuint8mf4_t __riscv_vle8ff_v_u8mf4(const uint8_t *rs1, size_t *new_vl,
                                  size_t vl);
vuint8mf2_t __riscv_vle8ff_v_u8mf2(const uint8_t *rs1, size_t *new_vl,
                                  size_t vl);
vuint8m1_t __riscv_vle8ff_v_u8m1(const uint8_t *rs1, size_t *new_vl, size_t vl);
vuint8m2_t __riscv_vle8ff_v_u8m2(const uint8_t *rs1, size_t *new_vl, size_t vl);
vuint8m4_t __riscv_vle8ff_v_u8m4(const uint8_t *rs1, size_t *new_vl, size_t vl);
vuint8m8_t __riscv_vle8ff_v_u8m8(const uint8_t *rs1, size_t *new_vl, size_t vl);
vuint16mf4_t __riscv_vle16ff_v_u16mf4(const uint16_t *rs1, size_t *new_vl,
```

```
                                      size_t vl);
vuint16mf2_t __riscv_vle16ff_v_u16mf2(const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16m1_t __riscv_vle16ff_v_u16m1(const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m2_t __riscv_vle16ff_v_u16m2(const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m4_t __riscv_vle16ff_v_u16m4(const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m8_t __riscv_vle16ff_v_u16m8(const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32mf2_t __riscv_vle32ff_v_u32mf2(const uint32_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint32m1_t __riscv_vle32ff_v_u32m1(const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m2_t __riscv_vle32ff_v_u32m2(const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m4_t __riscv_vle32ff_v_u32m4(const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m8_t __riscv_vle32ff_v_u32m8(const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1_t __riscv_vle64ff_v_u64m1(const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m2_t __riscv_vle64ff_v_u64m2(const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m4_t __riscv_vle64ff_v_u64m4(const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m8_t __riscv_vle64ff_v_u64m8(const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16ff_v_f16mf4_m(vbool64_t vm, const _Float16 *rs1,
                                         size_t *new_vl, size_t vl);
vfloat16mf2_t __riscv_vle16ff_v_f16mf2_m(vbool32_t vm, const _Float16 *rs1,
                                         size_t *new_vl, size_t vl);
vfloat16m1_t __riscv_vle16ff_v_f16m1_m(vbool16_t vm, const _Float16 *rs1,
                                       size_t *new_vl, size_t vl);
vfloat16m2_t __riscv_vle16ff_v_f16m2_m(vbool8_t vm, const _Float16 *rs1,
                                       size_t *new_vl, size_t vl);
vfloat16m4_t __riscv_vle16ff_v_f16m4_m(vbool4_t vm, const _Float16 *rs1,
                                       size_t *new_vl, size_t vl);
vfloat16m8_t __riscv_vle16ff_v_f16m8_m(vbool2_t vm, const _Float16 *rs1,
                                       size_t *new_vl, size_t vl);
vfloat32mf2_t __riscv_vle32ff_v_f32mf2_m(vbool64_t vm, const float *rs1,
                                         size_t *new_vl, size_t vl);
vfloat32m1_t __riscv_vle32ff_v_f32m1_m(vbool32_t vm, const float *rs1,
                                       size_t *new_vl, size_t vl);
vfloat32m2_t __riscv_vle32ff_v_f32m2_m(vbool16_t vm, const float *rs1,
                                       size_t *new_vl, size_t vl);
vfloat32m4_t __riscv_vle32ff_v_f32m4_m(vbool8_t vm, const float *rs1,
                                       size_t *new_vl, size_t vl);
vfloat32m8_t __riscv_vle32ff_v_f32m8_m(vbool4_t vm, const float *rs1,
                                       size_t *new_vl, size_t vl);
vfloat64m1_t __riscv_vle64ff_v_f64m1_m(vbool64_t vm, const double *rs1,
                                       size_t *new_vl, size_t vl);
vfloat64m2_t __riscv_vle64ff_v_f64m2_m(vbool32_t vm, const double *rs1,
                                       size_t *new_vl, size_t vl);
vfloat64m4_t __riscv_vle64ff_v_f64m4_m(vbool16_t vm, const double *rs1,
                                       size_t *new_vl, size_t vl);
vfloat64m8_t __riscv_vle64ff_v_f64m8_m(vbool8_t vm, const double *rs1,
                                       size_t *new_vl, size_t vl);
vint8mf8_t __riscv_vle8ff_v_i8mf8_m(vbool64_t vm, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8mf4_t __riscv_vle8ff_v_i8mf4_m(vbool32_t vm, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8mf2_t __riscv_vle8ff_v_i8mf2_m(vbool16_t vm, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8m1_t __riscv_vle8ff_v_i8m1_m(vbool8_t vm, const int8_t *rs1,
```

```
                                    size_t *new_vl, size_t vl);
vint8m2_t __riscv_vle8ff_v_i8m2_m(vbool4_t vm, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8m4_t __riscv_vle8ff_v_i8m4_m(vbool2_t vm, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8m8_t __riscv_vle8ff_v_i8m8_m(vbool1_t vm, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint16mf4_t __riscv_vle16ff_v_i16mf4_m(vbool64_t vm, const int16_t *rs1,
                                       size_t *new_vl, size_t vl);
vint16mf2_t __riscv_vle16ff_v_i16mf2_m(vbool32_t vm, const int16_t *rs1,
                                       size_t *new_vl, size_t vl);
vint16m1_t __riscv_vle16ff_v_i16m1_m(vbool16_t vm, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16m2_t __riscv_vle16ff_v_i16m2_m(vbool8_t vm, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16m4_t __riscv_vle16ff_v_i16m4_m(vbool4_t vm, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16m8_t __riscv_vle16ff_v_i16m8_m(vbool2_t vm, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint32mf2_t __riscv_vle32ff_v_i32mf2_m(vbool64_t vm, const int32_t *rs1,
                                       size_t *new_vl, size_t vl);
vint32m1_t __riscv_vle32ff_v_i32m1_m(vbool32_t vm, const int32_t *rs1,
                                     size_t *new_vl, size_t vl);
vint32m2_t __riscv_vle32ff_v_i32m2_m(vbool16_t vm, const int32_t *rs1,
                                     size_t *new_vl, size_t vl);
vint32m4_t __riscv_vle32ff_v_i32m4_m(vbool8_t vm, const int32_t *rs1,
                                     size_t *new_vl, size_t vl);
vint32m8_t __riscv_vle32ff_v_i32m8_m(vbool4_t vm, const int32_t *rs1,
                                     size_t *new_vl, size_t vl);
vint64m1_t __riscv_vle64ff_v_i64m1_m(vbool64_t vm, const int64_t *rs1,
                                     size_t *new_vl, size_t vl);
vint64m2_t __riscv_vle64ff_v_i64m2_m(vbool32_t vm, const int64_t *rs1,
                                     size_t *new_vl, size_t vl);
vint64m4_t __riscv_vle64ff_v_i64m4_m(vbool16_t vm, const int64_t *rs1,
                                     size_t *new_vl, size_t vl);
vint64m8_t __riscv_vle64ff_v_i64m8_m(vbool8_t vm, const int64_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint8mf8_t __riscv_vle8ff_v_u8mf8_m(vbool64_t vm, const uint8_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint8mf4_t __riscv_vle8ff_v_u8mf4_m(vbool32_t vm, const uint8_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint8mf2_t __riscv_vle8ff_v_u8mf2_m(vbool16_t vm, const uint8_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint8m1_t __riscv_vle8ff_v_u8m1_m(vbool8_t vm, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m2_t __riscv_vle8ff_v_u8m2_m(vbool4_t vm, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m4_t __riscv_vle8ff_v_u8m4_m(vbool2_t vm, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m8_t __riscv_vle8ff_v_u8m8_m(vbool1_t vm, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint16mf4_t __riscv_vle16ff_v_u16mf4_m(vbool64_t vm, const uint16_t *rs1,
                                        size_t *new_vl, size_t vl);
vuint16mf2_t __riscv_vle16ff_v_u16mf2_m(vbool32_t vm, const uint16_t *rs1,
                                        size_t *new_vl, size_t vl);
vuint16m1_t __riscv_vle16ff_v_u16m1_m(vbool16_t vm, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16m2_t __riscv_vle16ff_v_u16m2_m(vbool8_t vm, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16m4_t __riscv_vle16ff_v_u16m4_m(vbool4_t vm, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16m8_t __riscv_vle16ff_v_u16m8_m(vbool2_t vm, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint32mf2_t __riscv_vle32ff_v_u32mf2_m(vbool64_t vm, const uint32_t *rs1,
                                        size_t *new_vl, size_t vl);
vuint32m1_t __riscv_vle32ff_v_u32m1_m(vbool32_t vm, const uint32_t *rs1,
                                      size_t *new_vl, size_t vl);
```

```
vuint32m2_t __riscv_vle32ff_v_u32m2_m(vbool16_t vm, const uint32_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint32m4_t __riscv_vle32ff_v_u32m4_m(vbool8_t vm, const uint32_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint32m8_t __riscv_vle32ff_v_u32m8_m(vbool4_t vm, const uint32_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint64m1_t __riscv_vle64ff_v_u64m1_m(vbool64_t vm, const uint64_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint64m2_t __riscv_vle64ff_v_u64m2_m(vbool32_t vm, const uint64_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint64m4_t __riscv_vle64ff_v_u64m4_m(vbool16_t vm, const uint64_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint64m8_t __riscv_vle64ff_v_u64m8_m(vbool8_t vm, const uint64_t *rs1,
                                      size_t *new_vl, size_t vl);
```

A.2. Vector Loads and Stores Segment Intrinsics

A.2.1. Vector Unit-Stride Segment Load Intrinsics

```
vfloat16mf4x2_t __riscv_vlseg2e16_v_f16mf4x2(const _Float16 *rs1, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16_v_f16mf4x3(const _Float16 *rs1, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16_v_f16mf4x4(const _Float16 *rs1, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16_v_f16mf4x5(const _Float16 *rs1, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16_v_f16mf4x6(const _Float16 *rs1, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16_v_f16mf4x7(const _Float16 *rs1, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16_v_f16mf4x8(const _Float16 *rs1, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16_v_f16mf2x2(const _Float16 *rs1, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16_v_f16mf2x3(const _Float16 *rs1, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16_v_f16mf2x4(const _Float16 *rs1, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16_v_f16mf2x5(const _Float16 *rs1, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16_v_f16mf2x6(const _Float16 *rs1, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16_v_f16mf2x7(const _Float16 *rs1, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16_v_f16mf2x8(const _Float16 *rs1, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16_v_f16m1x2(const _Float16 *rs1, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16_v_f16m1x3(const _Float16 *rs1, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16_v_f16m1x4(const _Float16 *rs1, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16_v_f16m1x5(const _Float16 *rs1, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16_v_f16m1x6(const _Float16 *rs1, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16_v_f16m1x7(const _Float16 *rs1, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16_v_f16m1x8(const _Float16 *rs1, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16_v_f16m2x2(const _Float16 *rs1, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16_v_f16m2x3(const _Float16 *rs1, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16_v_f16m2x4(const _Float16 *rs1, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16_v_f16m4x2(const _Float16 *rs1, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32_v_f32mf2x2(const float *rs1, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32_v_f32mf2x3(const float *rs1, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32_v_f32mf2x4(const float *rs1, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32_v_f32mf2x5(const float *rs1, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32_v_f32mf2x6(const float *rs1, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32_v_f32mf2x7(const float *rs1, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32_v_f32mf2x8(const float *rs1, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32_v_f32m1x2(const float *rs1, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32_v_f32m1x3(const float *rs1, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32_v_f32m1x4(const float *rs1, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32_v_f32m1x5(const float *rs1, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32_v_f32m1x6(const float *rs1, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32_v_f32m1x7(const float *rs1, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32_v_f32m1x8(const float *rs1, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32_v_f32m2x2(const float *rs1, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32_v_f32m2x3(const float *rs1, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32_v_f32m2x4(const float *rs1, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32_v_f32m4x2(const float *rs1, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64_v_f64m1x2(const double *rs1, size_t vl);
```

```
vfloat64m1x3_t __riscv_vlseg3e64_v_f64m1x3(const double *rs1, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64_v_f64m1x4(const double *rs1, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64_v_f64m1x5(const double *rs1, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64_v_f64m1x6(const double *rs1, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64_v_f64m1x7(const double *rs1, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64_v_f64m1x8(const double *rs1, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64_v_f64m2x2(const double *rs1, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64_v_f64m2x3(const double *rs1, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64_v_f64m2x4(const double *rs1, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64_v_f64m4x2(const double *rs1, size_t vl);
vfloat16mf4x2_t __riscv_vlseg2e16ff_v_f16mf4x2(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16ff_v_f16mf4x3(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16ff_v_f16mf4x4(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16ff_v_f16mf4x5(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16ff_v_f16mf4x6(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16ff_v_f16mf4x7(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16ff_v_f16mf4x8(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16ff_v_f16mf2x2(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16ff_v_f16mf2x3(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16ff_v_f16mf2x4(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16ff_v_f16mf2x5(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16ff_v_f16mf2x6(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16ff_v_f16mf2x7(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16ff_v_f16mf2x8(const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16ff_v_f16m1x2(const _Float16 *rs1,
                                             size_t *new_vl, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16ff_v_f16m1x3(const _Float16 *rs1,
                                             size_t *new_vl, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16ff_v_f16m1x4(const _Float16 *rs1,
                                             size_t *new_vl, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16ff_v_f16m1x5(const _Float16 *rs1,
                                             size_t *new_vl, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16ff_v_f16m1x6(const _Float16 *rs1,
                                             size_t *new_vl, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16ff_v_f16m1x7(const _Float16 *rs1,
                                             size_t *new_vl, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16ff_v_f16m1x8(const _Float16 *rs1,
                                             size_t *new_vl, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16ff_v_f16m2x2(const _Float16 *rs1,
                                             size_t *new_vl, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16ff_v_f16m2x3(const _Float16 *rs1,
                                             size_t *new_vl, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16ff_v_f16m2x4(const _Float16 *rs1,
                                             size_t *new_vl, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16ff_v_f16m4x2(const _Float16 *rs1,
                                             size_t *new_vl, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32ff_v_f32mf2x2(const float *rs1, size_t *new_vl,
                                               size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32ff_v_f32mf2x3(const float *rs1, size_t *new_vl,
                                               size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32ff_v_f32mf2x4(const float *rs1, size_t *new_vl,
                                               size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32ff_v_f32mf2x5(const float *rs1, size_t *new_vl,
```

```
                                                size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32ff_v_f32mf2x6(const float *rs1, size_t *new_vl,
                                                size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32ff_v_f32mf2x7(const float *rs1, size_t *new_vl,
                                                size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32ff_v_f32mf2x8(const float *rs1, size_t *new_vl,
                                                size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32ff_v_f32m1x2(const float *rs1, size_t *new_vl,
                                             size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32ff_v_f32m1x3(const float *rs1, size_t *new_vl,
                                             size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32ff_v_f32m1x4(const float *rs1, size_t *new_vl,
                                             size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32ff_v_f32m1x5(const float *rs1, size_t *new_vl,
                                             size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32ff_v_f32m1x6(const float *rs1, size_t *new_vl,
                                             size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32ff_v_f32m1x7(const float *rs1, size_t *new_vl,
                                             size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32ff_v_f32m1x8(const float *rs1, size_t *new_vl,
                                             size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32ff_v_f32m2x2(const float *rs1, size_t *new_vl,
                                             size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32ff_v_f32m2x3(const float *rs1, size_t *new_vl,
                                             size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32ff_v_f32m2x4(const float *rs1, size_t *new_vl,
                                             size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32ff_v_f32m4x2(const float *rs1, size_t *new_vl,
                                             size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64ff_v_f64m1x2(const double *rs1, size_t *new_vl,
                                             size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64ff_v_f64m1x3(const double *rs1, size_t *new_vl,
                                             size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64ff_v_f64m1x4(const double *rs1, size_t *new_vl,
                                             size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64ff_v_f64m1x5(const double *rs1, size_t *new_vl,
                                             size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64ff_v_f64m1x6(const double *rs1, size_t *new_vl,
                                             size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64ff_v_f64m1x7(const double *rs1, size_t *new_vl,
                                             size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64ff_v_f64m1x8(const double *rs1, size_t *new_vl,
                                             size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64ff_v_f64m2x2(const double *rs1, size_t *new_vl,
                                             size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64ff_v_f64m2x3(const double *rs1, size_t *new_vl,
                                             size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64ff_v_f64m2x4(const double *rs1, size_t *new_vl,
                                             size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64ff_v_f64m4x2(const double *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf8x2_t __riscv_vlseg2e8_v_i8mf8x2(const int8_t *rs1, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8_v_i8mf8x3(const int8_t *rs1, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8_v_i8mf8x4(const int8_t *rs1, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8_v_i8mf8x5(const int8_t *rs1, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8_v_i8mf8x6(const int8_t *rs1, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8_v_i8mf8x7(const int8_t *rs1, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8_v_i8mf8x8(const int8_t *rs1, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8_v_i8mf4x2(const int8_t *rs1, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8_v_i8mf4x3(const int8_t *rs1, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8_v_i8mf4x4(const int8_t *rs1, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8_v_i8mf4x5(const int8_t *rs1, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8_v_i8mf4x6(const int8_t *rs1, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8_v_i8mf4x7(const int8_t *rs1, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8_v_i8mf4x8(const int8_t *rs1, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8_v_i8mf2x2(const int8_t *rs1, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8_v_i8mf2x3(const int8_t *rs1, size_t vl);
```

```
vint8mf2x4_t __riscv_vlseg4e8_v_i8mf2x4(const int8_t *rs1, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8_v_i8mf2x5(const int8_t *rs1, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8_v_i8mf2x6(const int8_t *rs1, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8_v_i8mf2x7(const int8_t *rs1, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8_v_i8mf2x8(const int8_t *rs1, size_t vl);
vint8m1x2_t __riscv_vlseg2e8_v_i8m1x2(const int8_t *rs1, size_t vl);
vint8m1x3_t __riscv_vlseg3e8_v_i8m1x3(const int8_t *rs1, size_t vl);
vint8m1x4_t __riscv_vlseg4e8_v_i8m1x4(const int8_t *rs1, size_t vl);
vint8m1x5_t __riscv_vlseg5e8_v_i8m1x5(const int8_t *rs1, size_t vl);
vint8m1x6_t __riscv_vlseg6e8_v_i8m1x6(const int8_t *rs1, size_t vl);
vint8m1x7_t __riscv_vlseg7e8_v_i8m1x7(const int8_t *rs1, size_t vl);
vint8m1x8_t __riscv_vlseg8e8_v_i8m1x8(const int8_t *rs1, size_t vl);
vint8m2x2_t __riscv_vlseg2e8_v_i8m2x2(const int8_t *rs1, size_t vl);
vint8m2x3_t __riscv_vlseg3e8_v_i8m2x3(const int8_t *rs1, size_t vl);
vint8m2x4_t __riscv_vlseg4e8_v_i8m2x4(const int8_t *rs1, size_t vl);
vint8m4x2_t __riscv_vlseg2e8_v_i8m4x2(const int8_t *rs1, size_t vl);
vint16mf4x2_t __riscv_vlseg2e16_v_i16mf4x2(const int16_t *rs1, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16_v_i16mf4x3(const int16_t *rs1, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16_v_i16mf4x4(const int16_t *rs1, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16_v_i16mf4x5(const int16_t *rs1, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16_v_i16mf4x6(const int16_t *rs1, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16_v_i16mf4x7(const int16_t *rs1, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16_v_i16mf4x8(const int16_t *rs1, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16_v_i16mf2x2(const int16_t *rs1, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16_v_i16mf2x3(const int16_t *rs1, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16_v_i16mf2x4(const int16_t *rs1, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16_v_i16mf2x5(const int16_t *rs1, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16_v_i16mf2x6(const int16_t *rs1, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16_v_i16mf2x7(const int16_t *rs1, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16_v_i16mf2x8(const int16_t *rs1, size_t vl);
vint16m1x2_t __riscv_vlseg2e16_v_i16m1x2(const int16_t *rs1, size_t vl);
vint16m1x3_t __riscv_vlseg3e16_v_i16m1x3(const int16_t *rs1, size_t vl);
vint16m1x4_t __riscv_vlseg4e16_v_i16m1x4(const int16_t *rs1, size_t vl);
vint16m1x5_t __riscv_vlseg5e16_v_i16m1x5(const int16_t *rs1, size_t vl);
vint16m1x6_t __riscv_vlseg6e16_v_i16m1x6(const int16_t *rs1, size_t vl);
vint16m1x7_t __riscv_vlseg7e16_v_i16m1x7(const int16_t *rs1, size_t vl);
vint16m1x8_t __riscv_vlseg8e16_v_i16m1x8(const int16_t *rs1, size_t vl);
vint16m2x2_t __riscv_vlseg2e16_v_i16m2x2(const int16_t *rs1, size_t vl);
vint16m2x3_t __riscv_vlseg3e16_v_i16m2x3(const int16_t *rs1, size_t vl);
vint16m2x4_t __riscv_vlseg4e16_v_i16m2x4(const int16_t *rs1, size_t vl);
vint16m4x2_t __riscv_vlseg2e16_v_i16m4x2(const int16_t *rs1, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32_v_i32mf2x2(const int32_t *rs1, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32_v_i32mf2x3(const int32_t *rs1, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32_v_i32mf2x4(const int32_t *rs1, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32_v_i32mf2x5(const int32_t *rs1, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32_v_i32mf2x6(const int32_t *rs1, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32_v_i32mf2x7(const int32_t *rs1, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32_v_i32mf2x8(const int32_t *rs1, size_t vl);
vint32m1x2_t __riscv_vlseg2e32_v_i32m1x2(const int32_t *rs1, size_t vl);
vint32m1x3_t __riscv_vlseg3e32_v_i32m1x3(const int32_t *rs1, size_t vl);
vint32m1x4_t __riscv_vlseg4e32_v_i32m1x4(const int32_t *rs1, size_t vl);
vint32m1x5_t __riscv_vlseg5e32_v_i32m1x5(const int32_t *rs1, size_t vl);
vint32m1x6_t __riscv_vlseg6e32_v_i32m1x6(const int32_t *rs1, size_t vl);
vint32m1x7_t __riscv_vlseg7e32_v_i32m1x7(const int32_t *rs1, size_t vl);
vint32m1x8_t __riscv_vlseg8e32_v_i32m1x8(const int32_t *rs1, size_t vl);
vint32m2x2_t __riscv_vlseg2e32_v_i32m2x2(const int32_t *rs1, size_t vl);
vint32m2x3_t __riscv_vlseg3e32_v_i32m2x3(const int32_t *rs1, size_t vl);
vint32m2x4_t __riscv_vlseg4e32_v_i32m2x4(const int32_t *rs1, size_t vl);
vint32m4x2_t __riscv_vlseg2e32_v_i32m4x2(const int32_t *rs1, size_t vl);
vint64m1x2_t __riscv_vlseg2e64_v_i64m1x2(const int64_t *rs1, size_t vl);
vint64m1x3_t __riscv_vlseg3e64_v_i64m1x3(const int64_t *rs1, size_t vl);
vint64m1x4_t __riscv_vlseg4e64_v_i64m1x4(const int64_t *rs1, size_t vl);
vint64m1x5_t __riscv_vlseg5e64_v_i64m1x5(const int64_t *rs1, size_t vl);
vint64m1x6_t __riscv_vlseg6e64_v_i64m1x6(const int64_t *rs1, size_t vl);
vint64m1x7_t __riscv_vlseg7e64_v_i64m1x7(const int64_t *rs1, size_t vl);
vint64m1x8_t __riscv_vlseg8e64_v_i64m1x8(const int64_t *rs1, size_t vl);
vint64m2x2_t __riscv_vlseg2e64_v_i64m2x2(const int64_t *rs1, size_t vl);
```

```
vint64m2x3_t __riscv_vlseg3e64_v_i64m2x3(const int64_t *rs1, size_t vl);
vint64m2x4_t __riscv_vlseg4e64_v_i64m2x4(const int64_t *rs1, size_t vl);
vint64m4x2_t __riscv_vlseg2e64_v_i64m4x2(const int64_t *rs1, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8ff_v_i8mf8x2(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf8x3_t __riscv_vlseg3e8ff_v_i8mf8x3(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf8x4_t __riscv_vlseg4e8ff_v_i8mf8x4(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf8x5_t __riscv_vlseg5e8ff_v_i8mf8x5(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf8x6_t __riscv_vlseg6e8ff_v_i8mf8x6(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf8x7_t __riscv_vlseg7e8ff_v_i8mf8x7(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf8x8_t __riscv_vlseg8e8ff_v_i8mf8x8(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf4x2_t __riscv_vlseg2e8ff_v_i8mf4x2(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf4x3_t __riscv_vlseg3e8ff_v_i8mf4x3(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf4x4_t __riscv_vlseg4e8ff_v_i8mf4x4(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf4x5_t __riscv_vlseg5e8ff_v_i8mf4x5(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf4x6_t __riscv_vlseg6e8ff_v_i8mf4x6(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf4x7_t __riscv_vlseg7e8ff_v_i8mf4x7(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf4x8_t __riscv_vlseg8e8ff_v_i8mf4x8(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf2x2_t __riscv_vlseg2e8ff_v_i8mf2x2(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf2x3_t __riscv_vlseg3e8ff_v_i8mf2x3(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf2x4_t __riscv_vlseg4e8ff_v_i8mf2x4(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf2x5_t __riscv_vlseg5e8ff_v_i8mf2x5(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf2x6_t __riscv_vlseg6e8ff_v_i8mf2x6(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf2x7_t __riscv_vlseg7e8ff_v_i8mf2x7(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf2x8_t __riscv_vlseg8e8ff_v_i8mf2x8(const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8m1x2_t __riscv_vlseg2e8ff_v_i8m1x2(const int8_t *rs1, size_t *new_vl,
                                        size_t vl);
vint8m1x3_t __riscv_vlseg3e8ff_v_i8m1x3(const int8_t *rs1, size_t *new_vl,
                                        size_t vl);
vint8m1x4_t __riscv_vlseg4e8ff_v_i8m1x4(const int8_t *rs1, size_t *new_vl,
                                        size_t vl);
vint8m1x5_t __riscv_vlseg5e8ff_v_i8m1x5(const int8_t *rs1, size_t *new_vl,
                                        size_t vl);
vint8m1x6_t __riscv_vlseg6e8ff_v_i8m1x6(const int8_t *rs1, size_t *new_vl,
                                        size_t vl);
vint8m1x7_t __riscv_vlseg7e8ff_v_i8m1x7(const int8_t *rs1, size_t *new_vl,
                                        size_t vl);
vint8m1x8_t __riscv_vlseg8e8ff_v_i8m1x8(const int8_t *rs1, size_t *new_vl,
                                        size_t vl);
vint8m2x2_t __riscv_vlseg2e8ff_v_i8m2x2(const int8_t *rs1, size_t *new_vl,
                                        size_t vl);
vint8m2x3_t __riscv_vlseg3e8ff_v_i8m2x3(const int8_t *rs1, size_t *new_vl,
                                        size_t vl);
vint8m2x4_t __riscv_vlseg4e8ff_v_i8m2x4(const int8_t *rs1, size_t *new_vl,
                                        size_t vl);
vint8m4x2_t __riscv_vlseg2e8ff_v_i8m4x2(const int8_t *rs1, size_t *new_vl,
                                        size_t vl);
```

```
vint16mf4x2_t __riscv_vlseg2e16ff_v_i16mf4x2(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf4x3_t __riscv_vlseg3e16ff_v_i16mf4x3(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf4x4_t __riscv_vlseg4e16ff_v_i16mf4x4(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf4x5_t __riscv_vlseg5e16ff_v_i16mf4x5(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf4x6_t __riscv_vlseg6e16ff_v_i16mf4x6(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf4x7_t __riscv_vlseg7e16ff_v_i16mf4x7(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf4x8_t __riscv_vlseg8e16ff_v_i16mf4x8(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf2x2_t __riscv_vlseg2e16ff_v_i16mf2x2(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf2x3_t __riscv_vlseg3e16ff_v_i16mf2x3(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf2x4_t __riscv_vlseg4e16ff_v_i16mf2x4(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf2x5_t __riscv_vlseg5e16ff_v_i16mf2x5(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf2x6_t __riscv_vlseg6e16ff_v_i16mf2x6(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf2x7_t __riscv_vlseg7e16ff_v_i16mf2x7(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16mf2x8_t __riscv_vlseg8e16ff_v_i16mf2x8(const int16_t *rs1, size_t *new_vl,
                                             size_t vl);
vint16m1x2_t __riscv_vlseg2e16ff_v_i16m1x2(const int16_t *rs1, size_t *new_vl,
                                           size_t vl);
vint16m1x3_t __riscv_vlseg3e16ff_v_i16m1x3(const int16_t *rs1, size_t *new_vl,
                                           size_t vl);
vint16m1x4_t __riscv_vlseg4e16ff_v_i16m1x4(const int16_t *rs1, size_t *new_vl,
                                           size_t vl);
vint16m1x5_t __riscv_vlseg5e16ff_v_i16m1x5(const int16_t *rs1, size_t *new_vl,
                                           size_t vl);
vint16m1x6_t __riscv_vlseg6e16ff_v_i16m1x6(const int16_t *rs1, size_t *new_vl,
                                           size_t vl);
vint16m1x7_t __riscv_vlseg7e16ff_v_i16m1x7(const int16_t *rs1, size_t *new_vl,
                                           size_t vl);
vint16m1x8_t __riscv_vlseg8e16ff_v_i16m1x8(const int16_t *rs1, size_t *new_vl,
                                           size_t vl);
vint16m2x2_t __riscv_vlseg2e16ff_v_i16m2x2(const int16_t *rs1, size_t *new_vl,
                                           size_t vl);
vint16m2x3_t __riscv_vlseg3e16ff_v_i16m2x3(const int16_t *rs1, size_t *new_vl,
                                           size_t vl);
vint16m2x4_t __riscv_vlseg4e16ff_v_i16m2x4(const int16_t *rs1, size_t *new_vl,
                                           size_t vl);
vint16m4x2_t __riscv_vlseg2e16ff_v_i16m4x2(const int16_t *rs1, size_t *new_vl,
                                           size_t vl);
vint32mf2x2_t __riscv_vlseg2e32ff_v_i32mf2x2(const int32_t *rs1, size_t *new_vl,
                                             size_t vl);
vint32mf2x3_t __riscv_vlseg3e32ff_v_i32mf2x3(const int32_t *rs1, size_t *new_vl,
                                             size_t vl);
vint32mf2x4_t __riscv_vlseg4e32ff_v_i32mf2x4(const int32_t *rs1, size_t *new_vl,
                                             size_t vl);
vint32mf2x5_t __riscv_vlseg5e32ff_v_i32mf2x5(const int32_t *rs1, size_t *new_vl,
                                             size_t vl);
vint32mf2x6_t __riscv_vlseg6e32ff_v_i32mf2x6(const int32_t *rs1, size_t *new_vl,
                                             size_t vl);
vint32mf2x7_t __riscv_vlseg7e32ff_v_i32mf2x7(const int32_t *rs1, size_t *new_vl,
                                             size_t vl);
vint32mf2x8_t __riscv_vlseg8e32ff_v_i32mf2x8(const int32_t *rs1, size_t *new_vl,
                                             size_t vl);
vint32m1x2_t __riscv_vlseg2e32ff_v_i32m1x2(const int32_t *rs1, size_t *new_vl,
                                           size_t vl);
vint32m1x3_t __riscv_vlseg3e32ff_v_i32m1x3(const int32_t *rs1, size_t *new_vl,
```

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                                          size_t vl);
vint32m1x4_t __riscv_vlseg4e32ff_v_i32m1x4(const int32_t *rs1, size_t *new_vl,
                                          size_t vl);
vint32m1x5_t __riscv_vlseg5e32ff_v_i32m1x5(const int32_t *rs1, size_t *new_vl,
                                          size_t vl);
vint32m1x6_t __riscv_vlseg6e32ff_v_i32m1x6(const int32_t *rs1, size_t *new_vl,
                                          size_t vl);
vint32m1x7_t __riscv_vlseg7e32ff_v_i32m1x7(const int32_t *rs1, size_t *new_vl,
                                          size_t vl);
vint32m1x8_t __riscv_vlseg8e32ff_v_i32m1x8(const int32_t *rs1, size_t *new_vl,
                                          size_t vl);
vint32m2x2_t __riscv_vlseg2e32ff_v_i32m2x2(const int32_t *rs1, size_t *new_vl,
                                          size_t vl);
vint32m2x3_t __riscv_vlseg3e32ff_v_i32m2x3(const int32_t *rs1, size_t *new_vl,
                                          size_t vl);
vint32m2x4_t __riscv_vlseg4e32ff_v_i32m2x4(const int32_t *rs1, size_t *new_vl,
                                          size_t vl);
vint32m4x2_t __riscv_vlseg2e32ff_v_i32m4x2(const int32_t *rs1, size_t *new_vl,
                                          size_t vl);
vint64m1x2_t __riscv_vlseg2e64ff_v_i64m1x2(const int64_t *rs1, size_t *new_vl,
                                          size_t vl);
vint64m1x3_t __riscv_vlseg3e64ff_v_i64m1x3(const int64_t *rs1, size_t *new_vl,
                                          size_t vl);
vint64m1x4_t __riscv_vlseg4e64ff_v_i64m1x4(const int64_t *rs1, size_t *new_vl,
                                          size_t vl);
vint64m1x5_t __riscv_vlseg5e64ff_v_i64m1x5(const int64_t *rs1, size_t *new_vl,
                                          size_t vl);
vint64m1x6_t __riscv_vlseg6e64ff_v_i64m1x6(const int64_t *rs1, size_t *new_vl,
                                          size_t vl);
vint64m1x7_t __riscv_vlseg7e64ff_v_i64m1x7(const int64_t *rs1, size_t *new_vl,
                                          size_t vl);
vint64m1x8_t __riscv_vlseg8e64ff_v_i64m1x8(const int64_t *rs1, size_t *new_vl,
                                          size_t vl);
vint64m2x2_t __riscv_vlseg2e64ff_v_i64m2x2(const int64_t *rs1, size_t *new_vl,
                                          size_t vl);
vint64m2x3_t __riscv_vlseg3e64ff_v_i64m2x3(const int64_t *rs1, size_t *new_vl,
                                          size_t vl);
vint64m2x4_t __riscv_vlseg4e64ff_v_i64m2x4(const int64_t *rs1, size_t *new_vl,
                                          size_t vl);
vint64m4x2_t __riscv_vlseg2e64ff_v_i64m4x2(const int64_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8_v_u8mf8x2(const uint8_t *rs1, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8_v_u8mf8x3(const uint8_t *rs1, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8_v_u8mf8x4(const uint8_t *rs1, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8_v_u8mf8x5(const uint8_t *rs1, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8_v_u8mf8x6(const uint8_t *rs1, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8_v_u8mf8x7(const uint8_t *rs1, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8_v_u8mf8x8(const uint8_t *rs1, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8_v_u8mf4x2(const uint8_t *rs1, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8_v_u8mf4x3(const uint8_t *rs1, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8_v_u8mf4x4(const uint8_t *rs1, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8_v_u8mf4x5(const uint8_t *rs1, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8_v_u8mf4x6(const uint8_t *rs1, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8_v_u8mf4x7(const uint8_t *rs1, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8_v_u8mf4x8(const uint8_t *rs1, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8_v_u8mf2x2(const uint8_t *rs1, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8_v_u8mf2x3(const uint8_t *rs1, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8_v_u8mf2x4(const uint8_t *rs1, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8_v_u8mf2x5(const uint8_t *rs1, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8_v_u8mf2x6(const uint8_t *rs1, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8_v_u8mf2x7(const uint8_t *rs1, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8_v_u8mf2x8(const uint8_t *rs1, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8_v_u8m1x2(const uint8_t *rs1, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8_v_u8m1x3(const uint8_t *rs1, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8_v_u8m1x4(const uint8_t *rs1, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8_v_u8m1x5(const uint8_t *rs1, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8_v_u8m1x6(const uint8_t *rs1, size_t vl);
```

```
vuint8m1x7_t __riscv_vlseg7e8_v_u8m1x7(const uint8_t *rs1, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8_v_u8m1x8(const uint8_t *rs1, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8_v_u8m2x2(const uint8_t *rs1, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8_v_u8m2x3(const uint8_t *rs1, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8_v_u8m2x4(const uint8_t *rs1, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8_v_u8m4x2(const uint8_t *rs1, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16_v_u16mf4x2(const uint16_t *rs1, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16_v_u16mf4x3(const uint16_t *rs1, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16_v_u16mf4x4(const uint16_t *rs1, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16_v_u16mf4x5(const uint16_t *rs1, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16_v_u16mf4x6(const uint16_t *rs1, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16_v_u16mf4x7(const uint16_t *rs1, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16_v_u16mf4x8(const uint16_t *rs1, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16_v_u16mf2x2(const uint16_t *rs1, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16_v_u16mf2x3(const uint16_t *rs1, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16_v_u16mf2x4(const uint16_t *rs1, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16_v_u16mf2x5(const uint16_t *rs1, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16_v_u16mf2x6(const uint16_t *rs1, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16_v_u16mf2x7(const uint16_t *rs1, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16_v_u16mf2x8(const uint16_t *rs1, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16_v_u16m1x2(const uint16_t *rs1, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16_v_u16m1x3(const uint16_t *rs1, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16_v_u16m1x4(const uint16_t *rs1, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16_v_u16m1x5(const uint16_t *rs1, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16_v_u16m1x6(const uint16_t *rs1, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16_v_u16m1x7(const uint16_t *rs1, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16_v_u16m1x8(const uint16_t *rs1, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16_v_u16m2x2(const uint16_t *rs1, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16_v_u16m2x3(const uint16_t *rs1, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16_v_u16m2x4(const uint16_t *rs1, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16_v_u16m4x2(const uint16_t *rs1, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32_v_u32mf2x2(const uint32_t *rs1, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32_v_u32mf2x3(const uint32_t *rs1, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32_v_u32mf2x4(const uint32_t *rs1, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32_v_u32mf2x5(const uint32_t *rs1, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32_v_u32mf2x6(const uint32_t *rs1, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32_v_u32mf2x7(const uint32_t *rs1, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32_v_u32mf2x8(const uint32_t *rs1, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32_v_u32m1x2(const uint32_t *rs1, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32_v_u32m1x3(const uint32_t *rs1, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32_v_u32m1x4(const uint32_t *rs1, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32_v_u32m1x5(const uint32_t *rs1, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32_v_u32m1x6(const uint32_t *rs1, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32_v_u32m1x7(const uint32_t *rs1, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32_v_u32m1x8(const uint32_t *rs1, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32_v_u32m2x2(const uint32_t *rs1, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32_v_u32m2x3(const uint32_t *rs1, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32_v_u32m2x4(const uint32_t *rs1, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32_v_u32m4x2(const uint32_t *rs1, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64_v_u64m1x2(const uint64_t *rs1, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64_v_u64m1x3(const uint64_t *rs1, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64_v_u64m1x4(const uint64_t *rs1, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64_v_u64m1x5(const uint64_t *rs1, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64_v_u64m1x6(const uint64_t *rs1, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64_v_u64m1x7(const uint64_t *rs1, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64_v_u64m1x8(const uint64_t *rs1, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64_v_u64m2x2(const uint64_t *rs1, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64_v_u64m2x3(const uint64_t *rs1, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64_v_u64m2x4(const uint64_t *rs1, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64_v_u64m4x2(const uint64_t *rs1, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8ff_v_u8mf8x2(const uint8_t *rs1, size_t *new_vl,
                                           size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8ff_v_u8mf8x3(const uint8_t *rs1, size_t *new_vl,
                                           size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8ff_v_u8mf8x4(const uint8_t *rs1, size_t *new_vl,
                                           size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8ff_v_u8mf8x5(const uint8_t *rs1, size_t *new_vl,
```

```
                                          size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8ff_v_u8mf8x6(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8ff_v_u8mf8x7(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8ff_v_u8mf8x8(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8ff_v_u8mf4x2(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8ff_v_u8mf4x3(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8ff_v_u8mf4x4(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8ff_v_u8mf4x5(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8ff_v_u8mf4x6(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8ff_v_u8mf4x7(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8ff_v_u8mf4x8(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8ff_v_u8mf2x2(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8ff_v_u8mf2x3(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8ff_v_u8mf2x4(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8ff_v_u8mf2x5(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8ff_v_u8mf2x6(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8ff_v_u8mf2x7(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8ff_v_u8mf2x8(const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m1x2_t __riscv_vlseg2e8ff_v_u8m1x2(const uint8_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint8m1x3_t __riscv_vlseg3e8ff_v_u8m1x3(const uint8_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint8m1x4_t __riscv_vlseg4e8ff_v_u8m1x4(const uint8_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint8m1x5_t __riscv_vlseg5e8ff_v_u8m1x5(const uint8_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint8m1x6_t __riscv_vlseg6e8ff_v_u8m1x6(const uint8_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint8m1x7_t __riscv_vlseg7e8ff_v_u8m1x7(const uint8_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint8m1x8_t __riscv_vlseg8e8ff_v_u8m1x8(const uint8_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint8m2x2_t __riscv_vlseg2e8ff_v_u8m2x2(const uint8_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint8m2x3_t __riscv_vlseg3e8ff_v_u8m2x3(const uint8_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint8m2x4_t __riscv_vlseg4e8ff_v_u8m2x4(const uint8_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint8m4x2_t __riscv_vlseg2e8ff_v_u8m4x2(const uint8_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16ff_v_u16mf4x2(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16ff_v_u16mf4x3(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16ff_v_u16mf4x4(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16ff_v_u16mf4x5(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16ff_v_u16mf4x6(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
```

```
vuint16mf4x7_t __riscv_vlseg7e16ff_v_u16mf4x7(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16ff_v_u16mf4x8(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16ff_v_u16mf2x2(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16ff_v_u16mf2x3(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16ff_v_u16mf2x4(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16ff_v_u16mf2x5(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16ff_v_u16mf2x6(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16ff_v_u16mf2x7(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16ff_v_u16mf2x8(const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16ff_v_u16m1x2(const uint16_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint16m1x3_t __riscv_vlseg3e16ff_v_u16m1x3(const uint16_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint16m1x4_t __riscv_vlseg4e16ff_v_u16m1x4(const uint16_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint16m1x5_t __riscv_vlseg5e16ff_v_u16m1x5(const uint16_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint16m1x6_t __riscv_vlseg6e16ff_v_u16m1x6(const uint16_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint16m1x7_t __riscv_vlseg7e16ff_v_u16m1x7(const uint16_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint16m1x8_t __riscv_vlseg8e16ff_v_u16m1x8(const uint16_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint16m2x2_t __riscv_vlseg2e16ff_v_u16m2x2(const uint16_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint16m2x3_t __riscv_vlseg3e16ff_v_u16m2x3(const uint16_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint16m2x4_t __riscv_vlseg4e16ff_v_u16m2x4(const uint16_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint16m4x2_t __riscv_vlseg2e16ff_v_u16m4x2(const uint16_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32ff_v_u32mf2x2(const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32ff_v_u32mf2x3(const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32ff_v_u32mf2x4(const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32ff_v_u32mf2x5(const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32ff_v_u32mf2x6(const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32ff_v_u32mf2x7(const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32ff_v_u32mf2x8(const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32ff_v_u32m1x2(const uint32_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint32m1x3_t __riscv_vlseg3e32ff_v_u32m1x3(const uint32_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint32m1x4_t __riscv_vlseg4e32ff_v_u32m1x4(const uint32_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint32m1x5_t __riscv_vlseg5e32ff_v_u32m1x5(const uint32_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint32m1x6_t __riscv_vlseg6e32ff_v_u32m1x6(const uint32_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint32m1x7_t __riscv_vlseg7e32ff_v_u32m1x7(const uint32_t *rs1, size_t *new_vl,
                                            size_t vl);
vuint32m1x8_t __riscv_vlseg8e32ff_v_u32m1x8(const uint32_t *rs1, size_t *new_vl,
```

```
                                          size_t vl);
vuint32m2x2_t __riscv_vlseg2e32ff_v_u32m2x2(const uint32_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint32m2x3_t __riscv_vlseg3e32ff_v_u32m2x3(const uint32_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint32m2x4_t __riscv_vlseg4e32ff_v_u32m2x4(const uint32_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint32m4x2_t __riscv_vlseg2e32ff_v_u32m4x2(const uint32_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint64m1x2_t __riscv_vlseg2e64ff_v_u64m1x2(const uint64_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint64m1x3_t __riscv_vlseg3e64ff_v_u64m1x3(const uint64_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint64m1x4_t __riscv_vlseg4e64ff_v_u64m1x4(const uint64_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint64m1x5_t __riscv_vlseg5e64ff_v_u64m1x5(const uint64_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint64m1x6_t __riscv_vlseg6e64ff_v_u64m1x6(const uint64_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint64m1x7_t __riscv_vlseg7e64ff_v_u64m1x7(const uint64_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint64m1x8_t __riscv_vlseg8e64ff_v_u64m1x8(const uint64_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint64m2x2_t __riscv_vlseg2e64ff_v_u64m2x2(const uint64_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint64m2x3_t __riscv_vlseg3e64ff_v_u64m2x3(const uint64_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint64m2x4_t __riscv_vlseg4e64ff_v_u64m2x4(const uint64_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint64m4x2_t __riscv_vlseg2e64ff_v_u64m4x2(const uint64_t *rs1, size_t *new_vl,
                                          size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlseg2e16_v_f16mf4x2_m(vbool64_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16_v_f16mf4x3_m(vbool64_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16_v_f16mf4x4_m(vbool64_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16_v_f16mf4x5_m(vbool64_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16_v_f16mf4x6_m(vbool64_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16_v_f16mf4x7_m(vbool64_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16_v_f16mf4x8_m(vbool64_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16_v_f16mf2x2_m(vbool32_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16_v_f16mf2x3_m(vbool32_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16_v_f16mf2x4_m(vbool32_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16_v_f16mf2x5_m(vbool32_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16_v_f16mf2x6_m(vbool32_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16_v_f16mf2x7_m(vbool32_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16_v_f16mf2x8_m(vbool32_t vm,
                                            const _Float16 *rs1, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16_v_f16m1x2_m(vbool16_t vm, const _Float16 *rs1,
                                           size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16_v_f16m1x3_m(vbool16_t vm, const _Float16 *rs1,
                                           size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16_v_f16m1x4_m(vbool16_t vm, const _Float16 *rs1,
                                           size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16_v_f16m1x5_m(vbool16_t vm, const _Float16 *rs1,
```

```
                                                size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16_v_f16m1x6_m(vbool16_t vm, const _Float16 *rs1,
                                                size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16_v_f16m1x7_m(vbool16_t vm, const _Float16 *rs1,
                                                size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16_v_f16m1x8_m(vbool16_t vm, const _Float16 *rs1,
                                                size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16_v_f16m2x2_m(vbool8_t vm, const _Float16 *rs1,
                                                size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16_v_f16m2x3_m(vbool8_t vm, const _Float16 *rs1,
                                                size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16_v_f16m2x4_m(vbool8_t vm, const _Float16 *rs1,
                                                size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16_v_f16m4x2_m(vbool4_t vm, const _Float16 *rs1,
                                                size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32_v_f32mf2x2_m(vbool64_t vm, const float *rs1,
                                                  size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32_v_f32mf2x3_m(vbool64_t vm, const float *rs1,
                                                  size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32_v_f32mf2x4_m(vbool64_t vm, const float *rs1,
                                                  size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32_v_f32mf2x5_m(vbool64_t vm, const float *rs1,
                                                  size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32_v_f32mf2x6_m(vbool64_t vm, const float *rs1,
                                                  size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32_v_f32mf2x7_m(vbool64_t vm, const float *rs1,
                                                  size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32_v_f32mf2x8_m(vbool64_t vm, const float *rs1,
                                                  size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32_v_f32m1x2_m(vbool32_t vm, const float *rs1,
                                                size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32_v_f32m1x3_m(vbool32_t vm, const float *rs1,
                                                size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32_v_f32m1x4_m(vbool32_t vm, const float *rs1,
                                                size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32_v_f32m1x5_m(vbool32_t vm, const float *rs1,
                                                size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32_v_f32m1x6_m(vbool32_t vm, const float *rs1,
                                                size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32_v_f32m1x7_m(vbool32_t vm, const float *rs1,
                                                size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32_v_f32m1x8_m(vbool32_t vm, const float *rs1,
                                                size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32_v_f32m2x2_m(vbool16_t vm, const float *rs1,
                                                size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32_v_f32m2x3_m(vbool16_t vm, const float *rs1,
                                                size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32_v_f32m2x4_m(vbool16_t vm, const float *rs1,
                                                size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32_v_f32m4x2_m(vbool8_t vm, const float *rs1,
                                                size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64_v_f64m1x2_m(vbool64_t vm, const double *rs1,
                                                size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64_v_f64m1x3_m(vbool64_t vm, const double *rs1,
                                                size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64_v_f64m1x4_m(vbool64_t vm, const double *rs1,
                                                size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64_v_f64m1x5_m(vbool64_t vm, const double *rs1,
                                                size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64_v_f64m1x6_m(vbool64_t vm, const double *rs1,
                                                size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64_v_f64m1x7_m(vbool64_t vm, const double *rs1,
                                                size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64_v_f64m1x8_m(vbool64_t vm, const double *rs1,
                                                size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64_v_f64m2x2_m(vbool32_t vm, const double *rs1,
                                                size_t vl);
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vfloat64m2x3_t __riscv_vlseg3e64_v_f64m2x3_m(vbool32_t vm, const double *rs1,
                                             size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64_v_f64m2x4_m(vbool32_t vm, const double *rs1,
                                             size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64_v_f64m4x2_m(vbool16_t vm, const double *rs1,
                                             size_t vl);
vfloat16mf4x2_t __riscv_vlseg2e16ff_v_f16mf4x2_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16ff_v_f16mf4x3_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16ff_v_f16mf4x4_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16ff_v_f16mf4x5_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16ff_v_f16mf4x6_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16ff_v_f16mf4x7_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16ff_v_f16mf4x8_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16ff_v_f16mf2x2_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16ff_v_f16mf2x3_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16ff_v_f16mf2x4_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16ff_v_f16mf2x5_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16ff_v_f16mf2x6_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16ff_v_f16mf2x7_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16ff_v_f16mf2x8_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16ff_v_f16m1x2_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16ff_v_f16m1x3_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16ff_v_f16m1x4_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16ff_v_f16m1x5_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16ff_v_f16m1x6_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16ff_v_f16m1x7_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               size_t *new_vl, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16ff_v_f16m1x8_m(vbool16_t vm,
```

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                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16ff_v_f16m2x2_m(vbool8_t vm, const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16ff_v_f16m2x3_m(vbool8_t vm, const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16ff_v_f16m2x4_m(vbool8_t vm, const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16ff_v_f16m4x2_m(vbool4_t vm, const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32ff_v_f32mf2x2_m(vbool64_t vm, const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32ff_v_f32mf2x3_m(vbool64_t vm, const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32ff_v_f32mf2x4_m(vbool64_t vm, const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32ff_v_f32mf2x5_m(vbool64_t vm, const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32ff_v_f32mf2x6_m(vbool64_t vm, const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32ff_v_f32mf2x7_m(vbool64_t vm, const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32ff_v_f32mf2x8_m(vbool64_t vm, const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32ff_v_f32m1x2_m(vbool32_t vm, const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32ff_v_f32m1x3_m(vbool32_t vm, const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32ff_v_f32m1x4_m(vbool32_t vm, const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32ff_v_f32m1x5_m(vbool32_t vm, const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32ff_v_f32m1x6_m(vbool32_t vm, const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32ff_v_f32m1x7_m(vbool32_t vm, const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32ff_v_f32m1x8_m(vbool32_t vm, const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32ff_v_f32m2x2_m(vbool16_t vm, const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32ff_v_f32m2x3_m(vbool16_t vm, const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32ff_v_f32m2x4_m(vbool16_t vm, const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32ff_v_f32m4x2_m(vbool8_t vm, const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64ff_v_f64m1x2_m(vbool64_t vm, const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64ff_v_f64m1x3_m(vbool64_t vm, const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64ff_v_f64m1x4_m(vbool64_t vm, const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64ff_v_f64m1x5_m(vbool64_t vm, const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64ff_v_f64m1x6_m(vbool64_t vm, const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64ff_v_f64m1x7_m(vbool64_t vm, const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64ff_v_f64m1x8_m(vbool64_t vm, const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64ff_v_f64m2x2_m(vbool32_t vm, const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64ff_v_f64m2x3_m(vbool32_t vm, const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64ff_v_f64m2x4_m(vbool32_t vm, const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64ff_v_f64m4x2_m(vbool16_t vm, const double *rs1,
```

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                                                size_t *new_vl, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8_v_i8mf8x2_m(vbool64_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf8x3_t __riscv_vlseg3e8_v_i8mf8x3_m(vbool64_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf8x4_t __riscv_vlseg4e8_v_i8mf8x4_m(vbool64_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf8x5_t __riscv_vlseg5e8_v_i8mf8x5_m(vbool64_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf8x6_t __riscv_vlseg6e8_v_i8mf8x6_m(vbool64_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf8x7_t __riscv_vlseg7e8_v_i8mf8x7_m(vbool64_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf8x8_t __riscv_vlseg8e8_v_i8mf8x8_m(vbool64_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf4x2_t __riscv_vlseg2e8_v_i8mf4x2_m(vbool32_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf4x3_t __riscv_vlseg3e8_v_i8mf4x3_m(vbool32_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf4x4_t __riscv_vlseg4e8_v_i8mf4x4_m(vbool32_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf4x5_t __riscv_vlseg5e8_v_i8mf4x5_m(vbool32_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf4x6_t __riscv_vlseg6e8_v_i8mf4x6_m(vbool32_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf4x7_t __riscv_vlseg7e8_v_i8mf4x7_m(vbool32_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf4x8_t __riscv_vlseg8e8_v_i8mf4x8_m(vbool32_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf2x2_t __riscv_vlseg2e8_v_i8mf2x2_m(vbool16_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf2x3_t __riscv_vlseg3e8_v_i8mf2x3_m(vbool16_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf2x4_t __riscv_vlseg4e8_v_i8mf2x4_m(vbool16_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf2x5_t __riscv_vlseg5e8_v_i8mf2x5_m(vbool16_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf2x6_t __riscv_vlseg6e8_v_i8mf2x6_m(vbool16_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf2x7_t __riscv_vlseg7e8_v_i8mf2x7_m(vbool16_t vm, const int8_t *rs1,
                                          size_t vl);
vint8mf2x8_t __riscv_vlseg8e8_v_i8mf2x8_m(vbool16_t vm, const int8_t *rs1,
                                          size_t vl);
vint8m1x2_t __riscv_vlseg2e8_v_i8m1x2_m(vbool8_t vm, const int8_t *rs1,
                                        size_t vl);
vint8m1x3_t __riscv_vlseg3e8_v_i8m1x3_m(vbool8_t vm, const int8_t *rs1,
                                        size_t vl);
vint8m1x4_t __riscv_vlseg4e8_v_i8m1x4_m(vbool8_t vm, const int8_t *rs1,
                                        size_t vl);
vint8m1x5_t __riscv_vlseg5e8_v_i8m1x5_m(vbool8_t vm, const int8_t *rs1,
                                        size_t vl);
vint8m1x6_t __riscv_vlseg6e8_v_i8m1x6_m(vbool8_t vm, const int8_t *rs1,
                                        size_t vl);
vint8m1x7_t __riscv_vlseg7e8_v_i8m1x7_m(vbool8_t vm, const int8_t *rs1,
                                        size_t vl);
vint8m1x8_t __riscv_vlseg8e8_v_i8m1x8_m(vbool8_t vm, const int8_t *rs1,
                                        size_t vl);
vint8m2x2_t __riscv_vlseg2e8_v_i8m2x2_m(vbool4_t vm, const int8_t *rs1,
                                        size_t vl);
vint8m2x3_t __riscv_vlseg3e8_v_i8m2x3_m(vbool4_t vm, const int8_t *rs1,
                                        size_t vl);
vint8m2x4_t __riscv_vlseg4e8_v_i8m2x4_m(vbool4_t vm, const int8_t *rs1,
                                        size_t vl);
vint8m4x2_t __riscv_vlseg2e8_v_i8m4x2_m(vbool2_t vm, const int8_t *rs1,
                                        size_t vl);
vint16mf4x2_t __riscv_vlseg2e16_v_i16mf4x2_m(vbool64_t vm, const int16_t *rs1,
                                             size_t vl);
```

```
vint16mf4x3_t __riscv_vlseg3e16_v_i16mf4x3_m(vbool64_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf4x4_t __riscv_vlseg4e16_v_i16mf4x4_m(vbool64_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf4x5_t __riscv_vlseg5e16_v_i16mf4x5_m(vbool64_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf4x6_t __riscv_vlseg6e16_v_i16mf4x6_m(vbool64_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf4x7_t __riscv_vlseg7e16_v_i16mf4x7_m(vbool64_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf4x8_t __riscv_vlseg8e16_v_i16mf4x8_m(vbool64_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf2x2_t __riscv_vlseg2e16_v_i16mf2x2_m(vbool32_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf2x3_t __riscv_vlseg3e16_v_i16mf2x3_m(vbool32_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf2x4_t __riscv_vlseg4e16_v_i16mf2x4_m(vbool32_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf2x5_t __riscv_vlseg5e16_v_i16mf2x5_m(vbool32_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf2x6_t __riscv_vlseg6e16_v_i16mf2x6_m(vbool32_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf2x7_t __riscv_vlseg7e16_v_i16mf2x7_m(vbool32_t vm, const int16_t *rs1,
                                             size_t vl);
vint16mf2x8_t __riscv_vlseg8e16_v_i16mf2x8_m(vbool32_t vm, const int16_t *rs1,
                                             size_t vl);
vint16m1x2_t __riscv_vlseg2e16_v_i16m1x2_m(vbool16_t vm, const int16_t *rs1,
                                           size_t vl);
vint16m1x3_t __riscv_vlseg3e16_v_i16m1x3_m(vbool16_t vm, const int16_t *rs1,
                                           size_t vl);
vint16m1x4_t __riscv_vlseg4e16_v_i16m1x4_m(vbool16_t vm, const int16_t *rs1,
                                           size_t vl);
vint16m1x5_t __riscv_vlseg5e16_v_i16m1x5_m(vbool16_t vm, const int16_t *rs1,
                                           size_t vl);
vint16m1x6_t __riscv_vlseg6e16_v_i16m1x6_m(vbool16_t vm, const int16_t *rs1,
                                           size_t vl);
vint16m1x7_t __riscv_vlseg7e16_v_i16m1x7_m(vbool16_t vm, const int16_t *rs1,
                                           size_t vl);
vint16m1x8_t __riscv_vlseg8e16_v_i16m1x8_m(vbool16_t vm, const int16_t *rs1,
                                           size_t vl);
vint16m2x2_t __riscv_vlseg2e16_v_i16m2x2_m(vbool8_t vm, const int16_t *rs1,
                                           size_t vl);
vint16m2x3_t __riscv_vlseg3e16_v_i16m2x3_m(vbool8_t vm, const int16_t *rs1,
                                           size_t vl);
vint16m2x4_t __riscv_vlseg4e16_v_i16m2x4_m(vbool8_t vm, const int16_t *rs1,
                                           size_t vl);
vint16m4x2_t __riscv_vlseg2e16_v_i16m4x2_m(vbool4_t vm, const int16_t *rs1,
                                           size_t vl);
vint32mf2x2_t __riscv_vlseg2e32_v_i32mf2x2_m(vbool64_t vm, const int32_t *rs1,
                                             size_t vl);
vint32mf2x3_t __riscv_vlseg3e32_v_i32mf2x3_m(vbool64_t vm, const int32_t *rs1,
                                             size_t vl);
vint32mf2x4_t __riscv_vlseg4e32_v_i32mf2x4_m(vbool64_t vm, const int32_t *rs1,
                                             size_t vl);
vint32mf2x5_t __riscv_vlseg5e32_v_i32mf2x5_m(vbool64_t vm, const int32_t *rs1,
                                             size_t vl);
vint32mf2x6_t __riscv_vlseg6e32_v_i32mf2x6_m(vbool64_t vm, const int32_t *rs1,
                                             size_t vl);
vint32mf2x7_t __riscv_vlseg7e32_v_i32mf2x7_m(vbool64_t vm, const int32_t *rs1,
                                             size_t vl);
vint32mf2x8_t __riscv_vlseg8e32_v_i32mf2x8_m(vbool64_t vm, const int32_t *rs1,
                                             size_t vl);
vint32m1x2_t __riscv_vlseg2e32_v_i32m1x2_m(vbool32_t vm, const int32_t *rs1,
                                           size_t vl);
vint32m1x3_t __riscv_vlseg3e32_v_i32m1x3_m(vbool32_t vm, const int32_t *rs1,
                                           size_t vl);
vint32m1x4_t __riscv_vlseg4e32_v_i32m1x4_m(vbool32_t vm, const int32_t *rs1,
```

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                                          size_t vl);
vint32m1x5_t __riscv_vlseg5e32_v_i32m1x5_m(vbool32_t vm, const int32_t *rs1,
                                          size_t vl);
vint32m1x6_t __riscv_vlseg6e32_v_i32m1x6_m(vbool32_t vm, const int32_t *rs1,
                                          size_t vl);
vint32m1x7_t __riscv_vlseg7e32_v_i32m1x7_m(vbool32_t vm, const int32_t *rs1,
                                          size_t vl);
vint32m1x8_t __riscv_vlseg8e32_v_i32m1x8_m(vbool32_t vm, const int32_t *rs1,
                                          size_t vl);
vint32m2x2_t __riscv_vlseg2e32_v_i32m2x2_m(vbool16_t vm, const int32_t *rs1,
                                          size_t vl);
vint32m2x3_t __riscv_vlseg3e32_v_i32m2x3_m(vbool16_t vm, const int32_t *rs1,
                                          size_t vl);
vint32m2x4_t __riscv_vlseg4e32_v_i32m2x4_m(vbool16_t vm, const int32_t *rs1,
                                          size_t vl);
vint32m4x2_t __riscv_vlseg2e32_v_i32m4x2_m(vbool8_t vm, const int32_t *rs1,
                                          size_t vl);
vint64m1x2_t __riscv_vlseg2e64_v_i64m1x2_m(vbool64_t vm, const int64_t *rs1,
                                          size_t vl);
vint64m1x3_t __riscv_vlseg3e64_v_i64m1x3_m(vbool64_t vm, const int64_t *rs1,
                                          size_t vl);
vint64m1x4_t __riscv_vlseg4e64_v_i64m1x4_m(vbool64_t vm, const int64_t *rs1,
                                          size_t vl);
vint64m1x5_t __riscv_vlseg5e64_v_i64m1x5_m(vbool64_t vm, const int64_t *rs1,
                                          size_t vl);
vint64m1x6_t __riscv_vlseg6e64_v_i64m1x6_m(vbool64_t vm, const int64_t *rs1,
                                          size_t vl);
vint64m1x7_t __riscv_vlseg7e64_v_i64m1x7_m(vbool64_t vm, const int64_t *rs1,
                                          size_t vl);
vint64m1x8_t __riscv_vlseg8e64_v_i64m1x8_m(vbool64_t vm, const int64_t *rs1,
                                          size_t vl);
vint64m2x2_t __riscv_vlseg2e64_v_i64m2x2_m(vbool32_t vm, const int64_t *rs1,
                                          size_t vl);
vint64m2x3_t __riscv_vlseg3e64_v_i64m2x3_m(vbool32_t vm, const int64_t *rs1,
                                          size_t vl);
vint64m2x4_t __riscv_vlseg4e64_v_i64m2x4_m(vbool32_t vm, const int64_t *rs1,
                                          size_t vl);
vint64m4x2_t __riscv_vlseg2e64_v_i64m4x2_m(vbool16_t vm, const int64_t *rs1,
                                          size_t vl);
vint8mf8x2_t __riscv_vlseg2e8ff_v_i8mf8x2_m(vbool64_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8ff_v_i8mf8x3_m(vbool64_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8ff_v_i8mf8x4_m(vbool64_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8ff_v_i8mf8x5_m(vbool64_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8ff_v_i8mf8x6_m(vbool64_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8ff_v_i8mf8x7_m(vbool64_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8ff_v_i8mf8x8_m(vbool64_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8ff_v_i8mf4x2_m(vbool32_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8ff_v_i8mf4x3_m(vbool32_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8ff_v_i8mf4x4_m(vbool32_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8ff_v_i8mf4x5_m(vbool32_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8ff_v_i8mf4x6_m(vbool32_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8ff_v_i8mf4x7_m(vbool32_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8ff_v_i8mf4x8_m(vbool32_t vm, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
```

```
vint8mf2x2_t __riscv_vlseg2e8ff_v_i8mf2x2_m(vbool16_t vm, const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8ff_v_i8mf2x3_m(vbool16_t vm, const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x4_t __riscv_vlseg4e8ff_v_i8mf2x4_m(vbool16_t vm, const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8ff_v_i8mf2x5_m(vbool16_t vm, const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8ff_v_i8mf2x6_m(vbool16_t vm, const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8ff_v_i8mf2x7_m(vbool16_t vm, const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8ff_v_i8mf2x8_m(vbool16_t vm, const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8m1x2_t __riscv_vlseg2e8ff_v_i8m1x2_m(vbool8_t vm, const int8_t *rs1,
                                          size_t *new_vl, size_t vl);
vint8m1x3_t __riscv_vlseg3e8ff_v_i8m1x3_m(vbool8_t vm, const int8_t *rs1,
                                          size_t *new_vl, size_t vl);
vint8m1x4_t __riscv_vlseg4e8ff_v_i8m1x4_m(vbool8_t vm, const int8_t *rs1,
                                          size_t *new_vl, size_t vl);
vint8m1x5_t __riscv_vlseg5e8ff_v_i8m1x5_m(vbool8_t vm, const int8_t *rs1,
                                          size_t *new_vl, size_t vl);
vint8m1x6_t __riscv_vlseg6e8ff_v_i8m1x6_m(vbool8_t vm, const int8_t *rs1,
                                          size_t *new_vl, size_t vl);
vint8m1x7_t __riscv_vlseg7e8ff_v_i8m1x7_m(vbool8_t vm, const int8_t *rs1,
                                          size_t *new_vl, size_t vl);
vint8m1x8_t __riscv_vlseg8e8ff_v_i8m1x8_m(vbool8_t vm, const int8_t *rs1,
                                          size_t *new_vl, size_t vl);
vint8m2x2_t __riscv_vlseg2e8ff_v_i8m2x2_m(vbool4_t vm, const int8_t *rs1,
                                          size_t *new_vl, size_t vl);
vint8m2x3_t __riscv_vlseg3e8ff_v_i8m2x3_m(vbool4_t vm, const int8_t *rs1,
                                          size_t *new_vl, size_t vl);
vint8m2x4_t __riscv_vlseg4e8ff_v_i8m2x4_m(vbool4_t vm, const int8_t *rs1,
                                          size_t *new_vl, size_t vl);
vint8m4x2_t __riscv_vlseg2e8ff_v_i8m4x2_m(vbool2_t vm, const int8_t *rs1,
                                          size_t *new_vl, size_t vl);
vint16mf4x2_t __riscv_vlseg2e16ff_v_i16mf4x2_m(vbool64_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16ff_v_i16mf4x3_m(vbool64_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16ff_v_i16mf4x4_m(vbool64_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16ff_v_i16mf4x5_m(vbool64_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16ff_v_i16mf4x6_m(vbool64_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16ff_v_i16mf4x7_m(vbool64_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16ff_v_i16mf4x8_m(vbool64_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16ff_v_i16mf2x2_m(vbool32_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16ff_v_i16mf2x3_m(vbool32_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16ff_v_i16mf2x4_m(vbool32_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16ff_v_i16mf2x5_m(vbool32_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16ff_v_i16mf2x6_m(vbool32_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16ff_v_i16mf2x7_m(vbool32_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16ff_v_i16mf2x8_m(vbool32_t vm, const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16m1x2_t __riscv_vlseg2e16ff_v_i16m1x2_m(vbool16_t vm, const int16_t *rs1,
                                             size_t *new_vl, size_t vl);
vint16m1x3_t __riscv_vlseg3e16ff_v_i16m1x3_m(vbool16_t vm, const int16_t *rs1,
```

```
                                                size_t *new_vl, size_t vl);
vint16m1x4_t __riscv_vlseg4e16ff_v_i16m1x4_m(vbool16_t vm, const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x5_t __riscv_vlseg5e16ff_v_i16m1x5_m(vbool16_t vm, const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x6_t __riscv_vlseg6e16ff_v_i16m1x6_m(vbool16_t vm, const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x7_t __riscv_vlseg7e16ff_v_i16m1x7_m(vbool16_t vm, const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x8_t __riscv_vlseg8e16ff_v_i16m1x8_m(vbool16_t vm, const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m2x2_t __riscv_vlseg2e16ff_v_i16m2x2_m(vbool8_t vm, const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m2x3_t __riscv_vlseg3e16ff_v_i16m2x3_m(vbool8_t vm, const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m2x4_t __riscv_vlseg4e16ff_v_i16m2x4_m(vbool8_t vm, const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m4x2_t __riscv_vlseg2e16ff_v_i16m4x2_m(vbool4_t vm, const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32ff_v_i32mf2x2_m(vbool64_t vm, const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32ff_v_i32mf2x3_m(vbool64_t vm, const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32ff_v_i32mf2x4_m(vbool64_t vm, const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32ff_v_i32mf2x5_m(vbool64_t vm, const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32ff_v_i32mf2x6_m(vbool64_t vm, const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32ff_v_i32mf2x7_m(vbool64_t vm, const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32ff_v_i32mf2x8_m(vbool64_t vm, const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32m1x2_t __riscv_vlseg2e32ff_v_i32m1x2_m(vbool32_t vm, const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x3_t __riscv_vlseg3e32ff_v_i32m1x3_m(vbool32_t vm, const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x4_t __riscv_vlseg4e32ff_v_i32m1x4_m(vbool32_t vm, const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x5_t __riscv_vlseg5e32ff_v_i32m1x5_m(vbool32_t vm, const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x6_t __riscv_vlseg6e32ff_v_i32m1x6_m(vbool32_t vm, const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x7_t __riscv_vlseg7e32ff_v_i32m1x7_m(vbool32_t vm, const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x8_t __riscv_vlseg8e32ff_v_i32m1x8_m(vbool32_t vm, const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m2x2_t __riscv_vlseg2e32ff_v_i32m2x2_m(vbool16_t vm, const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m2x3_t __riscv_vlseg3e32ff_v_i32m2x3_m(vbool16_t vm, const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m2x4_t __riscv_vlseg4e32ff_v_i32m2x4_m(vbool16_t vm, const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m4x2_t __riscv_vlseg2e32ff_v_i32m4x2_m(vbool8_t vm, const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x2_t __riscv_vlseg2e64ff_v_i64m1x2_m(vbool64_t vm, const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x3_t __riscv_vlseg3e64ff_v_i64m1x3_m(vbool64_t vm, const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x4_t __riscv_vlseg4e64ff_v_i64m1x4_m(vbool64_t vm, const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x5_t __riscv_vlseg5e64ff_v_i64m1x5_m(vbool64_t vm, const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x6_t __riscv_vlseg6e64ff_v_i64m1x6_m(vbool64_t vm, const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x7_t __riscv_vlseg7e64ff_v_i64m1x7_m(vbool64_t vm, const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
```

```
vint64m1x8_t __riscv_vlseg8e64ff_v_i64m1x8_m(vbool64_t vm, const int64_t *rs1,
                                             size_t *new_vl, size_t vl);
vint64m2x2_t __riscv_vlseg2e64ff_v_i64m2x2_m(vbool32_t vm, const int64_t *rs1,
                                             size_t *new_vl, size_t vl);
vint64m2x3_t __riscv_vlseg3e64ff_v_i64m2x3_m(vbool32_t vm, const int64_t *rs1,
                                             size_t *new_vl, size_t vl);
vint64m2x4_t __riscv_vlseg4e64ff_v_i64m2x4_m(vbool32_t vm, const int64_t *rs1,
                                             size_t *new_vl, size_t vl);
vint64m4x2_t __riscv_vlseg2e64ff_v_i64m4x2_m(vbool16_t vm, const int64_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8_v_u8mf8x2_m(vbool64_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8_v_u8mf8x3_m(vbool64_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8_v_u8mf8x4_m(vbool64_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8_v_u8mf8x5_m(vbool64_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8_v_u8mf8x6_m(vbool64_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8_v_u8mf8x7_m(vbool64_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8_v_u8mf8x8_m(vbool64_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8_v_u8mf4x2_m(vbool32_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8_v_u8mf4x3_m(vbool32_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8_v_u8mf4x4_m(vbool32_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8_v_u8mf4x5_m(vbool32_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8_v_u8mf4x6_m(vbool32_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8_v_u8mf4x7_m(vbool32_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8_v_u8mf4x8_m(vbool32_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8_v_u8mf2x2_m(vbool16_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8_v_u8mf2x3_m(vbool16_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8_v_u8mf2x4_m(vbool16_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8_v_u8mf2x5_m(vbool16_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8_v_u8mf2x6_m(vbool16_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8_v_u8mf2x7_m(vbool16_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8_v_u8mf2x8_m(vbool16_t vm, const uint8_t *rs1,
                                           size_t vl);
vuint8m1x2_t __riscv_vlseg2e8_v_u8m1x2_m(vbool8_t vm, const uint8_t *rs1,
                                         size_t vl);
vuint8m1x3_t __riscv_vlseg3e8_v_u8m1x3_m(vbool8_t vm, const uint8_t *rs1,
                                         size_t vl);
vuint8m1x4_t __riscv_vlseg4e8_v_u8m1x4_m(vbool8_t vm, const uint8_t *rs1,
                                         size_t vl);
vuint8m1x5_t __riscv_vlseg5e8_v_u8m1x5_m(vbool8_t vm, const uint8_t *rs1,
                                         size_t vl);
vuint8m1x6_t __riscv_vlseg6e8_v_u8m1x6_m(vbool8_t vm, const uint8_t *rs1,
                                         size_t vl);
vuint8m1x7_t __riscv_vlseg7e8_v_u8m1x7_m(vbool8_t vm, const uint8_t *rs1,
                                         size_t vl);
vuint8m1x8_t __riscv_vlseg8e8_v_u8m1x8_m(vbool8_t vm, const uint8_t *rs1,
                                         size_t vl);
vuint8m2x2_t __riscv_vlseg2e8_v_u8m2x2_m(vbool4_t vm, const uint8_t *rs1,
```

```
                                          size_t vl);
vuint8m2x3_t __riscv_vlseg3e8_v_u8m2x3_m(vbool4_t vm, const uint8_t *rs1,
                                          size_t vl);
vuint8m2x4_t __riscv_vlseg4e8_v_u8m2x4_m(vbool4_t vm, const uint8_t *rs1,
                                          size_t vl);
vuint8m4x2_t __riscv_vlseg2e8_v_u8m4x2_m(vbool2_t vm, const uint8_t *rs1,
                                          size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16_v_u16mf4x2_m(vbool64_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16_v_u16mf4x3_m(vbool64_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16_v_u16mf4x4_m(vbool64_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16_v_u16mf4x5_m(vbool64_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16_v_u16mf4x6_m(vbool64_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16_v_u16mf4x7_m(vbool64_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16_v_u16mf4x8_m(vbool64_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16_v_u16mf2x2_m(vbool32_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16_v_u16mf2x3_m(vbool32_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16_v_u16mf2x4_m(vbool32_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16_v_u16mf2x5_m(vbool32_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16_v_u16mf2x6_m(vbool32_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16_v_u16mf2x7_m(vbool32_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16_v_u16mf2x8_m(vbool32_t vm, const uint16_t *rs1,
                                              size_t vl);
vuint16m1x2_t __riscv_vlseg2e16_v_u16m1x2_m(vbool16_t vm, const uint16_t *rs1,
                                            size_t vl);
vuint16m1x3_t __riscv_vlseg3e16_v_u16m1x3_m(vbool16_t vm, const uint16_t *rs1,
                                            size_t vl);
vuint16m1x4_t __riscv_vlseg4e16_v_u16m1x4_m(vbool16_t vm, const uint16_t *rs1,
                                            size_t vl);
vuint16m1x5_t __riscv_vlseg5e16_v_u16m1x5_m(vbool16_t vm, const uint16_t *rs1,
                                            size_t vl);
vuint16m1x6_t __riscv_vlseg6e16_v_u16m1x6_m(vbool16_t vm, const uint16_t *rs1,
                                            size_t vl);
vuint16m1x7_t __riscv_vlseg7e16_v_u16m1x7_m(vbool16_t vm, const uint16_t *rs1,
                                            size_t vl);
vuint16m1x8_t __riscv_vlseg8e16_v_u16m1x8_m(vbool16_t vm, const uint16_t *rs1,
                                            size_t vl);
vuint16m2x2_t __riscv_vlseg2e16_v_u16m2x2_m(vbool8_t vm, const uint16_t *rs1,
                                            size_t vl);
vuint16m2x3_t __riscv_vlseg3e16_v_u16m2x3_m(vbool8_t vm, const uint16_t *rs1,
                                            size_t vl);
vuint16m2x4_t __riscv_vlseg4e16_v_u16m2x4_m(vbool8_t vm, const uint16_t *rs1,
                                            size_t vl);
vuint16m4x2_t __riscv_vlseg2e16_v_u16m4x2_m(vbool4_t vm, const uint16_t *rs1,
                                            size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32_v_u32mf2x2_m(vbool64_t vm, const uint32_t *rs1,
                                              size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32_v_u32mf2x3_m(vbool64_t vm, const uint32_t *rs1,
                                              size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32_v_u32mf2x4_m(vbool64_t vm, const uint32_t *rs1,
                                              size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32_v_u32mf2x5_m(vbool64_t vm, const uint32_t *rs1,
                                              size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32_v_u32mf2x6_m(vbool64_t vm, const uint32_t *rs1,
                                              size_t vl);
```

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vuint32mf2x7_t __riscv_vlseg7e32_v_u32mf2x7_m(vbool64_t vm, const uint32_t *rs1,
                                              size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32_v_u32mf2x8_m(vbool64_t vm, const uint32_t *rs1,
                                              size_t vl);
vuint32m1x2_t __riscv_vlseg2e32_v_u32m1x2_m(vbool32_t vm, const uint32_t *rs1,
                                            size_t vl);
vuint32m1x3_t __riscv_vlseg3e32_v_u32m1x3_m(vbool32_t vm, const uint32_t *rs1,
                                            size_t vl);
vuint32m1x4_t __riscv_vlseg4e32_v_u32m1x4_m(vbool32_t vm, const uint32_t *rs1,
                                            size_t vl);
vuint32m1x5_t __riscv_vlseg5e32_v_u32m1x5_m(vbool32_t vm, const uint32_t *rs1,
                                            size_t vl);
vuint32m1x6_t __riscv_vlseg6e32_v_u32m1x6_m(vbool32_t vm, const uint32_t *rs1,
                                            size_t vl);
vuint32m1x7_t __riscv_vlseg7e32_v_u32m1x7_m(vbool32_t vm, const uint32_t *rs1,
                                            size_t vl);
vuint32m1x8_t __riscv_vlseg8e32_v_u32m1x8_m(vbool32_t vm, const uint32_t *rs1,
                                            size_t vl);
vuint32m2x2_t __riscv_vlseg2e32_v_u32m2x2_m(vbool16_t vm, const uint32_t *rs1,
                                            size_t vl);
vuint32m2x3_t __riscv_vlseg3e32_v_u32m2x3_m(vbool16_t vm, const uint32_t *rs1,
                                            size_t vl);
vuint32m2x4_t __riscv_vlseg4e32_v_u32m2x4_m(vbool16_t vm, const uint32_t *rs1,
                                            size_t vl);
vuint32m4x2_t __riscv_vlseg2e32_v_u32m4x2_m(vbool8_t vm, const uint32_t *rs1,
                                            size_t vl);
vuint64m1x2_t __riscv_vlseg2e64_v_u64m1x2_m(vbool64_t vm, const uint64_t *rs1,
                                            size_t vl);
vuint64m1x3_t __riscv_vlseg3e64_v_u64m1x3_m(vbool64_t vm, const uint64_t *rs1,
                                            size_t vl);
vuint64m1x4_t __riscv_vlseg4e64_v_u64m1x4_m(vbool64_t vm, const uint64_t *rs1,
                                            size_t vl);
vuint64m1x5_t __riscv_vlseg5e64_v_u64m1x5_m(vbool64_t vm, const uint64_t *rs1,
                                            size_t vl);
vuint64m1x6_t __riscv_vlseg6e64_v_u64m1x6_m(vbool64_t vm, const uint64_t *rs1,
                                            size_t vl);
vuint64m1x7_t __riscv_vlseg7e64_v_u64m1x7_m(vbool64_t vm, const uint64_t *rs1,
                                            size_t vl);
vuint64m1x8_t __riscv_vlseg8e64_v_u64m1x8_m(vbool64_t vm, const uint64_t *rs1,
                                            size_t vl);
vuint64m2x2_t __riscv_vlseg2e64_v_u64m2x2_m(vbool32_t vm, const uint64_t *rs1,
                                            size_t vl);
vuint64m2x3_t __riscv_vlseg3e64_v_u64m2x3_m(vbool32_t vm, const uint64_t *rs1,
                                            size_t vl);
vuint64m2x4_t __riscv_vlseg4e64_v_u64m2x4_m(vbool32_t vm, const uint64_t *rs1,
                                            size_t vl);
vuint64m4x2_t __riscv_vlseg2e64_v_u64m4x2_m(vbool16_t vm, const uint64_t *rs1,
                                            size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8ff_v_u8mf8x2_m(vbool64_t vm, const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8ff_v_u8mf8x3_m(vbool64_t vm, const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8ff_v_u8mf8x4_m(vbool64_t vm, const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8ff_v_u8mf8x5_m(vbool64_t vm, const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8ff_v_u8mf8x6_m(vbool64_t vm, const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8ff_v_u8mf8x7_m(vbool64_t vm, const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8ff_v_u8mf8x8_m(vbool64_t vm, const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8ff_v_u8mf4x2_m(vbool32_t vm, const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8ff_v_u8mf4x3_m(vbool32_t vm, const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8ff_v_u8mf4x4_m(vbool32_t vm, const uint8_t *rs1,
```

```
                                            size_t *new_vl, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8ff_v_u8mf4x5_m(vbool32_t vm, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8ff_v_u8mf4x6_m(vbool32_t vm, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8ff_v_u8mf4x7_m(vbool32_t vm, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8ff_v_u8mf4x8_m(vbool32_t vm, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8ff_v_u8mf2x2_m(vbool16_t vm, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8ff_v_u8mf2x3_m(vbool16_t vm, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8ff_v_u8mf2x4_m(vbool16_t vm, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8ff_v_u8mf2x5_m(vbool16_t vm, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8ff_v_u8mf2x6_m(vbool16_t vm, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8ff_v_u8mf2x7_m(vbool16_t vm, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8ff_v_u8mf2x8_m(vbool16_t vm, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8ff_v_u8m1x2_m(vbool8_t vm, const uint8_t *rs1,
                                           size_t *new_vl, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8ff_v_u8m1x3_m(vbool8_t vm, const uint8_t *rs1,
                                           size_t *new_vl, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8ff_v_u8m1x4_m(vbool8_t vm, const uint8_t *rs1,
                                           size_t *new_vl, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8ff_v_u8m1x5_m(vbool8_t vm, const uint8_t *rs1,
                                           size_t *new_vl, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8ff_v_u8m1x6_m(vbool8_t vm, const uint8_t *rs1,
                                           size_t *new_vl, size_t vl);
vuint8m1x7_t __riscv_vlseg7e8ff_v_u8m1x7_m(vbool8_t vm, const uint8_t *rs1,
                                           size_t *new_vl, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8ff_v_u8m1x8_m(vbool8_t vm, const uint8_t *rs1,
                                           size_t *new_vl, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8ff_v_u8m2x2_m(vbool4_t vm, const uint8_t *rs1,
                                           size_t *new_vl, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8ff_v_u8m2x3_m(vbool4_t vm, const uint8_t *rs1,
                                           size_t *new_vl, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8ff_v_u8m2x4_m(vbool4_t vm, const uint8_t *rs1,
                                           size_t *new_vl, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8ff_v_u8m4x2_m(vbool2_t vm, const uint8_t *rs1,
                                           size_t *new_vl, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16ff_v_u16mf4x2_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16ff_v_u16mf4x3_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16ff_v_u16mf4x4_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16ff_v_u16mf4x5_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16ff_v_u16mf4x6_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16ff_v_u16mf4x7_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16ff_v_u16mf4x8_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16ff_v_u16mf2x2_m(vbool32_t vm,
```

```
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16ff_v_u16mf2x3_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16ff_v_u16mf2x4_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16ff_v_u16mf2x5_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16ff_v_u16mf2x6_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16ff_v_u16mf2x7_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16ff_v_u16mf2x8_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16ff_v_u16m1x2_m(vbool16_t vm, const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16ff_v_u16m1x3_m(vbool16_t vm, const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16ff_v_u16m1x4_m(vbool16_t vm, const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16ff_v_u16m1x5_m(vbool16_t vm, const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16ff_v_u16m1x6_m(vbool16_t vm, const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16ff_v_u16m1x7_m(vbool16_t vm, const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16ff_v_u16m1x8_m(vbool16_t vm, const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16ff_v_u16m2x2_m(vbool8_t vm, const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16ff_v_u16m2x3_m(vbool8_t vm, const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16ff_v_u16m2x4_m(vbool8_t vm, const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16ff_v_u16m4x2_m(vbool4_t vm, const uint16_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32ff_v_u32mf2x2_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32ff_v_u32mf2x3_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32ff_v_u32mf2x4_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32ff_v_u32mf2x5_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32ff_v_u32mf2x6_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32ff_v_u32mf2x7_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32ff_v_u32mf2x8_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32ff_v_u32m1x2_m(vbool32_t vm, const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32ff_v_u32m1x3_m(vbool32_t vm, const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
```

```
vuint32m1x4_t __riscv_vlseg4e32ff_v_u32m1x4_m(vbool32_t vm, const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32ff_v_u32m1x5_m(vbool32_t vm, const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32ff_v_u32m1x6_m(vbool32_t vm, const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32ff_v_u32m1x7_m(vbool32_t vm, const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32ff_v_u32m1x8_m(vbool32_t vm, const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32ff_v_u32m2x2_m(vbool16_t vm, const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32ff_v_u32m2x3_m(vbool16_t vm, const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32ff_v_u32m2x4_m(vbool16_t vm, const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32ff_v_u32m4x2_m(vbool8_t vm, const uint32_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64ff_v_u64m1x2_m(vbool64_t vm, const uint64_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64ff_v_u64m1x3_m(vbool64_t vm, const uint64_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64ff_v_u64m1x4_m(vbool64_t vm, const uint64_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64ff_v_u64m1x5_m(vbool64_t vm, const uint64_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64ff_v_u64m1x6_m(vbool64_t vm, const uint64_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64ff_v_u64m1x7_m(vbool64_t vm, const uint64_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64ff_v_u64m1x8_m(vbool64_t vm, const uint64_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64ff_v_u64m2x2_m(vbool32_t vm, const uint64_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64ff_v_u64m2x3_m(vbool32_t vm, const uint64_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64ff_v_u64m2x4_m(vbool32_t vm, const uint64_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64ff_v_u64m4x2_m(vbool16_t vm, const uint64_t *rs1,
                                              size_t *new_vl, size_t vl);
```

A.2.2. Vector Unit-Stride Segment Store Intrinsics

```
void __riscv_vsseg2e16_v_f16mf4x2(_Float16 *rs1, vfloat16mf4x2_t vs3,
                                  size_t vl);
void __riscv_vsseg3e16_v_f16mf4x3(_Float16 *rs1, vfloat16mf4x3_t vs3,
                                  size_t vl);
void __riscv_vsseg4e16_v_f16mf4x4(_Float16 *rs1, vfloat16mf4x4_t vs3,
                                  size_t vl);
void __riscv_vsseg5e16_v_f16mf4x5(_Float16 *rs1, vfloat16mf4x5_t vs3,
                                  size_t vl);
void __riscv_vsseg6e16_v_f16mf4x6(_Float16 *rs1, vfloat16mf4x6_t vs3,
                                  size_t vl);
void __riscv_vsseg7e16_v_f16mf4x7(_Float16 *rs1, vfloat16mf4x7_t vs3,
                                  size_t vl);
void __riscv_vsseg8e16_v_f16mf4x8(_Float16 *rs1, vfloat16mf4x8_t vs3,
                                  size_t vl);
void __riscv_vsseg2e16_v_f16mf2x2(_Float16 *rs1, vfloat16mf2x2_t vs3,
                                  size_t vl);
void __riscv_vsseg3e16_v_f16mf2x3(_Float16 *rs1, vfloat16mf2x3_t vs3,
                                  size_t vl);
void __riscv_vsseg4e16_v_f16mf2x4(_Float16 *rs1, vfloat16mf2x4_t vs3,
                                  size_t vl);
void __riscv_vsseg5e16_v_f16mf2x5(_Float16 *rs1, vfloat16mf2x5_t vs3,
                                  size_t vl);
```

```
void __riscv_vsseg6e16_v_f16mf2x6(_Float16 *rs1, vfloat16mf2x6_t vs3,
                                  size_t vl);
void __riscv_vsseg7e16_v_f16mf2x7(_Float16 *rs1, vfloat16mf2x7_t vs3,
                                  size_t vl);
void __riscv_vsseg8e16_v_f16mf2x8(_Float16 *rs1, vfloat16mf2x8_t vs3,
                                  size_t vl);
void __riscv_vsseg2e16_v_f16m1x2(_Float16 *rs1, vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_f16m1x3(_Float16 *rs1, vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_f16m1x4(_Float16 *rs1, vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_f16m1x5(_Float16 *rs1, vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_f16m1x6(_Float16 *rs1, vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_f16m1x7(_Float16 *rs1, vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_f16m1x8(_Float16 *rs1, vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_f16m2x2(_Float16 *rs1, vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_f16m2x3(_Float16 *rs1, vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_f16m2x4(_Float16 *rs1, vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsseg2e16_v_f16m4x2(_Float16 *rs1, vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsseg2e32_v_f32mf2x2(float *rs1, vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_f32mf2x3(float *rs1, vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_f32mf2x4(float *rs1, vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e32_v_f32mf2x5(float *rs1, vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e32_v_f32mf2x6(float *rs1, vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e32_v_f32mf2x7(float *rs1, vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e32_v_f32mf2x8(float *rs1, vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e32_v_f32m1x2(float *rs1, vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_f32m1x3(float *rs1, vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_f32m1x4(float *rs1, vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsseg5e32_v_f32m1x5(float *rs1, vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsseg6e32_v_f32m1x6(float *rs1, vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsseg7e32_v_f32m1x7(float *rs1, vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsseg8e32_v_f32m1x8(float *rs1, vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsseg2e32_v_f32m2x2(float *rs1, vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_f32m2x3(float *rs1, vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_f32m2x4(float *rs1, vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsseg2e32_v_f32m4x2(float *rs1, vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsseg2e64_v_f64m1x2(double *rs1, vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsseg3e64_v_f64m1x3(double *rs1, vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsseg4e64_v_f64m1x4(double *rs1, vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsseg5e64_v_f64m1x5(double *rs1, vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsseg6e64_v_f64m1x6(double *rs1, vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsseg7e64_v_f64m1x7(double *rs1, vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsseg8e64_v_f64m1x8(double *rs1, vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsseg2e64_v_f64m2x2(double *rs1, vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsseg3e64_v_f64m2x3(double *rs1, vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsseg4e64_v_f64m2x4(double *rs1, vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsseg2e64_v_f64m4x2(double *rs1, vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsseg2e8_v_i8mf8x2(int8_t *rs1, vint8mf8x2_t vs3, size_t vl);
void __riscv_vsseg3e8_v_i8mf8x3(int8_t *rs1, vint8mf8x3_t vs3, size_t vl);
void __riscv_vsseg4e8_v_i8mf8x4(int8_t *rs1, vint8mf8x4_t vs3, size_t vl);
void __riscv_vsseg5e8_v_i8mf8x5(int8_t *rs1, vint8mf8x5_t vs3, size_t vl);
void __riscv_vsseg6e8_v_i8mf8x6(int8_t *rs1, vint8mf8x6_t vs3, size_t vl);
void __riscv_vsseg7e8_v_i8mf8x7(int8_t *rs1, vint8mf8x7_t vs3, size_t vl);
void __riscv_vsseg8e8_v_i8mf8x8(int8_t *rs1, vint8mf8x8_t vs3, size_t vl);
void __riscv_vsseg2e8_v_i8mf4x2(int8_t *rs1, vint8mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e8_v_i8mf4x3(int8_t *rs1, vint8mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e8_v_i8mf4x4(int8_t *rs1, vint8mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e8_v_i8mf4x5(int8_t *rs1, vint8mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e8_v_i8mf4x6(int8_t *rs1, vint8mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e8_v_i8mf4x7(int8_t *rs1, vint8mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e8_v_i8mf4x8(int8_t *rs1, vint8mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e8_v_i8mf2x2(int8_t *rs1, vint8mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e8_v_i8mf2x3(int8_t *rs1, vint8mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e8_v_i8mf2x4(int8_t *rs1, vint8mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e8_v_i8mf2x5(int8_t *rs1, vint8mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e8_v_i8mf2x6(int8_t *rs1, vint8mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e8_v_i8mf2x7(int8_t *rs1, vint8mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e8_v_i8mf2x8(int8_t *rs1, vint8mf2x8_t vs3, size_t vl);
```

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void __riscv_vsseg2e8_v_i8m1x2(int8_t *rs1, vint8m1x2_t vs3, size_t vl);
void __riscv_vsseg3e8_v_i8m1x3(int8_t *rs1, vint8m1x3_t vs3, size_t vl);
void __riscv_vsseg4e8_v_i8m1x4(int8_t *rs1, vint8m1x4_t vs3, size_t vl);
void __riscv_vsseg5e8_v_i8m1x5(int8_t *rs1, vint8m1x5_t vs3, size_t vl);
void __riscv_vsseg6e8_v_i8m1x6(int8_t *rs1, vint8m1x6_t vs3, size_t vl);
void __riscv_vsseg7e8_v_i8m1x7(int8_t *rs1, vint8m1x7_t vs3, size_t vl);
void __riscv_vsseg8e8_v_i8m1x8(int8_t *rs1, vint8m1x8_t vs3, size_t vl);
void __riscv_vsseg2e8_v_i8m2x2(int8_t *rs1, vint8m2x2_t vs3, size_t vl);
void __riscv_vsseg3e8_v_i8m2x3(int8_t *rs1, vint8m2x3_t vs3, size_t vl);
void __riscv_vsseg4e8_v_i8m2x4(int8_t *rs1, vint8m2x4_t vs3, size_t vl);
void __riscv_vsseg2e8_v_i8m4x2(int8_t *rs1, vint8m4x2_t vs3, size_t vl);
void __riscv_vsseg2e16_v_i16mf4x2(int16_t *rs1, vint16mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_i16mf4x3(int16_t *rs1, vint16mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_i16mf4x4(int16_t *rs1, vint16mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_i16mf4x5(int16_t *rs1, vint16mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_i16mf4x6(int16_t *rs1, vint16mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_i16mf4x7(int16_t *rs1, vint16mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_i16mf4x8(int16_t *rs1, vint16mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_i16mf2x2(int16_t *rs1, vint16mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_i16mf2x3(int16_t *rs1, vint16mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_i16mf2x4(int16_t *rs1, vint16mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_i16mf2x5(int16_t *rs1, vint16mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_i16mf2x6(int16_t *rs1, vint16mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_i16mf2x7(int16_t *rs1, vint16mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_i16mf2x8(int16_t *rs1, vint16mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_i16m1x2(int16_t *rs1, vint16m1x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_i16m1x3(int16_t *rs1, vint16m1x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_i16m1x4(int16_t *rs1, vint16m1x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_i16m1x5(int16_t *rs1, vint16m1x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_i16m1x6(int16_t *rs1, vint16m1x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_i16m1x7(int16_t *rs1, vint16m1x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_i16m1x8(int16_t *rs1, vint16m1x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_i16m2x2(int16_t *rs1, vint16m2x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_i16m2x3(int16_t *rs1, vint16m2x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_i16m2x4(int16_t *rs1, vint16m2x4_t vs3, size_t vl);
void __riscv_vsseg2e16_v_i16m4x2(int16_t *rs1, vint16m4x2_t vs3, size_t vl);
void __riscv_vsseg2e32_v_i32mf2x2(int32_t *rs1, vint32mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_i32mf2x3(int32_t *rs1, vint32mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_i32mf2x4(int32_t *rs1, vint32mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e32_v_i32mf2x5(int32_t *rs1, vint32mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e32_v_i32mf2x6(int32_t *rs1, vint32mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e32_v_i32mf2x7(int32_t *rs1, vint32mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e32_v_i32mf2x8(int32_t *rs1, vint32mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e32_v_i32m1x2(int32_t *rs1, vint32m1x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_i32m1x3(int32_t *rs1, vint32m1x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_i32m1x4(int32_t *rs1, vint32m1x4_t vs3, size_t vl);
void __riscv_vsseg5e32_v_i32m1x5(int32_t *rs1, vint32m1x5_t vs3, size_t vl);
void __riscv_vsseg6e32_v_i32m1x6(int32_t *rs1, vint32m1x6_t vs3, size_t vl);
void __riscv_vsseg7e32_v_i32m1x7(int32_t *rs1, vint32m1x7_t vs3, size_t vl);
void __riscv_vsseg8e32_v_i32m1x8(int32_t *rs1, vint32m1x8_t vs3, size_t vl);
void __riscv_vsseg2e32_v_i32m2x2(int32_t *rs1, vint32m2x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_i32m2x3(int32_t *rs1, vint32m2x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_i32m2x4(int32_t *rs1, vint32m2x4_t vs3, size_t vl);
void __riscv_vsseg2e32_v_i32m4x2(int32_t *rs1, vint32m4x2_t vs3, size_t vl);
void __riscv_vsseg2e64_v_i64m1x2(int64_t *rs1, vint64m1x2_t vs3, size_t vl);
void __riscv_vsseg3e64_v_i64m1x3(int64_t *rs1, vint64m1x3_t vs3, size_t vl);
void __riscv_vsseg4e64_v_i64m1x4(int64_t *rs1, vint64m1x4_t vs3, size_t vl);
void __riscv_vsseg5e64_v_i64m1x5(int64_t *rs1, vint64m1x5_t vs3, size_t vl);
void __riscv_vsseg6e64_v_i64m1x6(int64_t *rs1, vint64m1x6_t vs3, size_t vl);
void __riscv_vsseg7e64_v_i64m1x7(int64_t *rs1, vint64m1x7_t vs3, size_t vl);
void __riscv_vsseg8e64_v_i64m1x8(int64_t *rs1, vint64m1x8_t vs3, size_t vl);
void __riscv_vsseg2e64_v_i64m2x2(int64_t *rs1, vint64m2x2_t vs3, size_t vl);
void __riscv_vsseg3e64_v_i64m2x3(int64_t *rs1, vint64m2x3_t vs3, size_t vl);
void __riscv_vsseg4e64_v_i64m2x4(int64_t *rs1, vint64m2x4_t vs3, size_t vl);
void __riscv_vsseg2e64_v_i64m4x2(int64_t *rs1, vint64m4x2_t vs3, size_t vl);
void __riscv_vsseg2e8_v_u8mf8x2(uint8_t *rs1, vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsseg3e8_v_u8mf8x3(uint8_t *rs1, vuint8mf8x3_t vs3, size_t vl);
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void __riscv_vsseg4e8_v_u8mf8x4(uint8_t *rs1, vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsseg5e8_v_u8mf8x5(uint8_t *rs1, vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsseg6e8_v_u8mf8x6(uint8_t *rs1, vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsseg7e8_v_u8mf8x7(uint8_t *rs1, vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsseg8e8_v_u8mf8x8(uint8_t *rs1, vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsseg2e8_v_u8mf4x2(uint8_t *rs1, vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e8_v_u8mf4x3(uint8_t *rs1, vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e8_v_u8mf4x4(uint8_t *rs1, vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e8_v_u8mf4x5(uint8_t *rs1, vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e8_v_u8mf4x6(uint8_t *rs1, vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e8_v_u8mf4x7(uint8_t *rs1, vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e8_v_u8mf4x8(uint8_t *rs1, vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e8_v_u8mf2x2(uint8_t *rs1, vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e8_v_u8mf2x3(uint8_t *rs1, vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e8_v_u8mf2x4(uint8_t *rs1, vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e8_v_u8mf2x5(uint8_t *rs1, vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e8_v_u8mf2x6(uint8_t *rs1, vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e8_v_u8mf2x7(uint8_t *rs1, vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e8_v_u8mf2x8(uint8_t *rs1, vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e8_v_u8m1x2(uint8_t *rs1, vuint8m1x2_t vs3, size_t vl);
void __riscv_vsseg3e8_v_u8m1x3(uint8_t *rs1, vuint8m1x3_t vs3, size_t vl);
void __riscv_vsseg4e8_v_u8m1x4(uint8_t *rs1, vuint8m1x4_t vs3, size_t vl);
void __riscv_vsseg5e8_v_u8m1x5(uint8_t *rs1, vuint8m1x5_t vs3, size_t vl);
void __riscv_vsseg6e8_v_u8m1x6(uint8_t *rs1, vuint8m1x6_t vs3, size_t vl);
void __riscv_vsseg7e8_v_u8m1x7(uint8_t *rs1, vuint8m1x7_t vs3, size_t vl);
void __riscv_vsseg8e8_v_u8m1x8(uint8_t *rs1, vuint8m1x8_t vs3, size_t vl);
void __riscv_vsseg2e8_v_u8m2x2(uint8_t *rs1, vuint8m2x2_t vs3, size_t vl);
void __riscv_vsseg3e8_v_u8m2x3(uint8_t *rs1, vuint8m2x3_t vs3, size_t vl);
void __riscv_vsseg4e8_v_u8m2x4(uint8_t *rs1, vuint8m2x4_t vs3, size_t vl);
void __riscv_vsseg2e8_v_u8m4x2(uint8_t *rs1, vuint8m4x2_t vs3, size_t vl);
void __riscv_vsseg2e16_v_u16mf4x2(uint16_t *rs1, vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_u16mf4x3(uint16_t *rs1, vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_u16mf4x4(uint16_t *rs1, vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_u16mf4x5(uint16_t *rs1, vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_u16mf4x6(uint16_t *rs1, vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_u16mf4x7(uint16_t *rs1, vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_u16mf4x8(uint16_t *rs1, vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_u16mf2x2(uint16_t *rs1, vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_u16mf2x3(uint16_t *rs1, vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_u16mf2x4(uint16_t *rs1, vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_u16mf2x5(uint16_t *rs1, vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_u16mf2x6(uint16_t *rs1, vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_u16mf2x7(uint16_t *rs1, vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_u16mf2x8(uint16_t *rs1, vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_u16m1x2(uint16_t *rs1, vuint16m1x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_u16m1x3(uint16_t *rs1, vuint16m1x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_u16m1x4(uint16_t *rs1, vuint16m1x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_u16m1x5(uint16_t *rs1, vuint16m1x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_u16m1x6(uint16_t *rs1, vuint16m1x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_u16m1x7(uint16_t *rs1, vuint16m1x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_u16m1x8(uint16_t *rs1, vuint16m1x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_u16m2x2(uint16_t *rs1, vuint16m2x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_u16m2x3(uint16_t *rs1, vuint16m2x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_u16m2x4(uint16_t *rs1, vuint16m2x4_t vs3, size_t vl);
void __riscv_vsseg2e16_v_u16m4x2(uint16_t *rs1, vuint16m4x2_t vs3, size_t vl);
void __riscv_vsseg2e32_v_u32mf2x2(uint32_t *rs1, vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_u32mf2x3(uint32_t *rs1, vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_u32mf2x4(uint32_t *rs1, vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e32_v_u32mf2x5(uint32_t *rs1, vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e32_v_u32mf2x6(uint32_t *rs1, vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e32_v_u32mf2x7(uint32_t *rs1, vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e32_v_u32mf2x8(uint32_t *rs1, vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e32_v_u32m1x2(uint32_t *rs1, vuint32m1x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_u32m1x3(uint32_t *rs1, vuint32m1x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_u32m1x4(uint32_t *rs1, vuint32m1x4_t vs3, size_t vl);
void __riscv_vsseg5e32_v_u32m1x5(uint32_t *rs1, vuint32m1x5_t vs3, size_t vl);
void __riscv_vsseg6e32_v_u32m1x6(uint32_t *rs1, vuint32m1x6_t vs3, size_t vl);
```

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void __riscv_vsseg7e32_v_u32m1x7(uint32_t *rs1, vuint32m1x7_t vs3, size_t vl);
void __riscv_vsseg8e32_v_u32m1x8(uint32_t *rs1, vuint32m1x8_t vs3, size_t vl);
void __riscv_vsseg2e32_v_u32m2x2(uint32_t *rs1, vuint32m2x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_u32m2x3(uint32_t *rs1, vuint32m2x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_u32m2x4(uint32_t *rs1, vuint32m2x4_t vs3, size_t vl);
void __riscv_vsseg2e32_v_u32m4x2(uint32_t *rs1, vuint32m4x2_t vs3, size_t vl);
void __riscv_vsseg2e64_v_u64m1x2(uint64_t *rs1, vuint64m1x2_t vs3, size_t vl);
void __riscv_vsseg3e64_v_u64m1x3(uint64_t *rs1, vuint64m1x3_t vs3, size_t vl);
void __riscv_vsseg4e64_v_u64m1x4(uint64_t *rs1, vuint64m1x4_t vs3, size_t vl);
void __riscv_vsseg5e64_v_u64m1x5(uint64_t *rs1, vuint64m1x5_t vs3, size_t vl);
void __riscv_vsseg6e64_v_u64m1x6(uint64_t *rs1, vuint64m1x6_t vs3, size_t vl);
void __riscv_vsseg7e64_v_u64m1x7(uint64_t *rs1, vuint64m1x7_t vs3, size_t vl);
void __riscv_vsseg8e64_v_u64m1x8(uint64_t *rs1, vuint64m1x8_t vs3, size_t vl);
void __riscv_vsseg2e64_v_u64m2x2(uint64_t *rs1, vuint64m2x2_t vs3, size_t vl);
void __riscv_vsseg3e64_v_u64m2x3(uint64_t *rs1, vuint64m2x3_t vs3, size_t vl);
void __riscv_vsseg4e64_v_u64m2x4(uint64_t *rs1, vuint64m2x4_t vs3, size_t vl);
void __riscv_vsseg2e64_v_u64m4x2(uint64_t *rs1, vuint64m4x2_t vs3, size_t vl);
// masked functions
void __riscv_vsseg2e16_v_f16mf4x2_m(vbool64_t vm, _Float16 *rs1,
                                    vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_f16mf4x3_m(vbool64_t vm, _Float16 *rs1,
                                    vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_f16mf4x4_m(vbool64_t vm, _Float16 *rs1,
                                    vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_f16mf4x5_m(vbool64_t vm, _Float16 *rs1,
                                    vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_f16mf4x6_m(vbool64_t vm, _Float16 *rs1,
                                    vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_f16mf4x7_m(vbool64_t vm, _Float16 *rs1,
                                    vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_f16mf4x8_m(vbool64_t vm, _Float16 *rs1,
                                    vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_f16mf2x2_m(vbool32_t vm, _Float16 *rs1,
                                    vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_f16mf2x3_m(vbool32_t vm, _Float16 *rs1,
                                    vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_f16mf2x4_m(vbool32_t vm, _Float16 *rs1,
                                    vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_f16mf2x5_m(vbool32_t vm, _Float16 *rs1,
                                    vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_f16mf2x6_m(vbool32_t vm, _Float16 *rs1,
                                    vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_f16mf2x7_m(vbool32_t vm, _Float16 *rs1,
                                    vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_f16mf2x8_m(vbool32_t vm, _Float16 *rs1,
                                    vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_f16m1x2_m(vbool16_t vm, _Float16 *rs1,
                                   vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_f16m1x3_m(vbool16_t vm, _Float16 *rs1,
                                   vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_f16m1x4_m(vbool16_t vm, _Float16 *rs1,
                                   vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_f16m1x5_m(vbool16_t vm, _Float16 *rs1,
                                   vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_f16m1x6_m(vbool16_t vm, _Float16 *rs1,
                                   vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_f16m1x7_m(vbool16_t vm, _Float16 *rs1,
                                   vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_f16m1x8_m(vbool16_t vm, _Float16 *rs1,
                                   vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_f16m2x2_m(vbool8_t vm, _Float16 *rs1,
                                   vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_f16m2x3_m(vbool8_t vm, _Float16 *rs1,
                                   vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_f16m2x4_m(vbool8_t vm, _Float16 *rs1,
                                   vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsseg2e16_v_f16m4x2_m(vbool4_t vm, _Float16 *rs1,
```

```
                                    vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsseg2e32_v_f32mf2x2_m(vbool64_t vm, float *rs1,
                                    vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_f32mf2x3_m(vbool64_t vm, float *rs1,
                                    vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_f32mf2x4_m(vbool64_t vm, float *rs1,
                                    vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e32_v_f32mf2x5_m(vbool64_t vm, float *rs1,
                                    vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e32_v_f32mf2x6_m(vbool64_t vm, float *rs1,
                                    vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e32_v_f32mf2x7_m(vbool64_t vm, float *rs1,
                                    vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e32_v_f32mf2x8_m(vbool64_t vm, float *rs1,
                                    vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e32_v_f32m1x2_m(vbool32_t vm, float *rs1, vfloat32m1x2_t vs3,
                                   size_t vl);
void __riscv_vsseg3e32_v_f32m1x3_m(vbool32_t vm, float *rs1, vfloat32m1x3_t vs3,
                                   size_t vl);
void __riscv_vsseg4e32_v_f32m1x4_m(vbool32_t vm, float *rs1, vfloat32m1x4_t vs3,
                                   size_t vl);
void __riscv_vsseg5e32_v_f32m1x5_m(vbool32_t vm, float *rs1, vfloat32m1x5_t vs3,
                                   size_t vl);
void __riscv_vsseg6e32_v_f32m1x6_m(vbool32_t vm, float *rs1, vfloat32m1x6_t vs3,
                                   size_t vl);
void __riscv_vsseg7e32_v_f32m1x7_m(vbool32_t vm, float *rs1, vfloat32m1x7_t vs3,
                                   size_t vl);
void __riscv_vsseg8e32_v_f32m1x8_m(vbool32_t vm, float *rs1, vfloat32m1x8_t vs3,
                                   size_t vl);
void __riscv_vsseg2e32_v_f32m2x2_m(vbool16_t vm, float *rs1, vfloat32m2x2_t vs3,
                                   size_t vl);
void __riscv_vsseg3e32_v_f32m2x3_m(vbool16_t vm, float *rs1, vfloat32m2x3_t vs3,
                                   size_t vl);
void __riscv_vsseg4e32_v_f32m2x4_m(vbool16_t vm, float *rs1, vfloat32m2x4_t vs3,
                                   size_t vl);
void __riscv_vsseg2e32_v_f32m4x2_m(vbool8_t vm, float *rs1, vfloat32m4x2_t vs3,
                                   size_t vl);
void __riscv_vsseg2e64_v_f64m1x2_m(vbool64_t vm, double *rs1,
                                   vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsseg3e64_v_f64m1x3_m(vbool64_t vm, double *rs1,
                                   vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsseg4e64_v_f64m1x4_m(vbool64_t vm, double *rs1,
                                   vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsseg5e64_v_f64m1x5_m(vbool64_t vm, double *rs1,
                                   vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsseg6e64_v_f64m1x6_m(vbool64_t vm, double *rs1,
                                   vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsseg7e64_v_f64m1x7_m(vbool64_t vm, double *rs1,
                                   vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsseg8e64_v_f64m1x8_m(vbool64_t vm, double *rs1,
                                   vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsseg2e64_v_f64m2x2_m(vbool32_t vm, double *rs1,
                                   vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsseg3e64_v_f64m2x3_m(vbool32_t vm, double *rs1,
                                   vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsseg4e64_v_f64m2x4_m(vbool32_t vm, double *rs1,
                                   vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsseg2e64_v_f64m4x2_m(vbool16_t vm, double *rs1,
                                   vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsseg2e8_v_i8mf8x2_m(vbool64_t vm, int8_t *rs1, vint8mf8x2_t vs3,
                                  size_t vl);
void __riscv_vsseg3e8_v_i8mf8x3_m(vbool64_t vm, int8_t *rs1, vint8mf8x3_t vs3,
                                  size_t vl);
void __riscv_vsseg4e8_v_i8mf8x4_m(vbool64_t vm, int8_t *rs1, vint8mf8x4_t vs3,
                                  size_t vl);
void __riscv_vsseg5e8_v_i8mf8x5_m(vbool64_t vm, int8_t *rs1, vint8mf8x5_t vs3,
                                  size_t vl);
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void __riscv_vsseg6e8_v_i8mf8x6_m(vbool64_t vm, int8_t *rs1, vint8mf8x6_t vs3,
                                  size_t vl);
void __riscv_vsseg7e8_v_i8mf8x7_m(vbool64_t vm, int8_t *rs1, vint8mf8x7_t vs3,
                                  size_t vl);
void __riscv_vsseg8e8_v_i8mf8x8_m(vbool64_t vm, int8_t *rs1, vint8mf8x8_t vs3,
                                  size_t vl);
void __riscv_vsseg2e8_v_i8mf4x2_m(vbool32_t vm, int8_t *rs1, vint8mf4x2_t vs3,
                                  size_t vl);
void __riscv_vsseg3e8_v_i8mf4x3_m(vbool32_t vm, int8_t *rs1, vint8mf4x3_t vs3,
                                  size_t vl);
void __riscv_vsseg4e8_v_i8mf4x4_m(vbool32_t vm, int8_t *rs1, vint8mf4x4_t vs3,
                                  size_t vl);
void __riscv_vsseg5e8_v_i8mf4x5_m(vbool32_t vm, int8_t *rs1, vint8mf4x5_t vs3,
                                  size_t vl);
void __riscv_vsseg6e8_v_i8mf4x6_m(vbool32_t vm, int8_t *rs1, vint8mf4x6_t vs3,
                                  size_t vl);
void __riscv_vsseg7e8_v_i8mf4x7_m(vbool32_t vm, int8_t *rs1, vint8mf4x7_t vs3,
                                  size_t vl);
void __riscv_vsseg8e8_v_i8mf4x8_m(vbool32_t vm, int8_t *rs1, vint8mf4x8_t vs3,
                                  size_t vl);
void __riscv_vsseg2e8_v_i8mf2x2_m(vbool16_t vm, int8_t *rs1, vint8mf2x2_t vs3,
                                  size_t vl);
void __riscv_vsseg3e8_v_i8mf2x3_m(vbool16_t vm, int8_t *rs1, vint8mf2x3_t vs3,
                                  size_t vl);
void __riscv_vsseg4e8_v_i8mf2x4_m(vbool16_t vm, int8_t *rs1, vint8mf2x4_t vs3,
                                  size_t vl);
void __riscv_vsseg5e8_v_i8mf2x5_m(vbool16_t vm, int8_t *rs1, vint8mf2x5_t vs3,
                                  size_t vl);
void __riscv_vsseg6e8_v_i8mf2x6_m(vbool16_t vm, int8_t *rs1, vint8mf2x6_t vs3,
                                  size_t vl);
void __riscv_vsseg7e8_v_i8mf2x7_m(vbool16_t vm, int8_t *rs1, vint8mf2x7_t vs3,
                                  size_t vl);
void __riscv_vsseg8e8_v_i8mf2x8_m(vbool16_t vm, int8_t *rs1, vint8mf2x8_t vs3,
                                  size_t vl);
void __riscv_vsseg2e8_v_i8m1x2_m(vbool8_t vm, int8_t *rs1, vint8m1x2_t vs3,
                                 size_t vl);
void __riscv_vsseg3e8_v_i8m1x3_m(vbool8_t vm, int8_t *rs1, vint8m1x3_t vs3,
                                 size_t vl);
void __riscv_vsseg4e8_v_i8m1x4_m(vbool8_t vm, int8_t *rs1, vint8m1x4_t vs3,
                                 size_t vl);
void __riscv_vsseg5e8_v_i8m1x5_m(vbool8_t vm, int8_t *rs1, vint8m1x5_t vs3,
                                 size_t vl);
void __riscv_vsseg6e8_v_i8m1x6_m(vbool8_t vm, int8_t *rs1, vint8m1x6_t vs3,
                                 size_t vl);
void __riscv_vsseg7e8_v_i8m1x7_m(vbool8_t vm, int8_t *rs1, vint8m1x7_t vs3,
                                 size_t vl);
void __riscv_vsseg8e8_v_i8m1x8_m(vbool8_t vm, int8_t *rs1, vint8m1x8_t vs3,
                                 size_t vl);
void __riscv_vsseg2e8_v_i8m2x2_m(vbool4_t vm, int8_t *rs1, vint8m2x2_t vs3,
                                 size_t vl);
void __riscv_vsseg3e8_v_i8m2x3_m(vbool4_t vm, int8_t *rs1, vint8m2x3_t vs3,
                                 size_t vl);
void __riscv_vsseg4e8_v_i8m2x4_m(vbool4_t vm, int8_t *rs1, vint8m2x4_t vs3,
                                 size_t vl);
void __riscv_vsseg2e8_v_i8m4x2_m(vbool2_t vm, int8_t *rs1, vint8m4x2_t vs3,
                                 size_t vl);
void __riscv_vsseg2e16_v_i16mf4x2_m(vbool64_t vm, int16_t *rs1,
                                    vint16mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_i16mf4x3_m(vbool64_t vm, int16_t *rs1,
                                    vint16mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_i16mf4x4_m(vbool64_t vm, int16_t *rs1,
                                    vint16mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_i16mf4x5_m(vbool64_t vm, int16_t *rs1,
                                    vint16mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_i16mf4x6_m(vbool64_t vm, int16_t *rs1,
                                    vint16mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_i16mf4x7_m(vbool64_t vm, int16_t *rs1,
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                                    vint16mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_i16mf4x8_m(vbool64_t vm, int16_t *rs1,
                                    vint16mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_i16mf2x2_m(vbool32_t vm, int16_t *rs1,
                                    vint16mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_i16mf2x3_m(vbool32_t vm, int16_t *rs1,
                                    vint16mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_i16mf2x4_m(vbool32_t vm, int16_t *rs1,
                                    vint16mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_i16mf2x5_m(vbool32_t vm, int16_t *rs1,
                                    vint16mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_i16mf2x6_m(vbool32_t vm, int16_t *rs1,
                                    vint16mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_i16mf2x7_m(vbool32_t vm, int16_t *rs1,
                                    vint16mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_i16mf2x8_m(vbool32_t vm, int16_t *rs1,
                                    vint16mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_i16m1x2_m(vbool16_t vm, int16_t *rs1, vint16m1x2_t vs3,
                                   size_t vl);
void __riscv_vsseg3e16_v_i16m1x3_m(vbool16_t vm, int16_t *rs1, vint16m1x3_t vs3,
                                   size_t vl);
void __riscv_vsseg4e16_v_i16m1x4_m(vbool16_t vm, int16_t *rs1, vint16m1x4_t vs3,
                                   size_t vl);
void __riscv_vsseg5e16_v_i16m1x5_m(vbool16_t vm, int16_t *rs1, vint16m1x5_t vs3,
                                   size_t vl);
void __riscv_vsseg6e16_v_i16m1x6_m(vbool16_t vm, int16_t *rs1, vint16m1x6_t vs3,
                                   size_t vl);
void __riscv_vsseg7e16_v_i16m1x7_m(vbool16_t vm, int16_t *rs1, vint16m1x7_t vs3,
                                   size_t vl);
void __riscv_vsseg8e16_v_i16m1x8_m(vbool16_t vm, int16_t *rs1, vint16m1x8_t vs3,
                                   size_t vl);
void __riscv_vsseg2e16_v_i16m2x2_m(vbool8_t vm, int16_t *rs1, vint16m2x2_t vs3,
                                   size_t vl);
void __riscv_vsseg3e16_v_i16m2x3_m(vbool8_t vm, int16_t *rs1, vint16m2x3_t vs3,
                                   size_t vl);
void __riscv_vsseg4e16_v_i16m2x4_m(vbool8_t vm, int16_t *rs1, vint16m2x4_t vs3,
                                   size_t vl);
void __riscv_vsseg2e16_v_i16m4x2_m(vbool4_t vm, int16_t *rs1, vint16m4x2_t vs3,
                                   size_t vl);
void __riscv_vsseg2e32_v_i32mf2x2_m(vbool64_t vm, int32_t *rs1,
                                    vint32mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_i32mf2x3_m(vbool64_t vm, int32_t *rs1,
                                    vint32mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_i32mf2x4_m(vbool64_t vm, int32_t *rs1,
                                    vint32mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e32_v_i32mf2x5_m(vbool64_t vm, int32_t *rs1,
                                    vint32mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e32_v_i32mf2x6_m(vbool64_t vm, int32_t *rs1,
                                    vint32mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e32_v_i32mf2x7_m(vbool64_t vm, int32_t *rs1,
                                    vint32mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e32_v_i32mf2x8_m(vbool64_t vm, int32_t *rs1,
                                    vint32mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e32_v_i32m1x2_m(vbool32_t vm, int32_t *rs1, vint32m1x2_t vs3,
                                   size_t vl);
void __riscv_vsseg3e32_v_i32m1x3_m(vbool32_t vm, int32_t *rs1, vint32m1x3_t vs3,
                                   size_t vl);
void __riscv_vsseg4e32_v_i32m1x4_m(vbool32_t vm, int32_t *rs1, vint32m1x4_t vs3,
                                   size_t vl);
void __riscv_vsseg5e32_v_i32m1x5_m(vbool32_t vm, int32_t *rs1, vint32m1x5_t vs3,
                                   size_t vl);
void __riscv_vsseg6e32_v_i32m1x6_m(vbool32_t vm, int32_t *rs1, vint32m1x6_t vs3,
                                   size_t vl);
void __riscv_vsseg7e32_v_i32m1x7_m(vbool32_t vm, int32_t *rs1, vint32m1x7_t vs3,
                                   size_t vl);
void __riscv_vsseg8e32_v_i32m1x8_m(vbool32_t vm, int32_t *rs1, vint32m1x8_t vs3,
                                   size_t vl);
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void __riscv_vsseg2e32_v_i32m2x2_m(vbool16_t vm, int32_t *rs1, vint32m2x2_t vs3,
                                   size_t vl);
void __riscv_vsseg3e32_v_i32m2x3_m(vbool16_t vm, int32_t *rs1, vint32m2x3_t vs3,
                                   size_t vl);
void __riscv_vsseg4e32_v_i32m2x4_m(vbool16_t vm, int32_t *rs1, vint32m2x4_t vs3,
                                   size_t vl);
void __riscv_vsseg2e32_v_i32m4x2_m(vbool8_t vm, int32_t *rs1, vint32m4x2_t vs3,
                                   size_t vl);
void __riscv_vsseg2e64_v_i64m1x2_m(vbool64_t vm, int64_t *rs1, vint64m1x2_t vs3,
                                   size_t vl);
void __riscv_vsseg3e64_v_i64m1x3_m(vbool64_t vm, int64_t *rs1, vint64m1x3_t vs3,
                                   size_t vl);
void __riscv_vsseg4e64_v_i64m1x4_m(vbool64_t vm, int64_t *rs1, vint64m1x4_t vs3,
                                   size_t vl);
void __riscv_vsseg5e64_v_i64m1x5_m(vbool64_t vm, int64_t *rs1, vint64m1x5_t vs3,
                                   size_t vl);
void __riscv_vsseg6e64_v_i64m1x6_m(vbool64_t vm, int64_t *rs1, vint64m1x6_t vs3,
                                   size_t vl);
void __riscv_vsseg7e64_v_i64m1x7_m(vbool64_t vm, int64_t *rs1, vint64m1x7_t vs3,
                                   size_t vl);
void __riscv_vsseg8e64_v_i64m1x8_m(vbool64_t vm, int64_t *rs1, vint64m1x8_t vs3,
                                   size_t vl);
void __riscv_vsseg2e64_v_i64m2x2_m(vbool32_t vm, int64_t *rs1, vint64m2x2_t vs3,
                                   size_t vl);
void __riscv_vsseg3e64_v_i64m2x3_m(vbool32_t vm, int64_t *rs1, vint64m2x3_t vs3,
                                   size_t vl);
void __riscv_vsseg4e64_v_i64m2x4_m(vbool32_t vm, int64_t *rs1, vint64m2x4_t vs3,
                                   size_t vl);
void __riscv_vsseg2e64_v_i64m4x2_m(vbool16_t vm, int64_t *rs1, vint64m4x2_t vs3,
                                   size_t vl);
void __riscv_vsseg2e8_v_u8mf8x2_m(vbool64_t vm, uint8_t *rs1, vuint8mf8x2_t vs3,
                                  size_t vl);
void __riscv_vsseg3e8_v_u8mf8x3_m(vbool64_t vm, uint8_t *rs1, vuint8mf8x3_t vs3,
                                  size_t vl);
void __riscv_vsseg4e8_v_u8mf8x4_m(vbool64_t vm, uint8_t *rs1, vuint8mf8x4_t vs3,
                                  size_t vl);
void __riscv_vsseg5e8_v_u8mf8x5_m(vbool64_t vm, uint8_t *rs1, vuint8mf8x5_t vs3,
                                  size_t vl);
void __riscv_vsseg6e8_v_u8mf8x6_m(vbool64_t vm, uint8_t *rs1, vuint8mf8x6_t vs3,
                                  size_t vl);
void __riscv_vsseg7e8_v_u8mf8x7_m(vbool64_t vm, uint8_t *rs1, vuint8mf8x7_t vs3,
                                  size_t vl);
void __riscv_vsseg8e8_v_u8mf8x8_m(vbool64_t vm, uint8_t *rs1, vuint8mf8x8_t vs3,
                                  size_t vl);
void __riscv_vsseg2e8_v_u8mf4x2_m(vbool32_t vm, uint8_t *rs1, vuint8mf4x2_t vs3,
                                  size_t vl);
void __riscv_vsseg3e8_v_u8mf4x3_m(vbool32_t vm, uint8_t *rs1, vuint8mf4x3_t vs3,
                                  size_t vl);
void __riscv_vsseg4e8_v_u8mf4x4_m(vbool32_t vm, uint8_t *rs1, vuint8mf4x4_t vs3,
                                  size_t vl);
void __riscv_vsseg5e8_v_u8mf4x5_m(vbool32_t vm, uint8_t *rs1, vuint8mf4x5_t vs3,
                                  size_t vl);
void __riscv_vsseg6e8_v_u8mf4x6_m(vbool32_t vm, uint8_t *rs1, vuint8mf4x6_t vs3,
                                  size_t vl);
void __riscv_vsseg7e8_v_u8mf4x7_m(vbool32_t vm, uint8_t *rs1, vuint8mf4x7_t vs3,
                                  size_t vl);
void __riscv_vsseg8e8_v_u8mf4x8_m(vbool32_t vm, uint8_t *rs1, vuint8mf4x8_t vs3,
                                  size_t vl);
void __riscv_vsseg2e8_v_u8mf2x2_m(vbool16_t vm, uint8_t *rs1, vuint8mf2x2_t vs3,
                                  size_t vl);
void __riscv_vsseg3e8_v_u8mf2x3_m(vbool16_t vm, uint8_t *rs1, vuint8mf2x3_t vs3,
                                  size_t vl);
void __riscv_vsseg4e8_v_u8mf2x4_m(vbool16_t vm, uint8_t *rs1, vuint8mf2x4_t vs3,
                                  size_t vl);
void __riscv_vsseg5e8_v_u8mf2x5_m(vbool16_t vm, uint8_t *rs1, vuint8mf2x5_t vs3,
                                  size_t vl);
void __riscv_vsseg6e8_v_u8mf2x6_m(vbool16_t vm, uint8_t *rs1, vuint8mf2x6_t vs3,
```

```
                                  size_t vl);
void __riscv_vsseg7e8_v_u8mf2x7_m(vbool16_t vm, uint8_t *rs1, vuint8mf2x7_t vs3,
                                  size_t vl);
void __riscv_vsseg8e8_v_u8mf2x8_m(vbool16_t vm, uint8_t *rs1, vuint8mf2x8_t vs3,
                                  size_t vl);
void __riscv_vsseg2e8_v_u8m1x2_m(vbool8_t vm, uint8_t *rs1, vuint8m1x2_t vs3,
                                 size_t vl);
void __riscv_vsseg3e8_v_u8m1x3_m(vbool8_t vm, uint8_t *rs1, vuint8m1x3_t vs3,
                                 size_t vl);
void __riscv_vsseg4e8_v_u8m1x4_m(vbool8_t vm, uint8_t *rs1, vuint8m1x4_t vs3,
                                 size_t vl);
void __riscv_vsseg5e8_v_u8m1x5_m(vbool8_t vm, uint8_t *rs1, vuint8m1x5_t vs3,
                                 size_t vl);
void __riscv_vsseg6e8_v_u8m1x6_m(vbool8_t vm, uint8_t *rs1, vuint8m1x6_t vs3,
                                 size_t vl);
void __riscv_vsseg7e8_v_u8m1x7_m(vbool8_t vm, uint8_t *rs1, vuint8m1x7_t vs3,
                                 size_t vl);
void __riscv_vsseg8e8_v_u8m1x8_m(vbool8_t vm, uint8_t *rs1, vuint8m1x8_t vs3,
                                 size_t vl);
void __riscv_vsseg2e8_v_u8m2x2_m(vbool4_t vm, uint8_t *rs1, vuint8m2x2_t vs3,
                                 size_t vl);
void __riscv_vsseg3e8_v_u8m2x3_m(vbool4_t vm, uint8_t *rs1, vuint8m2x3_t vs3,
                                 size_t vl);
void __riscv_vsseg4e8_v_u8m2x4_m(vbool4_t vm, uint8_t *rs1, vuint8m2x4_t vs3,
                                 size_t vl);
void __riscv_vsseg2e8_v_u8m4x2_m(vbool2_t vm, uint8_t *rs1, vuint8m4x2_t vs3,
                                 size_t vl);
void __riscv_vsseg2e16_v_u16mf4x2_m(vbool64_t vm, uint16_t *rs1,
                                    vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_u16mf4x3_m(vbool64_t vm, uint16_t *rs1,
                                    vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_u16mf4x4_m(vbool64_t vm, uint16_t *rs1,
                                    vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_u16mf4x5_m(vbool64_t vm, uint16_t *rs1,
                                    vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_u16mf4x6_m(vbool64_t vm, uint16_t *rs1,
                                    vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_u16mf4x7_m(vbool64_t vm, uint16_t *rs1,
                                    vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_u16mf4x8_m(vbool64_t vm, uint16_t *rs1,
                                    vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_u16mf2x2_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_u16mf2x3_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_u16mf2x4_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_u16mf2x5_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_u16mf2x6_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_u16mf2x7_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e16_v_u16mf2x8_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_u16m1x2_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_u16m1x3_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_u16m1x4_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1x4_t vs3, size_t vl);
void __riscv_vsseg5e16_v_u16m1x5_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1x5_t vs3, size_t vl);
void __riscv_vsseg6e16_v_u16m1x6_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1x6_t vs3, size_t vl);
void __riscv_vsseg7e16_v_u16m1x7_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1x7_t vs3, size_t vl);
```

```
void __riscv_vsseg8e16_v_u16m1x8_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1x8_t vs3, size_t vl);
void __riscv_vsseg2e16_v_u16m2x2_m(vbool8_t vm, uint16_t *rs1,
                                   vuint16m2x2_t vs3, size_t vl);
void __riscv_vsseg3e16_v_u16m2x3_m(vbool8_t vm, uint16_t *rs1,
                                   vuint16m2x3_t vs3, size_t vl);
void __riscv_vsseg4e16_v_u16m2x4_m(vbool8_t vm, uint16_t *rs1,
                                   vuint16m2x4_t vs3, size_t vl);
void __riscv_vsseg2e16_v_u16m4x2_m(vbool4_t vm, uint16_t *rs1,
                                   vuint16m4x2_t vs3, size_t vl);
void __riscv_vsseg2e32_v_u32mf2x2_m(vbool64_t vm, uint32_t *rs1,
                                    vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_u32mf2x3_m(vbool64_t vm, uint32_t *rs1,
                                    vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_u32mf2x4_m(vbool64_t vm, uint32_t *rs1,
                                    vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e32_v_u32mf2x5_m(vbool64_t vm, uint32_t *rs1,
                                    vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e32_v_u32mf2x6_m(vbool64_t vm, uint32_t *rs1,
                                    vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e32_v_u32mf2x7_m(vbool64_t vm, uint32_t *rs1,
                                    vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e32_v_u32mf2x8_m(vbool64_t vm, uint32_t *rs1,
                                    vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e32_v_u32m1x2_m(vbool32_t vm, uint32_t *rs1,
                                   vuint32m1x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_u32m1x3_m(vbool32_t vm, uint32_t *rs1,
                                   vuint32m1x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_u32m1x4_m(vbool32_t vm, uint32_t *rs1,
                                   vuint32m1x4_t vs3, size_t vl);
void __riscv_vsseg5e32_v_u32m1x5_m(vbool32_t vm, uint32_t *rs1,
                                   vuint32m1x5_t vs3, size_t vl);
void __riscv_vsseg6e32_v_u32m1x6_m(vbool32_t vm, uint32_t *rs1,
                                   vuint32m1x6_t vs3, size_t vl);
void __riscv_vsseg7e32_v_u32m1x7_m(vbool32_t vm, uint32_t *rs1,
                                   vuint32m1x7_t vs3, size_t vl);
void __riscv_vsseg8e32_v_u32m1x8_m(vbool32_t vm, uint32_t *rs1,
                                   vuint32m1x8_t vs3, size_t vl);
void __riscv_vsseg2e32_v_u32m2x2_m(vbool16_t vm, uint32_t *rs1,
                                   vuint32m2x2_t vs3, size_t vl);
void __riscv_vsseg3e32_v_u32m2x3_m(vbool16_t vm, uint32_t *rs1,
                                   vuint32m2x3_t vs3, size_t vl);
void __riscv_vsseg4e32_v_u32m2x4_m(vbool16_t vm, uint32_t *rs1,
                                   vuint32m2x4_t vs3, size_t vl);
void __riscv_vsseg2e32_v_u32m4x2_m(vbool8_t vm, uint32_t *rs1,
                                   vuint32m4x2_t vs3, size_t vl);
void __riscv_vsseg2e64_v_u64m1x2_m(vbool64_t vm, uint64_t *rs1,
                                   vuint64m1x2_t vs3, size_t vl);
void __riscv_vsseg3e64_v_u64m1x3_m(vbool64_t vm, uint64_t *rs1,
                                   vuint64m1x3_t vs3, size_t vl);
void __riscv_vsseg4e64_v_u64m1x4_m(vbool64_t vm, uint64_t *rs1,
                                   vuint64m1x4_t vs3, size_t vl);
void __riscv_vsseg5e64_v_u64m1x5_m(vbool64_t vm, uint64_t *rs1,
                                   vuint64m1x5_t vs3, size_t vl);
void __riscv_vsseg6e64_v_u64m1x6_m(vbool64_t vm, uint64_t *rs1,
                                   vuint64m1x6_t vs3, size_t vl);
void __riscv_vsseg7e64_v_u64m1x7_m(vbool64_t vm, uint64_t *rs1,
                                   vuint64m1x7_t vs3, size_t vl);
void __riscv_vsseg8e64_v_u64m1x8_m(vbool64_t vm, uint64_t *rs1,
                                   vuint64m1x8_t vs3, size_t vl);
void __riscv_vsseg2e64_v_u64m2x2_m(vbool32_t vm, uint64_t *rs1,
                                   vuint64m2x2_t vs3, size_t vl);
void __riscv_vsseg3e64_v_u64m2x3_m(vbool32_t vm, uint64_t *rs1,
                                   vuint64m2x3_t vs3, size_t vl);
void __riscv_vsseg4e64_v_u64m2x4_m(vbool32_t vm, uint64_t *rs1,
                                   vuint64m2x4_t vs3, size_t vl);
void __riscv_vsseg2e64_v_u64m4x2_m(vbool16_t vm, uint64_t *rs1,
```

```
                                    vuint64m4x2_t vs3, size_t vl);
```

A.2.3. Vector Strided Segment Load Intrinsics

```
vfloat16mf4x2_t __riscv_vlsseg2e16_v_f16mf4x2(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vlsseg3e16_v_f16mf4x3(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vlsseg4e16_v_f16mf4x4(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vlsseg5e16_v_f16mf4x5(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vlsseg6e16_v_f16mf4x6(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vlsseg7e16_v_f16mf4x7(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vlsseg8e16_v_f16mf4x8(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vlsseg2e16_v_f16mf2x2(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vlsseg3e16_v_f16mf2x3(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vlsseg4e16_v_f16mf2x4(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vlsseg5e16_v_f16mf2x5(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vlsseg6e16_v_f16mf2x6(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vlsseg7e16_v_f16mf2x7(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vlsseg8e16_v_f16mf2x8(const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vlsseg2e16_v_f16m1x2(const _Float16 *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat16m1x3_t __riscv_vlsseg3e16_v_f16m1x3(const _Float16 *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat16m1x4_t __riscv_vlsseg4e16_v_f16m1x4(const _Float16 *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat16m1x5_t __riscv_vlsseg5e16_v_f16m1x5(const _Float16 *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat16m1x6_t __riscv_vlsseg6e16_v_f16m1x6(const _Float16 *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat16m1x7_t __riscv_vlsseg7e16_v_f16m1x7(const _Float16 *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat16m1x8_t __riscv_vlsseg8e16_v_f16m1x8(const _Float16 *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat16m2x2_t __riscv_vlsseg2e16_v_f16m2x2(const _Float16 *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat16m2x3_t __riscv_vlsseg3e16_v_f16m2x3(const _Float16 *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat16m2x4_t __riscv_vlsseg4e16_v_f16m2x4(const _Float16 *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat16m4x2_t __riscv_vlsseg2e16_v_f16m4x2(const _Float16 *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32mf2x2_t __riscv_vlsseg2e32_v_f32mf2x2(const float *rs1, ptrdiff_t rs2,
                                              size_t vl);
vfloat32mf2x3_t __riscv_vlsseg3e32_v_f32mf2x3(const float *rs1, ptrdiff_t rs2,
                                              size_t vl);
vfloat32mf2x4_t __riscv_vlsseg4e32_v_f32mf2x4(const float *rs1, ptrdiff_t rs2,
                                              size_t vl);
vfloat32mf2x5_t __riscv_vlsseg5e32_v_f32mf2x5(const float *rs1, ptrdiff_t rs2,
                                              size_t vl);
vfloat32mf2x6_t __riscv_vlsseg6e32_v_f32mf2x6(const float *rs1, ptrdiff_t rs2,
                                              size_t vl);
vfloat32mf2x7_t __riscv_vlsseg7e32_v_f32mf2x7(const float *rs1, ptrdiff_t rs2,
```

```
                                                size_t vl);
vfloat32mf2x8_t __riscv_vlsseg8e32_v_f32mf2x8(const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat32m1x2_t __riscv_vlsseg2e32_v_f32m1x2(const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x3_t __riscv_vlsseg3e32_v_f32m1x3(const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x4_t __riscv_vlsseg4e32_v_f32m1x4(const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x5_t __riscv_vlsseg5e32_v_f32m1x5(const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x6_t __riscv_vlsseg6e32_v_f32m1x6(const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x7_t __riscv_vlsseg7e32_v_f32m1x7(const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x8_t __riscv_vlsseg8e32_v_f32m1x8(const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m2x2_t __riscv_vlsseg2e32_v_f32m2x2(const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m2x3_t __riscv_vlsseg3e32_v_f32m2x3(const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m2x4_t __riscv_vlsseg4e32_v_f32m2x4(const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m4x2_t __riscv_vlsseg2e32_v_f32m4x2(const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m1x2_t __riscv_vlsseg2e64_v_f64m1x2(const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m1x3_t __riscv_vlsseg3e64_v_f64m1x3(const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m1x4_t __riscv_vlsseg4e64_v_f64m1x4(const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m1x5_t __riscv_vlsseg5e64_v_f64m1x5(const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m1x6_t __riscv_vlsseg6e64_v_f64m1x6(const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m1x7_t __riscv_vlsseg7e64_v_f64m1x7(const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m1x8_t __riscv_vlsseg8e64_v_f64m1x8(const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m2x2_t __riscv_vlsseg2e64_v_f64m2x2(const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m2x3_t __riscv_vlsseg3e64_v_f64m2x3(const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m2x4_t __riscv_vlsseg4e64_v_f64m2x4(const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m4x2_t __riscv_vlsseg2e64_v_f64m4x2(const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint8mf8x2_t __riscv_vlsseg2e8_v_i8mf8x2(const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf8x3_t __riscv_vlsseg3e8_v_i8mf8x3(const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf8x4_t __riscv_vlsseg4e8_v_i8mf8x4(const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf8x5_t __riscv_vlsseg5e8_v_i8mf8x5(const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf8x6_t __riscv_vlsseg6e8_v_i8mf8x6(const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf8x7_t __riscv_vlsseg7e8_v_i8mf8x7(const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf8x8_t __riscv_vlsseg8e8_v_i8mf8x8(const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf4x2_t __riscv_vlsseg2e8_v_i8mf4x2(const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf4x3_t __riscv_vlsseg3e8_v_i8mf4x3(const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf4x4_t __riscv_vlsseg4e8_v_i8mf4x4(const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
```

```
vint8mf4x5_t __riscv_vlsseg5e8_v_i8mf4x5(const int8_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8mf4x6_t __riscv_vlsseg6e8_v_i8mf4x6(const int8_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8mf4x7_t __riscv_vlsseg7e8_v_i8mf4x7(const int8_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8mf4x8_t __riscv_vlsseg8e8_v_i8mf4x8(const int8_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8mf2x2_t __riscv_vlsseg2e8_v_i8mf2x2(const int8_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8mf2x3_t __riscv_vlsseg3e8_v_i8mf2x3(const int8_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8mf2x4_t __riscv_vlsseg4e8_v_i8mf2x4(const int8_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8mf2x5_t __riscv_vlsseg5e8_v_i8mf2x5(const int8_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8mf2x6_t __riscv_vlsseg6e8_v_i8mf2x6(const int8_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8mf2x7_t __riscv_vlsseg7e8_v_i8mf2x7(const int8_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8mf2x8_t __riscv_vlsseg8e8_v_i8mf2x8(const int8_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8m1x2_t __riscv_vlsseg2e8_v_i8m1x2(const int8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8m1x3_t __riscv_vlsseg3e8_v_i8m1x3(const int8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8m1x4_t __riscv_vlsseg4e8_v_i8m1x4(const int8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8m1x5_t __riscv_vlsseg5e8_v_i8m1x5(const int8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8m1x6_t __riscv_vlsseg6e8_v_i8m1x6(const int8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8m1x7_t __riscv_vlsseg7e8_v_i8m1x7(const int8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8m1x8_t __riscv_vlsseg8e8_v_i8m1x8(const int8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8m2x2_t __riscv_vlsseg2e8_v_i8m2x2(const int8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8m2x3_t __riscv_vlsseg3e8_v_i8m2x3(const int8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8m2x4_t __riscv_vlsseg4e8_v_i8m2x4(const int8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8m4x2_t __riscv_vlsseg2e8_v_i8m4x2(const int8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint16mf4x2_t __riscv_vlsseg2e16_v_i16mf4x2(const int16_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint16mf4x3_t __riscv_vlsseg3e16_v_i16mf4x3(const int16_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint16mf4x4_t __riscv_vlsseg4e16_v_i16mf4x4(const int16_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint16mf4x5_t __riscv_vlsseg5e16_v_i16mf4x5(const int16_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint16mf4x6_t __riscv_vlsseg6e16_v_i16mf4x6(const int16_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint16mf4x7_t __riscv_vlsseg7e16_v_i16mf4x7(const int16_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint16mf4x8_t __riscv_vlsseg8e16_v_i16mf4x8(const int16_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint16mf2x2_t __riscv_vlsseg2e16_v_i16mf2x2(const int16_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint16mf2x3_t __riscv_vlsseg3e16_v_i16mf2x3(const int16_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint16mf2x4_t __riscv_vlsseg4e16_v_i16mf2x4(const int16_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint16mf2x5_t __riscv_vlsseg5e16_v_i16mf2x5(const int16_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint16mf2x6_t __riscv_vlsseg6e16_v_i16mf2x6(const int16_t *rs1, ptrdiff_t rs2,
```

```
                                          size_t vl);
vint16mf2x7_t __riscv_vlsseg7e16_v_i16mf2x7(const int16_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint16mf2x8_t __riscv_vlsseg8e16_v_i16mf2x8(const int16_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint16m1x2_t __riscv_vlsseg2e16_v_i16m1x2(const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16m1x3_t __riscv_vlsseg3e16_v_i16m1x3(const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16m1x4_t __riscv_vlsseg4e16_v_i16m1x4(const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16m1x5_t __riscv_vlsseg5e16_v_i16m1x5(const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16m1x6_t __riscv_vlsseg6e16_v_i16m1x6(const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16m1x7_t __riscv_vlsseg7e16_v_i16m1x7(const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16m1x8_t __riscv_vlsseg8e16_v_i16m1x8(const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16m2x2_t __riscv_vlsseg2e16_v_i16m2x2(const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16m2x3_t __riscv_vlsseg3e16_v_i16m2x3(const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16m2x4_t __riscv_vlsseg4e16_v_i16m2x4(const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16m4x2_t __riscv_vlsseg2e16_v_i16m4x2(const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32mf2x2_t __riscv_vlsseg2e32_v_i32mf2x2(const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32mf2x3_t __riscv_vlsseg3e32_v_i32mf2x3(const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32mf2x4_t __riscv_vlsseg4e32_v_i32mf2x4(const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32mf2x5_t __riscv_vlsseg5e32_v_i32mf2x5(const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32mf2x6_t __riscv_vlsseg6e32_v_i32mf2x6(const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32mf2x7_t __riscv_vlsseg7e32_v_i32mf2x7(const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32mf2x8_t __riscv_vlsseg8e32_v_i32mf2x8(const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m1x2_t __riscv_vlsseg2e32_v_i32m1x2(const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32m1x3_t __riscv_vlsseg3e32_v_i32m1x3(const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32m1x4_t __riscv_vlsseg4e32_v_i32m1x4(const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32m1x5_t __riscv_vlsseg5e32_v_i32m1x5(const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32m1x6_t __riscv_vlsseg6e32_v_i32m1x6(const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32m1x7_t __riscv_vlsseg7e32_v_i32m1x7(const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32m1x8_t __riscv_vlsseg8e32_v_i32m1x8(const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32m2x2_t __riscv_vlsseg2e32_v_i32m2x2(const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32m2x3_t __riscv_vlsseg3e32_v_i32m2x3(const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32m2x4_t __riscv_vlsseg4e32_v_i32m2x4(const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32m4x2_t __riscv_vlsseg2e32_v_i32m4x2(const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint64m1x2_t __riscv_vlsseg2e64_v_i64m1x2(const int64_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint64m1x3_t __riscv_vlsseg3e64_v_i64m1x3(const int64_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
```

```
vint64m1x4_t __riscv_vlsseg4e64_v_i64m1x4(const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x5_t __riscv_vlsseg5e64_v_i64m1x5(const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x6_t __riscv_vlsseg6e64_v_i64m1x6(const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x7_t __riscv_vlsseg7e64_v_i64m1x7(const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x8_t __riscv_vlsseg8e64_v_i64m1x8(const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m2x2_t __riscv_vlsseg2e64_v_i64m2x2(const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m2x3_t __riscv_vlsseg3e64_v_i64m2x3(const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m2x4_t __riscv_vlsseg4e64_v_i64m2x4(const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m4x2_t __riscv_vlsseg2e64_v_i64m4x2(const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x2_t __riscv_vlsseg2e8_v_u8mf8x2(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x3_t __riscv_vlsseg3e8_v_u8mf8x3(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x4_t __riscv_vlsseg4e8_v_u8mf8x4(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x5_t __riscv_vlsseg5e8_v_u8mf8x5(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x6_t __riscv_vlsseg6e8_v_u8mf8x6(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x7_t __riscv_vlsseg7e8_v_u8mf8x7(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x8_t __riscv_vlsseg8e8_v_u8mf8x8(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x2_t __riscv_vlsseg2e8_v_u8mf4x2(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x3_t __riscv_vlsseg3e8_v_u8mf4x3(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x4_t __riscv_vlsseg4e8_v_u8mf4x4(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x5_t __riscv_vlsseg5e8_v_u8mf4x5(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x6_t __riscv_vlsseg6e8_v_u8mf4x6(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x7_t __riscv_vlsseg7e8_v_u8mf4x7(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x8_t __riscv_vlsseg8e8_v_u8mf4x8(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x2_t __riscv_vlsseg2e8_v_u8mf2x2(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x3_t __riscv_vlsseg3e8_v_u8mf2x3(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x4_t __riscv_vlsseg4e8_v_u8mf2x4(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x5_t __riscv_vlsseg5e8_v_u8mf2x5(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x6_t __riscv_vlsseg6e8_v_u8mf2x6(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x7_t __riscv_vlsseg7e8_v_u8mf2x7(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x8_t __riscv_vlsseg8e8_v_u8mf2x8(const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8m1x2_t __riscv_vlsseg2e8_v_u8m1x2(const uint8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint8m1x3_t __riscv_vlsseg3e8_v_u8m1x3(const uint8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint8m1x4_t __riscv_vlsseg4e8_v_u8m1x4(const uint8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint8m1x5_t __riscv_vlsseg5e8_v_u8m1x5(const uint8_t *rs1, ptrdiff_t rs2,
```

```
                                        size_t vl);
vuint8m1x6_t __riscv_vlsseg6e8_v_u8m1x6(const uint8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint8m1x7_t __riscv_vlsseg7e8_v_u8m1x7(const uint8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint8m1x8_t __riscv_vlsseg8e8_v_u8m1x8(const uint8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint8m2x2_t __riscv_vlsseg2e8_v_u8m2x2(const uint8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint8m2x3_t __riscv_vlsseg3e8_v_u8m2x3(const uint8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint8m2x4_t __riscv_vlsseg4e8_v_u8m2x4(const uint8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint8m4x2_t __riscv_vlsseg2e8_v_u8m4x2(const uint8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint16mf4x2_t __riscv_vlsseg2e16_v_u16mf4x2(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf4x3_t __riscv_vlsseg3e16_v_u16mf4x3(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf4x4_t __riscv_vlsseg4e16_v_u16mf4x4(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf4x5_t __riscv_vlsseg5e16_v_u16mf4x5(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf4x6_t __riscv_vlsseg6e16_v_u16mf4x6(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf4x7_t __riscv_vlsseg7e16_v_u16mf4x7(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf4x8_t __riscv_vlsseg8e16_v_u16mf4x8(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf2x2_t __riscv_vlsseg2e16_v_u16mf2x2(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf2x3_t __riscv_vlsseg3e16_v_u16mf2x3(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf2x4_t __riscv_vlsseg4e16_v_u16mf2x4(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf2x5_t __riscv_vlsseg5e16_v_u16mf2x5(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf2x6_t __riscv_vlsseg6e16_v_u16mf2x6(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf2x7_t __riscv_vlsseg7e16_v_u16mf2x7(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf2x8_t __riscv_vlsseg8e16_v_u16mf2x8(const uint16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16m1x2_t __riscv_vlsseg2e16_v_u16m1x2(const uint16_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint16m1x3_t __riscv_vlsseg3e16_v_u16m1x3(const uint16_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint16m1x4_t __riscv_vlsseg4e16_v_u16m1x4(const uint16_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint16m1x5_t __riscv_vlsseg5e16_v_u16m1x5(const uint16_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint16m1x6_t __riscv_vlsseg6e16_v_u16m1x6(const uint16_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint16m1x7_t __riscv_vlsseg7e16_v_u16m1x7(const uint16_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint16m1x8_t __riscv_vlsseg8e16_v_u16m1x8(const uint16_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint16m2x2_t __riscv_vlsseg2e16_v_u16m2x2(const uint16_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint16m2x3_t __riscv_vlsseg3e16_v_u16m2x3(const uint16_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint16m2x4_t __riscv_vlsseg4e16_v_u16m2x4(const uint16_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint16m4x2_t __riscv_vlsseg2e16_v_u16m4x2(const uint16_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint32mf2x2_t __riscv_vlsseg2e32_v_u32mf2x2(const uint32_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
```

```
vuint32mf2x3_t __riscv_vlsseg3e32_v_u32mf2x3(const uint32_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint32mf2x4_t __riscv_vlsseg4e32_v_u32mf2x4(const uint32_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint32mf2x5_t __riscv_vlsseg5e32_v_u32mf2x5(const uint32_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint32mf2x6_t __riscv_vlsseg6e32_v_u32mf2x6(const uint32_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint32mf2x7_t __riscv_vlsseg7e32_v_u32mf2x7(const uint32_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint32mf2x8_t __riscv_vlsseg8e32_v_u32mf2x8(const uint32_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint32m1x2_t __riscv_vlsseg2e32_v_u32m1x2(const uint32_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint32m1x3_t __riscv_vlsseg3e32_v_u32m1x3(const uint32_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint32m1x4_t __riscv_vlsseg4e32_v_u32m1x4(const uint32_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint32m1x5_t __riscv_vlsseg5e32_v_u32m1x5(const uint32_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint32m1x6_t __riscv_vlsseg6e32_v_u32m1x6(const uint32_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint32m1x7_t __riscv_vlsseg7e32_v_u32m1x7(const uint32_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint32m1x8_t __riscv_vlsseg8e32_v_u32m1x8(const uint32_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint32m2x2_t __riscv_vlsseg2e32_v_u32m2x2(const uint32_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint32m2x3_t __riscv_vlsseg3e32_v_u32m2x3(const uint32_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint32m2x4_t __riscv_vlsseg4e32_v_u32m2x4(const uint32_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint32m4x2_t __riscv_vlsseg2e32_v_u32m4x2(const uint32_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint64m1x2_t __riscv_vlsseg2e64_v_u64m1x2(const uint64_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint64m1x3_t __riscv_vlsseg3e64_v_u64m1x3(const uint64_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint64m1x4_t __riscv_vlsseg4e64_v_u64m1x4(const uint64_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint64m1x5_t __riscv_vlsseg5e64_v_u64m1x5(const uint64_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint64m1x6_t __riscv_vlsseg6e64_v_u64m1x6(const uint64_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint64m1x7_t __riscv_vlsseg7e64_v_u64m1x7(const uint64_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint64m1x8_t __riscv_vlsseg8e64_v_u64m1x8(const uint64_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint64m2x2_t __riscv_vlsseg2e64_v_u64m2x2(const uint64_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint64m2x3_t __riscv_vlsseg3e64_v_u64m2x3(const uint64_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint64m2x4_t __riscv_vlsseg4e64_v_u64m2x4(const uint64_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint64m4x2_t __riscv_vlsseg2e64_v_u64m4x2(const uint64_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlsseg2e16_v_f16mf4x2_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vlsseg3e16_v_f16mf4x3_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vlsseg4e16_v_f16mf4x4_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vlsseg5e16_v_f16mf4x5_m(vbool64_t vm,
```

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                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vlsseg6e16_v_f16mf4x6_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vlsseg7e16_v_f16mf4x7_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vlsseg8e16_v_f16mf4x8_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vlsseg2e16_v_f16mf2x2_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vlsseg3e16_v_f16mf2x3_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vlsseg4e16_v_f16mf2x4_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vlsseg5e16_v_f16mf2x5_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vlsseg6e16_v_f16mf2x6_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vlsseg7e16_v_f16mf2x7_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vlsseg8e16_v_f16mf2x8_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vlsseg2e16_v_f16m1x2_m(vbool16_t vm, const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vlsseg3e16_v_f16m1x3_m(vbool16_t vm, const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vlsseg4e16_v_f16m1x4_m(vbool16_t vm, const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vlsseg5e16_v_f16m1x5_m(vbool16_t vm, const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vlsseg6e16_v_f16m1x6_m(vbool16_t vm, const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vlsseg7e16_v_f16m1x7_m(vbool16_t vm, const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vlsseg8e16_v_f16m1x8_m(vbool16_t vm, const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vlsseg2e16_v_f16m2x2_m(vbool8_t vm, const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vlsseg3e16_v_f16m2x3_m(vbool8_t vm, const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vlsseg4e16_v_f16m2x4_m(vbool8_t vm, const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vlsseg2e16_v_f16m4x2_m(vbool4_t vm, const _Float16 *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vlsseg2e32_v_f32mf2x2_m(vbool64_t vm, const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vlsseg3e32_v_f32mf2x3_m(vbool64_t vm, const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vlsseg4e32_v_f32mf2x4_m(vbool64_t vm, const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vlsseg5e32_v_f32mf2x5_m(vbool64_t vm, const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vlsseg6e32_v_f32mf2x6_m(vbool64_t vm, const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vlsseg7e32_v_f32mf2x7_m(vbool64_t vm, const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vlsseg8e32_v_f32mf2x8_m(vbool64_t vm, const float *rs1,
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                                                ptrdiff_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vlsseg2e32_v_f32m1x2_m(vbool32_t vm, const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vlsseg3e32_v_f32m1x3_m(vbool32_t vm, const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vlsseg4e32_v_f32m1x4_m(vbool32_t vm, const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vlsseg5e32_v_f32m1x5_m(vbool32_t vm, const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vlsseg6e32_v_f32m1x6_m(vbool32_t vm, const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vlsseg7e32_v_f32m1x7_m(vbool32_t vm, const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vlsseg8e32_v_f32m1x8_m(vbool32_t vm, const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vlsseg2e32_v_f32m2x2_m(vbool16_t vm, const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vlsseg3e32_v_f32m2x3_m(vbool16_t vm, const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vlsseg4e32_v_f32m2x4_m(vbool16_t vm, const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vlsseg2e32_v_f32m4x2_m(vbool8_t vm, const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vlsseg2e64_v_f64m1x2_m(vbool64_t vm, const double *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vlsseg3e64_v_f64m1x3_m(vbool64_t vm, const double *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vlsseg4e64_v_f64m1x4_m(vbool64_t vm, const double *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vlsseg5e64_v_f64m1x5_m(vbool64_t vm, const double *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vlsseg6e64_v_f64m1x6_m(vbool64_t vm, const double *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vlsseg7e64_v_f64m1x7_m(vbool64_t vm, const double *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vlsseg8e64_v_f64m1x8_m(vbool64_t vm, const double *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vlsseg2e64_v_f64m2x2_m(vbool32_t vm, const double *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vlsseg3e64_v_f64m2x3_m(vbool32_t vm, const double *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vlsseg4e64_v_f64m2x4_m(vbool32_t vm, const double *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vlsseg2e64_v_f64m4x2_m(vbool16_t vm, const double *rs1,
                                              ptrdiff_t rs2, size_t vl);
vint8mf8x2_t __riscv_vlsseg2e8_v_i8mf8x2_m(vbool64_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf8x3_t __riscv_vlsseg3e8_v_i8mf8x3_m(vbool64_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf8x4_t __riscv_vlsseg4e8_v_i8mf8x4_m(vbool64_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf8x5_t __riscv_vlsseg5e8_v_i8mf8x5_m(vbool64_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf8x6_t __riscv_vlsseg6e8_v_i8mf8x6_m(vbool64_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf8x7_t __riscv_vlsseg7e8_v_i8mf8x7_m(vbool64_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf8x8_t __riscv_vlsseg8e8_v_i8mf8x8_m(vbool64_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf4x2_t __riscv_vlsseg2e8_v_i8mf4x2_m(vbool32_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf4x3_t __riscv_vlsseg3e8_v_i8mf4x3_m(vbool32_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf4x4_t __riscv_vlsseg4e8_v_i8mf4x4_m(vbool32_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf4x5_t __riscv_vlsseg5e8_v_i8mf4x5_m(vbool32_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
```

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vint8mf4x6_t __riscv_vlsseg6e8_v_i8mf4x6_m(vbool32_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf4x7_t __riscv_vlsseg7e8_v_i8mf4x7_m(vbool32_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf4x8_t __riscv_vlsseg8e8_v_i8mf4x8_m(vbool32_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf2x2_t __riscv_vlsseg2e8_v_i8mf2x2_m(vbool16_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf2x3_t __riscv_vlsseg3e8_v_i8mf2x3_m(vbool16_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf2x4_t __riscv_vlsseg4e8_v_i8mf2x4_m(vbool16_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf2x5_t __riscv_vlsseg5e8_v_i8mf2x5_m(vbool16_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf2x6_t __riscv_vlsseg6e8_v_i8mf2x6_m(vbool16_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf2x7_t __riscv_vlsseg7e8_v_i8mf2x7_m(vbool16_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8mf2x8_t __riscv_vlsseg8e8_v_i8mf2x8_m(vbool16_t vm, const int8_t *rs1,
                                           ptrdiff_t rs2, size_t vl);
vint8m1x2_t __riscv_vlsseg2e8_v_i8m1x2_m(vbool8_t vm, const int8_t *rs1,
                                         ptrdiff_t rs2, size_t vl);
vint8m1x3_t __riscv_vlsseg3e8_v_i8m1x3_m(vbool8_t vm, const int8_t *rs1,
                                         ptrdiff_t rs2, size_t vl);
vint8m1x4_t __riscv_vlsseg4e8_v_i8m1x4_m(vbool8_t vm, const int8_t *rs1,
                                         ptrdiff_t rs2, size_t vl);
vint8m1x5_t __riscv_vlsseg5e8_v_i8m1x5_m(vbool8_t vm, const int8_t *rs1,
                                         ptrdiff_t rs2, size_t vl);
vint8m1x6_t __riscv_vlsseg6e8_v_i8m1x6_m(vbool8_t vm, const int8_t *rs1,
                                         ptrdiff_t rs2, size_t vl);
vint8m1x7_t __riscv_vlsseg7e8_v_i8m1x7_m(vbool8_t vm, const int8_t *rs1,
                                         ptrdiff_t rs2, size_t vl);
vint8m1x8_t __riscv_vlsseg8e8_v_i8m1x8_m(vbool8_t vm, const int8_t *rs1,
                                         ptrdiff_t rs2, size_t vl);
vint8m2x2_t __riscv_vlsseg2e8_v_i8m2x2_m(vbool4_t vm, const int8_t *rs1,
                                         ptrdiff_t rs2, size_t vl);
vint8m2x3_t __riscv_vlsseg3e8_v_i8m2x3_m(vbool4_t vm, const int8_t *rs1,
                                         ptrdiff_t rs2, size_t vl);
vint8m2x4_t __riscv_vlsseg4e8_v_i8m2x4_m(vbool4_t vm, const int8_t *rs1,
                                         ptrdiff_t rs2, size_t vl);
vint8m4x2_t __riscv_vlsseg2e8_v_i8m4x2_m(vbool2_t vm, const int8_t *rs1,
                                         ptrdiff_t rs2, size_t vl);
vint16mf4x2_t __riscv_vlsseg2e16_v_i16mf4x2_m(vbool64_t vm, const int16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vint16mf4x3_t __riscv_vlsseg3e16_v_i16mf4x3_m(vbool64_t vm, const int16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vint16mf4x4_t __riscv_vlsseg4e16_v_i16mf4x4_m(vbool64_t vm, const int16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vint16mf4x5_t __riscv_vlsseg5e16_v_i16mf4x5_m(vbool64_t vm, const int16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vint16mf4x6_t __riscv_vlsseg6e16_v_i16mf4x6_m(vbool64_t vm, const int16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vint16mf4x7_t __riscv_vlsseg7e16_v_i16mf4x7_m(vbool64_t vm, const int16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vint16mf4x8_t __riscv_vlsseg8e16_v_i16mf4x8_m(vbool64_t vm, const int16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vint16mf2x2_t __riscv_vlsseg2e16_v_i16mf2x2_m(vbool32_t vm, const int16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vint16mf2x3_t __riscv_vlsseg3e16_v_i16mf2x3_m(vbool32_t vm, const int16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vint16mf2x4_t __riscv_vlsseg4e16_v_i16mf2x4_m(vbool32_t vm, const int16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
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                                              ptrdiff_t rs2, size_t vl);
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                                              ptrdiff_t rs2, size_t vl);
vint16mf2x7_t __riscv_vlsseg7e16_v_i16mf2x7_m(vbool32_t vm, const int16_t *rs1,
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                                            ptrdiff_t rs2, size_t vl);
vint16mf2x8_t __riscv_vlsseg8e16_v_i16mf2x8_m(vbool32_t vm, const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16m1x2_t __riscv_vlsseg2e16_v_i16m1x2_m(vbool16_t vm, const int16_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint16m1x3_t __riscv_vlsseg3e16_v_i16m1x3_m(vbool16_t vm, const int16_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint16m1x4_t __riscv_vlsseg4e16_v_i16m1x4_m(vbool16_t vm, const int16_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint16m1x5_t __riscv_vlsseg5e16_v_i16m1x5_m(vbool16_t vm, const int16_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
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                                          ptrdiff_t rs2, size_t vl);
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                                          ptrdiff_t rs2, size_t vl);
vint16m1x8_t __riscv_vlsseg8e16_v_i16m1x8_m(vbool16_t vm, const int16_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint16m2x2_t __riscv_vlsseg2e16_v_i16m2x2_m(vbool8_t vm, const int16_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint16m2x3_t __riscv_vlsseg3e16_v_i16m2x3_m(vbool8_t vm, const int16_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint16m2x4_t __riscv_vlsseg4e16_v_i16m2x4_m(vbool8_t vm, const int16_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint16m4x2_t __riscv_vlsseg2e16_v_i16m4x2_m(vbool4_t vm, const int16_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint32mf2x2_t __riscv_vlsseg2e32_v_i32mf2x2_m(vbool64_t vm, const int32_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint32mf2x3_t __riscv_vlsseg3e32_v_i32mf2x3_m(vbool64_t vm, const int32_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint32mf2x4_t __riscv_vlsseg4e32_v_i32mf2x4_m(vbool64_t vm, const int32_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint32mf2x5_t __riscv_vlsseg5e32_v_i32mf2x5_m(vbool64_t vm, const int32_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint32mf2x6_t __riscv_vlsseg6e32_v_i32mf2x6_m(vbool64_t vm, const int32_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint32mf2x7_t __riscv_vlsseg7e32_v_i32mf2x7_m(vbool64_t vm, const int32_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint32mf2x8_t __riscv_vlsseg8e32_v_i32mf2x8_m(vbool64_t vm, const int32_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint32m1x2_t __riscv_vlsseg2e32_v_i32m1x2_m(vbool32_t vm, const int32_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint32m1x3_t __riscv_vlsseg3e32_v_i32m1x3_m(vbool32_t vm, const int32_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint32m1x4_t __riscv_vlsseg4e32_v_i32m1x4_m(vbool32_t vm, const int32_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint32m1x5_t __riscv_vlsseg5e32_v_i32m1x5_m(vbool32_t vm, const int32_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint32m1x6_t __riscv_vlsseg6e32_v_i32m1x6_m(vbool32_t vm, const int32_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint32m1x7_t __riscv_vlsseg7e32_v_i32m1x7_m(vbool32_t vm, const int32_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint32m1x8_t __riscv_vlsseg8e32_v_i32m1x8_m(vbool32_t vm, const int32_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint32m2x2_t __riscv_vlsseg2e32_v_i32m2x2_m(vbool16_t vm, const int32_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint32m2x3_t __riscv_vlsseg3e32_v_i32m2x3_m(vbool16_t vm, const int32_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint32m2x4_t __riscv_vlsseg4e32_v_i32m2x4_m(vbool16_t vm, const int32_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint32m4x2_t __riscv_vlsseg2e32_v_i32m4x2_m(vbool8_t vm, const int32_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint64m1x2_t __riscv_vlsseg2e64_v_i64m1x2_m(vbool64_t vm, const int64_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint64m1x3_t __riscv_vlsseg3e64_v_i64m1x3_m(vbool64_t vm, const int64_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint64m1x4_t __riscv_vlsseg4e64_v_i64m1x4_m(vbool64_t vm, const int64_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
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vint64m1x5_t __riscv_vlsseg5e64_v_i64m1x5_m(vbool64_t vm, const int64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint64m1x6_t __riscv_vlsseg6e64_v_i64m1x6_m(vbool64_t vm, const int64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint64m1x7_t __riscv_vlsseg7e64_v_i64m1x7_m(vbool64_t vm, const int64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint64m1x8_t __riscv_vlsseg8e64_v_i64m1x8_m(vbool64_t vm, const int64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint64m2x2_t __riscv_vlsseg2e64_v_i64m2x2_m(vbool32_t vm, const int64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint64m2x3_t __riscv_vlsseg3e64_v_i64m2x3_m(vbool32_t vm, const int64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint64m2x4_t __riscv_vlsseg4e64_v_i64m2x4_m(vbool32_t vm, const int64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint64m4x2_t __riscv_vlsseg2e64_v_i64m4x2_m(vbool16_t vm, const int64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vlsseg2e8_v_u8mf8x2_m(vbool64_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vlsseg3e8_v_u8mf8x3_m(vbool64_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vlsseg4e8_v_u8mf8x4_m(vbool64_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vlsseg5e8_v_u8mf8x5_m(vbool64_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vlsseg6e8_v_u8mf8x6_m(vbool64_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vlsseg7e8_v_u8mf8x7_m(vbool64_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vlsseg8e8_v_u8mf8x8_m(vbool64_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vlsseg2e8_v_u8mf4x2_m(vbool32_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vlsseg3e8_v_u8mf4x3_m(vbool32_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
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                                            ptrdiff_t rs2, size_t vl);
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                                            ptrdiff_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vlsseg2e8_v_u8mf2x2_m(vbool16_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vlsseg3e8_v_u8mf2x3_m(vbool16_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vlsseg4e8_v_u8mf2x4_m(vbool16_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vlsseg5e8_v_u8mf2x5_m(vbool16_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vlsseg6e8_v_u8mf2x6_m(vbool16_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vlsseg7e8_v_u8mf2x7_m(vbool16_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vlsseg8e8_v_u8mf2x8_m(vbool16_t vm, const uint8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint8m1x2_t __riscv_vlsseg2e8_v_u8m1x2_m(vbool8_t vm, const uint8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vuint8m1x3_t __riscv_vlsseg3e8_v_u8m1x3_m(vbool8_t vm, const uint8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vuint8m1x4_t __riscv_vlsseg4e8_v_u8m1x4_m(vbool8_t vm, const uint8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
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                                          ptrdiff_t rs2, size_t vl);
vuint8m1x6_t __riscv_vlsseg6e8_v_u8m1x6_m(vbool8_t vm, const uint8_t *rs1,
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                                          ptrdiff_t rs2, size_t vl);
vuint8m1x7_t __riscv_vlsseg7e8_v_u8m1x7_m(vbool8_t vm, const uint8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vuint8m1x8_t __riscv_vlsseg8e8_v_u8m1x8_m(vbool8_t vm, const uint8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
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                                          ptrdiff_t rs2, size_t vl);
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                                          ptrdiff_t rs2, size_t vl);
vuint8m2x4_t __riscv_vlsseg4e8_v_u8m2x4_m(vbool4_t vm, const uint8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vuint8m4x2_t __riscv_vlsseg2e8_v_u8m4x2_m(vbool2_t vm, const uint8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vlsseg2e16_v_u16mf4x2_m(vbool64_t vm,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vlsseg3e16_v_u16mf4x3_m(vbool64_t vm,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vlsseg4e16_v_u16mf4x4_m(vbool64_t vm,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vlsseg5e16_v_u16mf4x5_m(vbool64_t vm,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vlsseg6e16_v_u16mf4x6_m(vbool64_t vm,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vlsseg7e16_v_u16mf4x7_m(vbool64_t vm,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vlsseg8e16_v_u16mf4x8_m(vbool64_t vm,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vlsseg2e16_v_u16mf2x2_m(vbool32_t vm,
                                               const uint16_t *rs1,
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                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
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                                               const uint16_t *rs1,
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                                               const uint16_t *rs1,
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                                               const uint16_t *rs1,
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                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vlsseg8e16_v_u16mf2x8_m(vbool32_t vm,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16m1x2_t __riscv_vlsseg2e16_v_u16m1x2_m(vbool16_t vm, const uint16_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint16m1x3_t __riscv_vlsseg3e16_v_u16m1x3_m(vbool16_t vm, const uint16_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
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                                             ptrdiff_t rs2, size_t vl);
vuint16m1x7_t __riscv_vlsseg7e16_v_u16m1x7_m(vbool16_t vm, const uint16_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
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vuint16m1x8_t __riscv_vlsseg8e16_v_u16m1x8_m(vbool16_t vm, const uint16_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint16m2x2_t __riscv_vlsseg2e16_v_u16m2x2_m(vbool8_t vm, const uint16_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint16m2x3_t __riscv_vlsseg3e16_v_u16m2x3_m(vbool8_t vm, const uint16_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint16m2x4_t __riscv_vlsseg4e16_v_u16m2x4_m(vbool8_t vm, const uint16_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint16m4x2_t __riscv_vlsseg2e16_v_u16m4x2_m(vbool4_t vm, const uint16_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vlsseg2e32_v_u32mf2x2_m(vbool64_t vm,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vlsseg3e32_v_u32mf2x3_m(vbool64_t vm,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vlsseg4e32_v_u32mf2x4_m(vbool64_t vm,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vlsseg5e32_v_u32mf2x5_m(vbool64_t vm,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vlsseg6e32_v_u32mf2x6_m(vbool64_t vm,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vlsseg7e32_v_u32mf2x7_m(vbool64_t vm,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vlsseg8e32_v_u32mf2x8_m(vbool64_t vm,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32m1x2_t __riscv_vlsseg2e32_v_u32m1x2_m(vbool32_t vm, const uint32_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint32m1x3_t __riscv_vlsseg3e32_v_u32m1x3_m(vbool32_t vm, const uint32_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint32m1x4_t __riscv_vlsseg4e32_v_u32m1x4_m(vbool32_t vm, const uint32_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint32m1x5_t __riscv_vlsseg5e32_v_u32m1x5_m(vbool32_t vm, const uint32_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint32m1x6_t __riscv_vlsseg6e32_v_u32m1x6_m(vbool32_t vm, const uint32_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint32m1x7_t __riscv_vlsseg7e32_v_u32m1x7_m(vbool32_t vm, const uint32_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint32m1x8_t __riscv_vlsseg8e32_v_u32m1x8_m(vbool32_t vm, const uint32_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint32m2x2_t __riscv_vlsseg2e32_v_u32m2x2_m(vbool16_t vm, const uint32_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint32m2x3_t __riscv_vlsseg3e32_v_u32m2x3_m(vbool16_t vm, const uint32_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint32m2x4_t __riscv_vlsseg4e32_v_u32m2x4_m(vbool16_t vm, const uint32_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint32m4x2_t __riscv_vlsseg2e32_v_u32m4x2_m(vbool8_t vm, const uint32_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint64m1x2_t __riscv_vlsseg2e64_v_u64m1x2_m(vbool64_t vm, const uint64_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint64m1x3_t __riscv_vlsseg3e64_v_u64m1x3_m(vbool64_t vm, const uint64_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint64m1x4_t __riscv_vlsseg4e64_v_u64m1x4_m(vbool64_t vm, const uint64_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint64m1x5_t __riscv_vlsseg5e64_v_u64m1x5_m(vbool64_t vm, const uint64_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint64m1x6_t __riscv_vlsseg6e64_v_u64m1x6_m(vbool64_t vm, const uint64_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint64m1x7_t __riscv_vlsseg7e64_v_u64m1x7_m(vbool64_t vm, const uint64_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint64m1x8_t __riscv_vlsseg8e64_v_u64m1x8_m(vbool64_t vm, const uint64_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
```

```
vuint64m2x2_t __riscv_vlsseg2e64_v_u64m2x2_m(vbool32_t vm, const uint64_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint64m2x3_t __riscv_vlsseg3e64_v_u64m2x3_m(vbool32_t vm, const uint64_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint64m2x4_t __riscv_vlsseg4e64_v_u64m2x4_m(vbool32_t vm, const uint64_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
vuint64m4x2_t __riscv_vlsseg2e64_v_u64m4x2_m(vbool16_t vm, const uint64_t *rs1,
                                             ptrdiff_t rs2, size_t vl);
```

A.2.4. Vector Strided Segment Store Intrinsics

```
void __riscv_vssseg2e16_v_f16mf4x2(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_f16mf4x3(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_f16mf4x4(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_f16mf4x5(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_f16mf4x6(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_f16mf4x7(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_f16mf4x8(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_f16mf2x2(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_f16mf2x3(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_f16mf2x4(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_f16mf2x5(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_f16mf2x6(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_f16mf2x7(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_f16mf2x8(_Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_f16m1x2(_Float16 *rs1, ptrdiff_t rs2,
                                  vfloat16m1x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_f16m1x3(_Float16 *rs1, ptrdiff_t rs2,
                                  vfloat16m1x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_f16m1x4(_Float16 *rs1, ptrdiff_t rs2,
                                  vfloat16m1x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_f16m1x5(_Float16 *rs1, ptrdiff_t rs2,
                                  vfloat16m1x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_f16m1x6(_Float16 *rs1, ptrdiff_t rs2,
                                  vfloat16m1x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_f16m1x7(_Float16 *rs1, ptrdiff_t rs2,
                                  vfloat16m1x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_f16m1x8(_Float16 *rs1, ptrdiff_t rs2,
                                  vfloat16m1x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_f16m2x2(_Float16 *rs1, ptrdiff_t rs2,
                                  vfloat16m2x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_f16m2x3(_Float16 *rs1, ptrdiff_t rs2,
                                  vfloat16m2x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_f16m2x4(_Float16 *rs1, ptrdiff_t rs2,
                                  vfloat16m2x4_t vs3, size_t vl);
void __riscv_vssseg2e16_v_f16m4x2(_Float16 *rs1, ptrdiff_t rs2,
                                  vfloat16m4x2_t vs3, size_t vl);
void __riscv_vssseg2e32_v_f32mf2x2(float *rs1, ptrdiff_t rs2,
                                   vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e32_v_f32mf2x3(float *rs1, ptrdiff_t rs2,
                                   vfloat32mf2x3_t vs3, size_t vl);
```

```
void __riscv_vssseg4e32_v_f32mf2x4(float *rs1, ptrdiff_t rs2,
                                   vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e32_v_f32mf2x5(float *rs1, ptrdiff_t rs2,
                                   vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e32_v_f32mf2x6(float *rs1, ptrdiff_t rs2,
                                   vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e32_v_f32mf2x7(float *rs1, ptrdiff_t rs2,
                                   vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e32_v_f32mf2x8(float *rs1, ptrdiff_t rs2,
                                   vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e32_v_f32m1x2(float *rs1, ptrdiff_t rs2, vfloat32m1x2_t vs3,
                                  size_t vl);
void __riscv_vssseg3e32_v_f32m1x3(float *rs1, ptrdiff_t rs2, vfloat32m1x3_t vs3,
                                  size_t vl);
void __riscv_vssseg4e32_v_f32m1x4(float *rs1, ptrdiff_t rs2, vfloat32m1x4_t vs3,
                                  size_t vl);
void __riscv_vssseg5e32_v_f32m1x5(float *rs1, ptrdiff_t rs2, vfloat32m1x5_t vs3,
                                  size_t vl);
void __riscv_vssseg6e32_v_f32m1x6(float *rs1, ptrdiff_t rs2, vfloat32m1x6_t vs3,
                                  size_t vl);
void __riscv_vssseg7e32_v_f32m1x7(float *rs1, ptrdiff_t rs2, vfloat32m1x7_t vs3,
                                  size_t vl);
void __riscv_vssseg8e32_v_f32m1x8(float *rs1, ptrdiff_t rs2, vfloat32m1x8_t vs3,
                                  size_t vl);
void __riscv_vssseg2e32_v_f32m2x2(float *rs1, ptrdiff_t rs2, vfloat32m2x2_t vs3,
                                  size_t vl);
void __riscv_vssseg3e32_v_f32m2x3(float *rs1, ptrdiff_t rs2, vfloat32m2x3_t vs3,
                                  size_t vl);
void __riscv_vssseg4e32_v_f32m2x4(float *rs1, ptrdiff_t rs2, vfloat32m2x4_t vs3,
                                  size_t vl);
void __riscv_vssseg2e32_v_f32m4x2(float *rs1, ptrdiff_t rs2, vfloat32m4x2_t vs3,
                                  size_t vl);
void __riscv_vssseg2e64_v_f64m1x2(double *rs1, ptrdiff_t rs2,
                                  vfloat64m1x2_t vs3, size_t vl);
void __riscv_vssseg3e64_v_f64m1x3(double *rs1, ptrdiff_t rs2,
                                  vfloat64m1x3_t vs3, size_t vl);
void __riscv_vssseg4e64_v_f64m1x4(double *rs1, ptrdiff_t rs2,
                                  vfloat64m1x4_t vs3, size_t vl);
void __riscv_vssseg5e64_v_f64m1x5(double *rs1, ptrdiff_t rs2,
                                  vfloat64m1x5_t vs3, size_t vl);
void __riscv_vssseg6e64_v_f64m1x6(double *rs1, ptrdiff_t rs2,
                                  vfloat64m1x6_t vs3, size_t vl);
void __riscv_vssseg7e64_v_f64m1x7(double *rs1, ptrdiff_t rs2,
                                  vfloat64m1x7_t vs3, size_t vl);
void __riscv_vssseg8e64_v_f64m1x8(double *rs1, ptrdiff_t rs2,
                                  vfloat64m1x8_t vs3, size_t vl);
void __riscv_vssseg2e64_v_f64m2x2(double *rs1, ptrdiff_t rs2,
                                  vfloat64m2x2_t vs3, size_t vl);
void __riscv_vssseg3e64_v_f64m2x3(double *rs1, ptrdiff_t rs2,
                                  vfloat64m2x3_t vs3, size_t vl);
void __riscv_vssseg4e64_v_f64m2x4(double *rs1, ptrdiff_t rs2,
                                  vfloat64m2x4_t vs3, size_t vl);
void __riscv_vssseg2e64_v_f64m4x2(double *rs1, ptrdiff_t rs2,
                                  vfloat64m4x2_t vs3, size_t vl);
void __riscv_vssseg2e8_v_i8mf8x2(int8_t *rs1, ptrdiff_t rs2, vint8mf8x2_t vs3,
                                 size_t vl);
void __riscv_vssseg3e8_v_i8mf8x3(int8_t *rs1, ptrdiff_t rs2, vint8mf8x3_t vs3,
                                 size_t vl);
void __riscv_vssseg4e8_v_i8mf8x4(int8_t *rs1, ptrdiff_t rs2, vint8mf8x4_t vs3,
                                 size_t vl);
void __riscv_vssseg5e8_v_i8mf8x5(int8_t *rs1, ptrdiff_t rs2, vint8mf8x5_t vs3,
                                 size_t vl);
void __riscv_vssseg6e8_v_i8mf8x6(int8_t *rs1, ptrdiff_t rs2, vint8mf8x6_t vs3,
                                 size_t vl);
void __riscv_vssseg7e8_v_i8mf8x7(int8_t *rs1, ptrdiff_t rs2, vint8mf8x7_t vs3,
                                 size_t vl);
void __riscv_vssseg8e8_v_i8mf8x8(int8_t *rs1, ptrdiff_t rs2, vint8mf8x8_t vs3,
```

```
                                size_t vl);
void __riscv_vssseg2e8_v_i8mf4x2(int8_t *rs1, ptrdiff_t rs2, vint8mf4x2_t vs3,
                                size_t vl);
void __riscv_vssseg3e8_v_i8mf4x3(int8_t *rs1, ptrdiff_t rs2, vint8mf4x3_t vs3,
                                size_t vl);
void __riscv_vssseg4e8_v_i8mf4x4(int8_t *rs1, ptrdiff_t rs2, vint8mf4x4_t vs3,
                                size_t vl);
void __riscv_vssseg5e8_v_i8mf4x5(int8_t *rs1, ptrdiff_t rs2, vint8mf4x5_t vs3,
                                size_t vl);
void __riscv_vssseg6e8_v_i8mf4x6(int8_t *rs1, ptrdiff_t rs2, vint8mf4x6_t vs3,
                                size_t vl);
void __riscv_vssseg7e8_v_i8mf4x7(int8_t *rs1, ptrdiff_t rs2, vint8mf4x7_t vs3,
                                size_t vl);
void __riscv_vssseg8e8_v_i8mf4x8(int8_t *rs1, ptrdiff_t rs2, vint8mf4x8_t vs3,
                                size_t vl);
void __riscv_vssseg2e8_v_i8mf2x2(int8_t *rs1, ptrdiff_t rs2, vint8mf2x2_t vs3,
                                size_t vl);
void __riscv_vssseg3e8_v_i8mf2x3(int8_t *rs1, ptrdiff_t rs2, vint8mf2x3_t vs3,
                                size_t vl);
void __riscv_vssseg4e8_v_i8mf2x4(int8_t *rs1, ptrdiff_t rs2, vint8mf2x4_t vs3,
                                size_t vl);
void __riscv_vssseg5e8_v_i8mf2x5(int8_t *rs1, ptrdiff_t rs2, vint8mf2x5_t vs3,
                                size_t vl);
void __riscv_vssseg6e8_v_i8mf2x6(int8_t *rs1, ptrdiff_t rs2, vint8mf2x6_t vs3,
                                size_t vl);
void __riscv_vssseg7e8_v_i8mf2x7(int8_t *rs1, ptrdiff_t rs2, vint8mf2x7_t vs3,
                                size_t vl);
void __riscv_vssseg8e8_v_i8mf2x8(int8_t *rs1, ptrdiff_t rs2, vint8mf2x8_t vs3,
                                size_t vl);
void __riscv_vssseg2e8_v_i8m1x2(int8_t *rs1, ptrdiff_t rs2, vint8m1x2_t vs3,
                               size_t vl);
void __riscv_vssseg3e8_v_i8m1x3(int8_t *rs1, ptrdiff_t rs2, vint8m1x3_t vs3,
                               size_t vl);
void __riscv_vssseg4e8_v_i8m1x4(int8_t *rs1, ptrdiff_t rs2, vint8m1x4_t vs3,
                               size_t vl);
void __riscv_vssseg5e8_v_i8m1x5(int8_t *rs1, ptrdiff_t rs2, vint8m1x5_t vs3,
                               size_t vl);
void __riscv_vssseg6e8_v_i8m1x6(int8_t *rs1, ptrdiff_t rs2, vint8m1x6_t vs3,
                               size_t vl);
void __riscv_vssseg7e8_v_i8m1x7(int8_t *rs1, ptrdiff_t rs2, vint8m1x7_t vs3,
                               size_t vl);
void __riscv_vssseg8e8_v_i8m1x8(int8_t *rs1, ptrdiff_t rs2, vint8m1x8_t vs3,
                               size_t vl);
void __riscv_vssseg2e8_v_i8m2x2(int8_t *rs1, ptrdiff_t rs2, vint8m2x2_t vs3,
                               size_t vl);
void __riscv_vssseg3e8_v_i8m2x3(int8_t *rs1, ptrdiff_t rs2, vint8m2x3_t vs3,
                               size_t vl);
void __riscv_vssseg4e8_v_i8m2x4(int8_t *rs1, ptrdiff_t rs2, vint8m2x4_t vs3,
                               size_t vl);
void __riscv_vssseg2e8_v_i8m4x2(int8_t *rs1, ptrdiff_t rs2, vint8m4x2_t vs3,
                               size_t vl);
void __riscv_vssseg2e16_v_i16mf4x2(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_i16mf4x3(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_i16mf4x4(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_i16mf4x5(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_i16mf4x6(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_i16mf4x7(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_i16mf4x8(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_i16mf2x2(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf2x2_t vs3, size_t vl);
```

```
void __riscv_vssseg3e16_v_i16mf2x3(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_i16mf2x4(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_i16mf2x5(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_i16mf2x6(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_i16mf2x7(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_i16mf2x8(int16_t *rs1, ptrdiff_t rs2,
                                   vint16mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_i16m1x2(int16_t *rs1, ptrdiff_t rs2, vint16m1x2_t vs3,
                                  size_t vl);
void __riscv_vssseg3e16_v_i16m1x3(int16_t *rs1, ptrdiff_t rs2, vint16m1x3_t vs3,
                                  size_t vl);
void __riscv_vssseg4e16_v_i16m1x4(int16_t *rs1, ptrdiff_t rs2, vint16m1x4_t vs3,
                                  size_t vl);
void __riscv_vssseg5e16_v_i16m1x5(int16_t *rs1, ptrdiff_t rs2, vint16m1x5_t vs3,
                                  size_t vl);
void __riscv_vssseg6e16_v_i16m1x6(int16_t *rs1, ptrdiff_t rs2, vint16m1x6_t vs3,
                                  size_t vl);
void __riscv_vssseg7e16_v_i16m1x7(int16_t *rs1, ptrdiff_t rs2, vint16m1x7_t vs3,
                                  size_t vl);
void __riscv_vssseg8e16_v_i16m1x8(int16_t *rs1, ptrdiff_t rs2, vint16m1x8_t vs3,
                                  size_t vl);
void __riscv_vssseg2e16_v_i16m2x2(int16_t *rs1, ptrdiff_t rs2, vint16m2x2_t vs3,
                                  size_t vl);
void __riscv_vssseg3e16_v_i16m2x3(int16_t *rs1, ptrdiff_t rs2, vint16m2x3_t vs3,
                                  size_t vl);
void __riscv_vssseg4e16_v_i16m2x4(int16_t *rs1, ptrdiff_t rs2, vint16m2x4_t vs3,
                                  size_t vl);
void __riscv_vssseg2e16_v_i16m4x2(int16_t *rs1, ptrdiff_t rs2, vint16m4x2_t vs3,
                                  size_t vl);
void __riscv_vssseg2e32_v_i32mf2x2(int32_t *rs1, ptrdiff_t rs2,
                                   vint32mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e32_v_i32mf2x3(int32_t *rs1, ptrdiff_t rs2,
                                   vint32mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e32_v_i32mf2x4(int32_t *rs1, ptrdiff_t rs2,
                                   vint32mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e32_v_i32mf2x5(int32_t *rs1, ptrdiff_t rs2,
                                   vint32mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e32_v_i32mf2x6(int32_t *rs1, ptrdiff_t rs2,
                                   vint32mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e32_v_i32mf2x7(int32_t *rs1, ptrdiff_t rs2,
                                   vint32mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e32_v_i32mf2x8(int32_t *rs1, ptrdiff_t rs2,
                                   vint32mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e32_v_i32m1x2(int32_t *rs1, ptrdiff_t rs2, vint32m1x2_t vs3,
                                  size_t vl);
void __riscv_vssseg3e32_v_i32m1x3(int32_t *rs1, ptrdiff_t rs2, vint32m1x3_t vs3,
                                  size_t vl);
void __riscv_vssseg4e32_v_i32m1x4(int32_t *rs1, ptrdiff_t rs2, vint32m1x4_t vs3,
                                  size_t vl);
void __riscv_vssseg5e32_v_i32m1x5(int32_t *rs1, ptrdiff_t rs2, vint32m1x5_t vs3,
                                  size_t vl);
void __riscv_vssseg6e32_v_i32m1x6(int32_t *rs1, ptrdiff_t rs2, vint32m1x6_t vs3,
                                  size_t vl);
void __riscv_vssseg7e32_v_i32m1x7(int32_t *rs1, ptrdiff_t rs2, vint32m1x7_t vs3,
                                  size_t vl);
void __riscv_vssseg8e32_v_i32m1x8(int32_t *rs1, ptrdiff_t rs2, vint32m1x8_t vs3,
                                  size_t vl);
void __riscv_vssseg2e32_v_i32m2x2(int32_t *rs1, ptrdiff_t rs2, vint32m2x2_t vs3,
                                  size_t vl);
void __riscv_vssseg3e32_v_i32m2x3(int32_t *rs1, ptrdiff_t rs2, vint32m2x3_t vs3,
                                  size_t vl);
void __riscv_vssseg4e32_v_i32m2x4(int32_t *rs1, ptrdiff_t rs2, vint32m2x4_t vs3,
```

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                                  size_t vl);
void __riscv_vssseg2e32_v_i32m4x2(int32_t *rs1, ptrdiff_t rs2, vint32m4x2_t vs3,
                                  size_t vl);
void __riscv_vssseg2e64_v_i64m1x2(int64_t *rs1, ptrdiff_t rs2, vint64m1x2_t vs3,
                                  size_t vl);
void __riscv_vssseg3e64_v_i64m1x3(int64_t *rs1, ptrdiff_t rs2, vint64m1x3_t vs3,
                                  size_t vl);
void __riscv_vssseg4e64_v_i64m1x4(int64_t *rs1, ptrdiff_t rs2, vint64m1x4_t vs3,
                                  size_t vl);
void __riscv_vssseg5e64_v_i64m1x5(int64_t *rs1, ptrdiff_t rs2, vint64m1x5_t vs3,
                                  size_t vl);
void __riscv_vssseg6e64_v_i64m1x6(int64_t *rs1, ptrdiff_t rs2, vint64m1x6_t vs3,
                                  size_t vl);
void __riscv_vssseg7e64_v_i64m1x7(int64_t *rs1, ptrdiff_t rs2, vint64m1x7_t vs3,
                                  size_t vl);
void __riscv_vssseg8e64_v_i64m1x8(int64_t *rs1, ptrdiff_t rs2, vint64m1x8_t vs3,
                                  size_t vl);
void __riscv_vssseg2e64_v_i64m2x2(int64_t *rs1, ptrdiff_t rs2, vint64m2x2_t vs3,
                                  size_t vl);
void __riscv_vssseg3e64_v_i64m2x3(int64_t *rs1, ptrdiff_t rs2, vint64m2x3_t vs3,
                                  size_t vl);
void __riscv_vssseg4e64_v_i64m2x4(int64_t *rs1, ptrdiff_t rs2, vint64m2x4_t vs3,
                                  size_t vl);
void __riscv_vssseg2e64_v_i64m4x2(int64_t *rs1, ptrdiff_t rs2, vint64m4x2_t vs3,
                                  size_t vl);
void __riscv_vssseg2e8_v_u8mf8x2(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x2_t vs3,
                                 size_t vl);
void __riscv_vssseg3e8_v_u8mf8x3(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x3_t vs3,
                                 size_t vl);
void __riscv_vssseg4e8_v_u8mf8x4(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x4_t vs3,
                                 size_t vl);
void __riscv_vssseg5e8_v_u8mf8x5(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x5_t vs3,
                                 size_t vl);
void __riscv_vssseg6e8_v_u8mf8x6(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x6_t vs3,
                                 size_t vl);
void __riscv_vssseg7e8_v_u8mf8x7(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x7_t vs3,
                                 size_t vl);
void __riscv_vssseg8e8_v_u8mf8x8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x8_t vs3,
                                 size_t vl);
void __riscv_vssseg2e8_v_u8mf4x2(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x2_t vs3,
                                 size_t vl);
void __riscv_vssseg3e8_v_u8mf4x3(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x3_t vs3,
                                 size_t vl);
void __riscv_vssseg4e8_v_u8mf4x4(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x4_t vs3,
                                 size_t vl);
void __riscv_vssseg5e8_v_u8mf4x5(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x5_t vs3,
                                 size_t vl);
void __riscv_vssseg6e8_v_u8mf4x6(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x6_t vs3,
                                 size_t vl);
void __riscv_vssseg7e8_v_u8mf4x7(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x7_t vs3,
                                 size_t vl);
void __riscv_vssseg8e8_v_u8mf4x8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x8_t vs3,
                                 size_t vl);
void __riscv_vssseg2e8_v_u8mf2x2(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x2_t vs3,
                                 size_t vl);
void __riscv_vssseg3e8_v_u8mf2x3(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x3_t vs3,
                                 size_t vl);
void __riscv_vssseg4e8_v_u8mf2x4(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x4_t vs3,
                                 size_t vl);
void __riscv_vssseg5e8_v_u8mf2x5(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x5_t vs3,
                                 size_t vl);
void __riscv_vssseg6e8_v_u8mf2x6(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x6_t vs3,
                                 size_t vl);
void __riscv_vssseg7e8_v_u8mf2x7(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x7_t vs3,
                                 size_t vl);
void __riscv_vssseg8e8_v_u8mf2x8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x8_t vs3,
                                 size_t vl);
```

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void __riscv_vssseg2e8_v_u8m1x2(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x2_t vs3,
                                size_t vl);
void __riscv_vssseg3e8_v_u8m1x3(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x3_t vs3,
                                size_t vl);
void __riscv_vssseg4e8_v_u8m1x4(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x4_t vs3,
                                size_t vl);
void __riscv_vssseg5e8_v_u8m1x5(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x5_t vs3,
                                size_t vl);
void __riscv_vssseg6e8_v_u8m1x6(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x6_t vs3,
                                size_t vl);
void __riscv_vssseg7e8_v_u8m1x7(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x7_t vs3,
                                size_t vl);
void __riscv_vssseg8e8_v_u8m1x8(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x8_t vs3,
                                size_t vl);
void __riscv_vssseg2e8_v_u8m2x2(uint8_t *rs1, ptrdiff_t rs2, vuint8m2x2_t vs3,
                                size_t vl);
void __riscv_vssseg3e8_v_u8m2x3(uint8_t *rs1, ptrdiff_t rs2, vuint8m2x3_t vs3,
                                size_t vl);
void __riscv_vssseg4e8_v_u8m2x4(uint8_t *rs1, ptrdiff_t rs2, vuint8m2x4_t vs3,
                                size_t vl);
void __riscv_vssseg2e8_v_u8m4x2(uint8_t *rs1, ptrdiff_t rs2, vuint8m4x2_t vs3,
                                size_t vl);
void __riscv_vssseg2e16_v_u16mf4x2(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_u16mf4x3(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_u16mf4x4(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_u16mf4x5(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_u16mf4x6(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_u16mf4x7(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_u16mf4x8(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_u16mf2x2(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_u16mf2x3(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_u16mf2x4(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_u16mf2x5(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_u16mf2x6(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_u16mf2x7(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_u16mf2x8(uint16_t *rs1, ptrdiff_t rs2,
                                   vuint16mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_u16m1x2(uint16_t *rs1, ptrdiff_t rs2,
                                  vuint16m1x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_u16m1x3(uint16_t *rs1, ptrdiff_t rs2,
                                  vuint16m1x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_u16m1x4(uint16_t *rs1, ptrdiff_t rs2,
                                  vuint16m1x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_u16m1x5(uint16_t *rs1, ptrdiff_t rs2,
                                  vuint16m1x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_u16m1x6(uint16_t *rs1, ptrdiff_t rs2,
                                  vuint16m1x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_u16m1x7(uint16_t *rs1, ptrdiff_t rs2,
                                  vuint16m1x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_u16m1x8(uint16_t *rs1, ptrdiff_t rs2,
                                  vuint16m1x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_u16m2x2(uint16_t *rs1, ptrdiff_t rs2,
                                  vuint16m2x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_u16m2x3(uint16_t *rs1, ptrdiff_t rs2,
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                                  vuint16m2x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_u16m2x4(uint16_t *rs1, ptrdiff_t rs2,
                                  vuint16m2x4_t vs3, size_t vl);
void __riscv_vssseg2e16_v_u16m4x2(uint16_t *rs1, ptrdiff_t rs2,
                                  vuint16m4x2_t vs3, size_t vl);
void __riscv_vssseg2e32_v_u32mf2x2(uint32_t *rs1, ptrdiff_t rs2,
                                   vuint32mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e32_v_u32mf2x3(uint32_t *rs1, ptrdiff_t rs2,
                                   vuint32mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e32_v_u32mf2x4(uint32_t *rs1, ptrdiff_t rs2,
                                   vuint32mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e32_v_u32mf2x5(uint32_t *rs1, ptrdiff_t rs2,
                                   vuint32mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e32_v_u32mf2x6(uint32_t *rs1, ptrdiff_t rs2,
                                   vuint32mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e32_v_u32mf2x7(uint32_t *rs1, ptrdiff_t rs2,
                                   vuint32mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e32_v_u32mf2x8(uint32_t *rs1, ptrdiff_t rs2,
                                   vuint32mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e32_v_u32m1x2(uint32_t *rs1, ptrdiff_t rs2,
                                  vuint32m1x2_t vs3, size_t vl);
void __riscv_vssseg3e32_v_u32m1x3(uint32_t *rs1, ptrdiff_t rs2,
                                  vuint32m1x3_t vs3, size_t vl);
void __riscv_vssseg4e32_v_u32m1x4(uint32_t *rs1, ptrdiff_t rs2,
                                  vuint32m1x4_t vs3, size_t vl);
void __riscv_vssseg5e32_v_u32m1x5(uint32_t *rs1, ptrdiff_t rs2,
                                  vuint32m1x5_t vs3, size_t vl);
void __riscv_vssseg6e32_v_u32m1x6(uint32_t *rs1, ptrdiff_t rs2,
                                  vuint32m1x6_t vs3, size_t vl);
void __riscv_vssseg7e32_v_u32m1x7(uint32_t *rs1, ptrdiff_t rs2,
                                  vuint32m1x7_t vs3, size_t vl);
void __riscv_vssseg8e32_v_u32m1x8(uint32_t *rs1, ptrdiff_t rs2,
                                  vuint32m1x8_t vs3, size_t vl);
void __riscv_vssseg2e32_v_u32m2x2(uint32_t *rs1, ptrdiff_t rs2,
                                  vuint32m2x2_t vs3, size_t vl);
void __riscv_vssseg3e32_v_u32m2x3(uint32_t *rs1, ptrdiff_t rs2,
                                  vuint32m2x3_t vs3, size_t vl);
void __riscv_vssseg4e32_v_u32m2x4(uint32_t *rs1, ptrdiff_t rs2,
                                  vuint32m2x4_t vs3, size_t vl);
void __riscv_vssseg2e32_v_u32m4x2(uint32_t *rs1, ptrdiff_t rs2,
                                  vuint32m4x2_t vs3, size_t vl);
void __riscv_vssseg2e64_v_u64m1x2(uint64_t *rs1, ptrdiff_t rs2,
                                  vuint64m1x2_t vs3, size_t vl);
void __riscv_vssseg3e64_v_u64m1x3(uint64_t *rs1, ptrdiff_t rs2,
                                  vuint64m1x3_t vs3, size_t vl);
void __riscv_vssseg4e64_v_u64m1x4(uint64_t *rs1, ptrdiff_t rs2,
                                  vuint64m1x4_t vs3, size_t vl);
void __riscv_vssseg5e64_v_u64m1x5(uint64_t *rs1, ptrdiff_t rs2,
                                  vuint64m1x5_t vs3, size_t vl);
void __riscv_vssseg6e64_v_u64m1x6(uint64_t *rs1, ptrdiff_t rs2,
                                  vuint64m1x6_t vs3, size_t vl);
void __riscv_vssseg7e64_v_u64m1x7(uint64_t *rs1, ptrdiff_t rs2,
                                  vuint64m1x7_t vs3, size_t vl);
void __riscv_vssseg8e64_v_u64m1x8(uint64_t *rs1, ptrdiff_t rs2,
                                  vuint64m1x8_t vs3, size_t vl);
void __riscv_vssseg2e64_v_u64m2x2(uint64_t *rs1, ptrdiff_t rs2,
                                  vuint64m2x2_t vs3, size_t vl);
void __riscv_vssseg3e64_v_u64m2x3(uint64_t *rs1, ptrdiff_t rs2,
                                  vuint64m2x3_t vs3, size_t vl);
void __riscv_vssseg4e64_v_u64m2x4(uint64_t *rs1, ptrdiff_t rs2,
                                  vuint64m2x4_t vs3, size_t vl);
void __riscv_vssseg2e64_v_u64m4x2(uint64_t *rs1, ptrdiff_t rs2,
                                  vuint64m4x2_t vs3, size_t vl);
// masked functions
void __riscv_vssseg2e16_v_f16mf4x2_m(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                     vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_f16mf4x3_m(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
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                                    vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_f16mf4x4_m(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_f16mf4x5_m(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_f16mf4x6_m(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_f16mf4x7_m(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_f16mf4x8_m(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_f16mf2x2_m(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_f16mf2x3_m(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_f16mf2x4_m(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_f16mf2x5_m(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_f16mf2x6_m(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_f16mf2x7_m(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_f16mf2x8_m(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                    vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_f16m1x2_m(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16m1x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_f16m1x3_m(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16m1x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_f16m1x4_m(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16m1x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_f16m1x5_m(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16m1x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_f16m1x6_m(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16m1x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_f16m1x7_m(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                                   vfloat16m1x7_t vs3, size_t vl);
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                                   vfloat16m1x8_t vs3, size_t vl);
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                                    vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e32_v_f32mf2x6_m(vbool64_t vm, float *rs1, ptrdiff_t rs2,
                                    vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e32_v_f32mf2x7_m(vbool64_t vm, float *rs1, ptrdiff_t rs2,
                                    vfloat32mf2x7_t vs3, size_t vl);
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                                    vfloat32mf2x8_t vs3, size_t vl);
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                                    vfloat64m1x2_t vs3, size_t vl);
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                                    vfloat64m1x4_t vs3, size_t vl);
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                                    vfloat64m1x6_t vs3, size_t vl);
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                                    vfloat64m1x7_t vs3, size_t vl);
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                                   vint8mf8x5_t vs3, size_t vl);
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                                    vint8mf2x2_t vs3, size_t vl);
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                                   vint8m2x2_t vs3, size_t vl);
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                                   vint8m2x4_t vs3, size_t vl);
void __riscv_vssseg2e8_v_i8m4x2_m(vbool2_t vm, int8_t *rs1, ptrdiff_t rs2,
                                   vint8m4x2_t vs3, size_t vl);
void __riscv_vssseg2e16_v_i16mf4x2_m(vbool64_t vm, int16_t *rs1, ptrdiff_t rs2,
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void __riscv_vssseg2e64_v_i64m1x2_m(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                                    vint64m1x2_t vs3, size_t vl);
void __riscv_vssseg3e64_v_i64m1x3_m(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                                    vint64m1x3_t vs3, size_t vl);
void __riscv_vssseg4e64_v_i64m1x4_m(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                                    vint64m1x4_t vs3, size_t vl);
void __riscv_vssseg5e64_v_i64m1x5_m(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                                    vint64m1x5_t vs3, size_t vl);
void __riscv_vssseg6e64_v_i64m1x6_m(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                                    vint64m1x6_t vs3, size_t vl);
void __riscv_vssseg7e64_v_i64m1x7_m(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                                    vint64m1x7_t vs3, size_t vl);
void __riscv_vssseg8e64_v_i64m1x8_m(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
```

```
                                    vint64m1x8_t vs3, size_t vl);
void __riscv_vssseg2e64_v_i64m2x2_m(vbool32_t vm, int64_t *rs1, ptrdiff_t rs2,
                                    vint64m2x2_t vs3, size_t vl);
void __riscv_vssseg3e64_v_i64m2x3_m(vbool32_t vm, int64_t *rs1, ptrdiff_t rs2,
                                    vint64m2x3_t vs3, size_t vl);
void __riscv_vssseg4e64_v_i64m2x4_m(vbool32_t vm, int64_t *rs1, ptrdiff_t rs2,
                                    vint64m2x4_t vs3, size_t vl);
void __riscv_vssseg2e64_v_i64m4x2_m(vbool16_t vm, int64_t *rs1, ptrdiff_t rs2,
                                    vint64m4x2_t vs3, size_t vl);
void __riscv_vssseg2e8_v_u8mf8x2_m(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf8x2_t vs3, size_t vl);
void __riscv_vssseg3e8_v_u8mf8x3_m(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf8x3_t vs3, size_t vl);
void __riscv_vssseg4e8_v_u8mf8x4_m(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf8x4_t vs3, size_t vl);
void __riscv_vssseg5e8_v_u8mf8x5_m(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf8x5_t vs3, size_t vl);
void __riscv_vssseg6e8_v_u8mf8x6_m(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf8x6_t vs3, size_t vl);
void __riscv_vssseg7e8_v_u8mf8x7_m(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf8x7_t vs3, size_t vl);
void __riscv_vssseg8e8_v_u8mf8x8_m(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf8x8_t vs3, size_t vl);
void __riscv_vssseg2e8_v_u8mf4x2_m(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e8_v_u8mf4x3_m(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e8_v_u8mf4x4_m(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e8_v_u8mf4x5_m(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e8_v_u8mf4x6_m(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e8_v_u8mf4x7_m(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e8_v_u8mf4x8_m(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e8_v_u8mf2x2_m(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e8_v_u8mf2x3_m(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e8_v_u8mf2x4_m(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e8_v_u8mf2x5_m(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e8_v_u8mf2x6_m(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e8_v_u8mf2x7_m(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e8_v_u8mf2x8_m(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                   vuint8mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e8_v_u8m1x2_m(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                  vuint8m1x2_t vs3, size_t vl);
void __riscv_vssseg3e8_v_u8m1x3_m(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                  vuint8m1x3_t vs3, size_t vl);
void __riscv_vssseg4e8_v_u8m1x4_m(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                  vuint8m1x4_t vs3, size_t vl);
void __riscv_vssseg5e8_v_u8m1x5_m(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                  vuint8m1x5_t vs3, size_t vl);
void __riscv_vssseg6e8_v_u8m1x6_m(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                  vuint8m1x6_t vs3, size_t vl);
void __riscv_vssseg7e8_v_u8m1x7_m(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                  vuint8m1x7_t vs3, size_t vl);
void __riscv_vssseg8e8_v_u8m1x8_m(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                  vuint8m1x8_t vs3, size_t vl);
void __riscv_vssseg2e8_v_u8m2x2_m(vbool4_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                  vuint8m2x2_t vs3, size_t vl);
```

```
void __riscv_vssseg3e8_v_u8m2x3_m(vbool4_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                  vuint8m2x3_t vs3, size_t vl);
void __riscv_vssseg4e8_v_u8m2x4_m(vbool4_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                  vuint8m2x4_t vs3, size_t vl);
void __riscv_vssseg2e8_v_u8m4x2_m(vbool2_t vm, uint8_t *rs1, ptrdiff_t rs2,
                                  vuint8m4x2_t vs3, size_t vl);
void __riscv_vssseg2e16_v_u16mf4x2_m(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_u16mf4x3_m(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_u16mf4x4_m(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_u16mf4x5_m(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_u16mf4x6_m(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_u16mf4x7_m(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_u16mf4x8_m(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_u16mf2x2_m(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_u16mf2x3_m(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_u16mf2x4_m(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_u16mf2x5_m(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_u16mf2x6_m(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_u16mf2x7_m(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_u16mf2x8_m(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                     vuint16mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_u16m1x2_m(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                    vuint16m1x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_u16m1x3_m(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                    vuint16m1x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_u16m1x4_m(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                    vuint16m1x4_t vs3, size_t vl);
void __riscv_vssseg5e16_v_u16m1x5_m(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                    vuint16m1x5_t vs3, size_t vl);
void __riscv_vssseg6e16_v_u16m1x6_m(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                    vuint16m1x6_t vs3, size_t vl);
void __riscv_vssseg7e16_v_u16m1x7_m(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                    vuint16m1x7_t vs3, size_t vl);
void __riscv_vssseg8e16_v_u16m1x8_m(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                    vuint16m1x8_t vs3, size_t vl);
void __riscv_vssseg2e16_v_u16m2x2_m(vbool8_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                    vuint16m2x2_t vs3, size_t vl);
void __riscv_vssseg3e16_v_u16m2x3_m(vbool8_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                    vuint16m2x3_t vs3, size_t vl);
void __riscv_vssseg4e16_v_u16m2x4_m(vbool8_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                    vuint16m2x4_t vs3, size_t vl);
void __riscv_vssseg2e16_v_u16m4x2_m(vbool4_t vm, uint16_t *rs1, ptrdiff_t rs2,
                                    vuint16m4x2_t vs3, size_t vl);
void __riscv_vssseg2e32_v_u32mf2x2_m(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                     vuint32mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e32_v_u32mf2x3_m(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                     vuint32mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e32_v_u32mf2x4_m(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                     vuint32mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e32_v_u32mf2x5_m(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                     vuint32mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e32_v_u32mf2x6_m(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                     vuint32mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e32_v_u32mf2x7_m(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
```

```
                                     vuint32mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e32_v_u32mf2x8_m(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                     vuint32mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e32_v_u32m1x2_m(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                    vuint32m1x2_t vs3, size_t vl);
void __riscv_vssseg3e32_v_u32m1x3_m(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                    vuint32m1x3_t vs3, size_t vl);
void __riscv_vssseg4e32_v_u32m1x4_m(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                    vuint32m1x4_t vs3, size_t vl);
void __riscv_vssseg5e32_v_u32m1x5_m(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                    vuint32m1x5_t vs3, size_t vl);
void __riscv_vssseg6e32_v_u32m1x6_m(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                    vuint32m1x6_t vs3, size_t vl);
void __riscv_vssseg7e32_v_u32m1x7_m(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                    vuint32m1x7_t vs3, size_t vl);
void __riscv_vssseg8e32_v_u32m1x8_m(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                    vuint32m1x8_t vs3, size_t vl);
void __riscv_vssseg2e32_v_u32m2x2_m(vbool16_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                    vuint32m2x2_t vs3, size_t vl);
void __riscv_vssseg3e32_v_u32m2x3_m(vbool16_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                    vuint32m2x3_t vs3, size_t vl);
void __riscv_vssseg4e32_v_u32m2x4_m(vbool16_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                    vuint32m2x4_t vs3, size_t vl);
void __riscv_vssseg2e32_v_u32m4x2_m(vbool8_t vm, uint32_t *rs1, ptrdiff_t rs2,
                                    vuint32m4x2_t vs3, size_t vl);
void __riscv_vssseg2e64_v_u64m1x2_m(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                    vuint64m1x2_t vs3, size_t vl);
void __riscv_vssseg3e64_v_u64m1x3_m(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                    vuint64m1x3_t vs3, size_t vl);
void __riscv_vssseg4e64_v_u64m1x4_m(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                    vuint64m1x4_t vs3, size_t vl);
void __riscv_vssseg5e64_v_u64m1x5_m(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                    vuint64m1x5_t vs3, size_t vl);
void __riscv_vssseg6e64_v_u64m1x6_m(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                    vuint64m1x6_t vs3, size_t vl);
void __riscv_vssseg7e64_v_u64m1x7_m(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                    vuint64m1x7_t vs3, size_t vl);
void __riscv_vssseg8e64_v_u64m1x8_m(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                    vuint64m1x8_t vs3, size_t vl);
void __riscv_vssseg2e64_v_u64m2x2_m(vbool32_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                    vuint64m2x2_t vs3, size_t vl);
void __riscv_vssseg3e64_v_u64m2x3_m(vbool32_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                    vuint64m2x3_t vs3, size_t vl);
void __riscv_vssseg4e64_v_u64m2x4_m(vbool32_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                    vuint64m2x4_t vs3, size_t vl);
void __riscv_vssseg2e64_v_u64m4x2_m(vbool16_t vm, uint64_t *rs1, ptrdiff_t rs2,
                                    vuint64m4x2_t vs3, size_t vl);
```

A.2.5. Vector Indexed Segment Load Intrinsics

```
vfloat16mf4x2_t __riscv_vloxseg2ei8_v_f16mf4x2(const _Float16 *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei8_v_f16mf4x3(const _Float16 *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei8_v_f16mf4x4(const _Float16 *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8_v_f16mf4x5(const _Float16 *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8_v_f16mf4x6(const _Float16 *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8_v_f16mf4x7(const _Float16 *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8_v_f16mf4x8(const _Float16 *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8_v_f16mf2x2(const _Float16 *rs1,
```

```
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8_v_f16mf2x3(const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8_v_f16mf2x4(const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8_v_f16mf2x5(const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8_v_f16mf2x6(const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8_v_f16mf2x7(const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8_v_f16mf2x8(const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8_v_f16m1x2(const _Float16 *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8_v_f16m1x3(const _Float16 *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8_v_f16m1x4(const _Float16 *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8_v_f16m1x5(const _Float16 *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8_v_f16m1x6(const _Float16 *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei8_v_f16m1x7(const _Float16 *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8_v_f16m1x8(const _Float16 *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8_v_f16m2x2(const _Float16 *rs1,
                                             vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8_v_f16m2x3(const _Float16 *rs1,
                                             vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8_v_f16m2x4(const _Float16 *rs1,
                                             vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8_v_f16m4x2(const _Float16 *rs1,
                                             vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16_v_f16mf4x2(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16_v_f16mf4x3(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16_v_f16mf4x4(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16_v_f16mf4x5(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16_v_f16mf4x6(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16_v_f16mf4x7(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16_v_f16mf4x8(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16_v_f16mf2x2(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16_v_f16mf2x3(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16_v_f16mf2x4(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16_v_f16mf2x5(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei16_v_f16mf2x6(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16_v_f16mf2x7(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16_v_f16mf2x8(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei16_v_f16m1x2(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16_v_f16m1x3(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
```

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vfloat16m1x4_t __riscv_vloxseg4ei16_v_f16m1x4(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16_v_f16m1x5(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16_v_f16m1x6(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16_v_f16m1x7(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16_v_f16m1x8(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16_v_f16m2x2(const _Float16 *rs1,
                                              vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16_v_f16m2x3(const _Float16 *rs1,
                                              vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16_v_f16m2x4(const _Float16 *rs1,
                                              vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16_v_f16m4x2(const _Float16 *rs1,
                                              vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei32_v_f16mf4x2(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32_v_f16mf4x3(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32_v_f16mf4x4(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32_v_f16mf4x5(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32_v_f16mf4x6(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32_v_f16mf4x7(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32_v_f16mf4x8(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32_v_f16mf2x2(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32_v_f16mf2x3(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32_v_f16mf2x4(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32_v_f16mf2x5(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32_v_f16mf2x6(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32_v_f16mf2x7(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32_v_f16mf2x8(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32_v_f16m1x2(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32_v_f16m1x3(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei32_v_f16m1x4(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32_v_f16m1x5(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei32_v_f16m1x6(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei32_v_f16m1x7(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32_v_f16m1x8(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32_v_f16m2x2(const _Float16 *rs1,
                                              vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32_v_f16m2x3(const _Float16 *rs1,
                                              vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32_v_f16m2x4(const _Float16 *rs1,
                                              vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32_v_f16m4x2(const _Float16 *rs1,
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                                                vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64_v_f16mf4x2(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei64_v_f16mf4x3(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64_v_f16mf4x4(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64_v_f16mf4x5(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64_v_f16mf4x6(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64_v_f16mf4x7(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64_v_f16mf4x8(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64_v_f16mf2x2(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64_v_f16mf2x3(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64_v_f16mf2x4(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64_v_f16mf2x5(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei64_v_f16mf2x6(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64_v_f16mf2x7(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64_v_f16mf2x8(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64_v_f16m1x2(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64_v_f16m1x3(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei64_v_f16m1x4(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64_v_f16m1x5(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64_v_f16m1x6(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64_v_f16m1x7(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64_v_f16m1x8(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64_v_f16m2x2(const _Float16 *rs1,
                                              vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64_v_f16m2x3(const _Float16 *rs1,
                                              vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64_v_f16m2x4(const _Float16 *rs1,
                                              vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8_v_f32mf2x2(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8_v_f32mf2x3(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8_v_f32mf2x4(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8_v_f32mf2x5(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei8_v_f32mf2x6(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8_v_f32mf2x7(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8_v_f32mf2x8(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei8_v_f32m1x2(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8_v_f32m1x3(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
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vfloat32m1x4_t __riscv_vloxseg4ei8_v_f32m1x4(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8_v_f32m1x5(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8_v_f32m1x6(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8_v_f32m1x7(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8_v_f32m1x8(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8_v_f32m2x2(const float *rs1, vuint8mf2_t rs2,
                                             size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8_v_f32m2x3(const float *rs1, vuint8mf2_t rs2,
                                             size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8_v_f32m2x4(const float *rs1, vuint8mf2_t rs2,
                                             size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8_v_f32m4x2(const float *rs1, vuint8m1_t rs2,
                                             size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei16_v_f32mf2x2(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16_v_f32mf2x3(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16_v_f32mf2x4(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16_v_f32mf2x5(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16_v_f32mf2x6(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16_v_f32mf2x7(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16_v_f32mf2x8(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16_v_f32m1x2(const float *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16_v_f32m1x3(const float *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16_v_f32m1x4(const float *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16_v_f32m1x5(const float *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16_v_f32m1x6(const float *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16_v_f32m1x7(const float *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16_v_f32m1x8(const float *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16_v_f32m2x2(const float *rs1, vuint16m1_t rs2,
                                              size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16_v_f32m2x3(const float *rs1, vuint16m1_t rs2,
                                              size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei16_v_f32m2x4(const float *rs1, vuint16m1_t rs2,
                                              size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16_v_f32m4x2(const float *rs1, vuint16m2_t rs2,
                                              size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei32_v_f32mf2x2(const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei32_v_f32mf2x3(const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei32_v_f32mf2x4(const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32_v_f32mf2x5(const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32_v_f32mf2x6(const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32_v_f32mf2x7(const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32_v_f32mf2x8(const float *rs1,
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                                                vuint32mf2_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32_v_f32m1x2(const float *rs1, vuint32m1_t rs2,
                                              size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32_v_f32m1x3(const float *rs1, vuint32m1_t rs2,
                                              size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32_v_f32m1x4(const float *rs1, vuint32m1_t rs2,
                                              size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32_v_f32m1x5(const float *rs1, vuint32m1_t rs2,
                                              size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32_v_f32m1x6(const float *rs1, vuint32m1_t rs2,
                                              size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei32_v_f32m1x7(const float *rs1, vuint32m1_t rs2,
                                              size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32_v_f32m1x8(const float *rs1, vuint32m1_t rs2,
                                              size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32_v_f32m2x2(const float *rs1, vuint32m2_t rs2,
                                              size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32_v_f32m2x3(const float *rs1, vuint32m2_t rs2,
                                              size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32_v_f32m2x4(const float *rs1, vuint32m2_t rs2,
                                              size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32_v_f32m4x2(const float *rs1, vuint32m4_t rs2,
                                              size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei64_v_f32mf2x2(const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64_v_f32mf2x3(const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64_v_f32mf2x4(const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64_v_f32mf2x5(const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64_v_f32mf2x6(const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64_v_f32mf2x7(const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64_v_f32mf2x8(const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64_v_f32m1x2(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64_v_f32m1x3(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64_v_f32m1x4(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64_v_f32m1x5(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64_v_f32m1x6(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64_v_f32m1x7(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64_v_f32m1x8(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64_v_f32m2x2(const float *rs1, vuint64m4_t rs2,
                                              size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64_v_f32m2x3(const float *rs1, vuint64m4_t rs2,
                                              size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64_v_f32m2x4(const float *rs1, vuint64m4_t rs2,
                                              size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64_v_f32m4x2(const float *rs1, vuint64m8_t rs2,
                                              size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8_v_f64m1x2(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8_v_f64m1x3(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei8_v_f64m1x4(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8_v_f64m1x5(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
```

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vfloat64m1x6_t __riscv_vloxseg6ei8_v_f64m1x6(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8_v_f64m1x7(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei8_v_f64m1x8(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8_v_f64m2x2(const double *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8_v_f64m2x3(const double *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8_v_f64m2x4(const double *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8_v_f64m4x2(const double *rs1, vuint8mf2_t rs2,
                                             size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei16_v_f64m1x2(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16_v_f64m1x3(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei16_v_f64m1x4(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16_v_f64m1x5(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16_v_f64m1x6(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16_v_f64m1x7(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16_v_f64m1x8(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16_v_f64m2x2(const double *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16_v_f64m2x3(const double *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16_v_f64m2x4(const double *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16_v_f64m4x2(const double *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32_v_f64m1x2(const double *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32_v_f64m1x3(const double *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32_v_f64m1x4(const double *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32_v_f64m1x5(const double *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32_v_f64m1x6(const double *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32_v_f64m1x7(const double *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32_v_f64m1x8(const double *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei32_v_f64m2x2(const double *rs1,
                                              vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32_v_f64m2x3(const double *rs1,
                                              vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei32_v_f64m2x4(const double *rs1,
                                              vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei32_v_f64m4x2(const double *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei64_v_f64m1x2(const double *rs1,
                                              vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64_v_f64m1x3(const double *rs1,
                                              vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64_v_f64m1x4(const double *rs1,
                                              vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64_v_f64m1x5(const double *rs1,
                                              vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64_v_f64m1x6(const double *rs1,
```

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                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64_v_f64m1x7(const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64_v_f64m1x8(const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64_v_f64m2x2(const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64_v_f64m2x3(const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64_v_f64m2x4(const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64_v_f64m4x2(const double *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8_v_f16mf4x2(const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8_v_f16mf4x3(const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei8_v_f16mf4x4(const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8_v_f16mf4x5(const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8_v_f16mf4x6(const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei8_v_f16mf4x7(const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8_v_f16mf4x8(const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8_v_f16mf2x2(const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8_v_f16mf2x3(const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8_v_f16mf2x4(const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8_v_f16mf2x5(const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8_v_f16mf2x6(const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8_v_f16mf2x7(const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8_v_f16mf2x8(const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8_v_f16m1x2(const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8_v_f16m1x3(const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8_v_f16m1x4(const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8_v_f16m1x5(const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8_v_f16m1x6(const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8_v_f16m1x7(const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8_v_f16m1x8(const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8_v_f16m2x2(const _Float16 *rs1,
                                               vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8_v_f16m2x3(const _Float16 *rs1,
                                               vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8_v_f16m2x4(const _Float16 *rs1,
                                               vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8_v_f16m4x2(const _Float16 *rs1,
                                               vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei16_v_f16mf4x2(const _Float16 *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16_v_f16mf4x3(const _Float16 *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
```

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vfloat16mf4x4_t __riscv_vluxseg4ei16_v_f16mf4x4(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16_v_f16mf4x5(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16_v_f16mf4x6(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16_v_f16mf4x7(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16_v_f16mf4x8(const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16_v_f16mf2x2(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei16_v_f16mf2x3(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16_v_f16mf2x4(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16_v_f16mf2x5(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei16_v_f16mf2x6(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16_v_f16mf2x7(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16_v_f16mf2x8(const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16_v_f16m1x2(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16_v_f16m1x3(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16_v_f16m1x4(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16_v_f16m1x5(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei16_v_f16m1x6(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16_v_f16m1x7(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16_v_f16m1x8(const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16_v_f16m2x2(const _Float16 *rs1,
                                              vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16_v_f16m2x3(const _Float16 *rs1,
                                              vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16_v_f16m2x4(const _Float16 *rs1,
                                              vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16_v_f16m4x2(const _Float16 *rs1,
                                              vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32_v_f16mf4x2(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32_v_f16mf4x3(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei32_v_f16mf4x4(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32_v_f16mf4x5(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei32_v_f16mf4x6(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei32_v_f16mf4x7(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei32_v_f16mf4x8(const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32_v_f16mf2x2(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32_v_f16mf2x3(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32_v_f16mf2x4(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32_v_f16mf2x5(const _Float16 *rs1,
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                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32_v_f16mf2x6(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32_v_f16mf2x7(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32_v_f16mf2x8(const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32_v_f16m1x2(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32_v_f16m1x3(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32_v_f16m1x4(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32_v_f16m1x5(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32_v_f16m1x6(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32_v_f16m1x7(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32_v_f16m1x8(const _Float16 *rs1,
                                              vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32_v_f16m2x2(const _Float16 *rs1,
                                              vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei32_v_f16m2x3(const _Float16 *rs1,
                                              vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32_v_f16m2x4(const _Float16 *rs1,
                                              vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32_v_f16m4x2(const _Float16 *rs1,
                                              vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64_v_f16mf4x2(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64_v_f16mf4x3(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64_v_f16mf4x4(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64_v_f16mf4x5(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64_v_f16mf4x6(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei64_v_f16mf4x7(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64_v_f16mf4x8(const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64_v_f16mf2x2(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64_v_f16mf2x3(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64_v_f16mf2x4(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64_v_f16mf2x5(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64_v_f16mf2x6(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64_v_f16mf2x7(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64_v_f16mf2x8(const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64_v_f16m1x2(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64_v_f16m1x3(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64_v_f16m1x4(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei64_v_f16m1x5(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64_v_f16m1x6(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
```

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vfloat16m1x7_t __riscv_vluxseg7ei64_v_f16m1x7(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64_v_f16m1x8(const _Float16 *rs1,
                                              vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64_v_f16m2x2(const _Float16 *rs1,
                                              vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64_v_f16m2x3(const _Float16 *rs1,
                                              vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64_v_f16m2x4(const _Float16 *rs1,
                                              vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8_v_f32mf2x2(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8_v_f32mf2x3(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8_v_f32mf2x4(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8_v_f32mf2x5(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei8_v_f32mf2x6(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8_v_f32mf2x7(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8_v_f32mf2x8(const float *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8_v_f32m1x2(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8_v_f32m1x3(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8_v_f32m1x4(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8_v_f32m1x5(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8_v_f32m1x6(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8_v_f32m1x7(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8_v_f32m1x8(const float *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8_v_f32m2x2(const float *rs1, vuint8mf2_t rs2,
                                             size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8_v_f32m2x3(const float *rs1, vuint8mf2_t rs2,
                                             size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8_v_f32m2x4(const float *rs1, vuint8mf2_t rs2,
                                             size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8_v_f32m4x2(const float *rs1, vuint8m1_t rs2,
                                             size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16_v_f32mf2x2(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16_v_f32mf2x3(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei16_v_f32mf2x4(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16_v_f32mf2x5(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei16_v_f32mf2x6(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei16_v_f32mf2x7(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16_v_f32mf2x8(const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16_v_f32m1x2(const float *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16_v_f32m1x3(const float *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16_v_f32m1x4(const float *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16_v_f32m1x5(const float *rs1,
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                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16_v_f32m1x6(const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16_v_f32m1x7(const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16_v_f32m1x8(const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16_v_f32m2x2(const float *rs1, vuint16m1_t rs2,
                                                size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16_v_f32m2x3(const float *rs1, vuint16m1_t rs2,
                                                size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16_v_f32m2x4(const float *rs1, vuint16m1_t rs2,
                                                size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16_v_f32m4x2(const float *rs1, vuint16m2_t rs2,
                                                size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32_v_f32mf2x2(const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32_v_f32mf2x3(const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32_v_f32mf2x4(const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32_v_f32mf2x5(const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei32_v_f32mf2x6(const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32_v_f32mf2x7(const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32_v_f32mf2x8(const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei32_v_f32m1x2(const float *rs1, vuint32m1_t rs2,
                                                size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32_v_f32m1x3(const float *rs1, vuint32m1_t rs2,
                                                size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32_v_f32m1x4(const float *rs1, vuint32m1_t rs2,
                                                size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32_v_f32m1x5(const float *rs1, vuint32m1_t rs2,
                                                size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32_v_f32m1x6(const float *rs1, vuint32m1_t rs2,
                                                size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32_v_f32m1x7(const float *rs1, vuint32m1_t rs2,
                                                size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32_v_f32m1x8(const float *rs1, vuint32m1_t rs2,
                                                size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32_v_f32m2x2(const float *rs1, vuint32m2_t rs2,
                                                size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32_v_f32m2x3(const float *rs1, vuint32m2_t rs2,
                                                size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32_v_f32m2x4(const float *rs1, vuint32m2_t rs2,
                                                size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32_v_f32m4x2(const float *rs1, vuint32m4_t rs2,
                                                size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64_v_f32mf2x2(const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64_v_f32mf2x3(const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64_v_f32mf2x4(const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64_v_f32mf2x5(const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei64_v_f32mf2x6(const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64_v_f32mf2x7(const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei64_v_f32mf2x8(const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64_v_f32m1x2(const float *rs1, vuint64m2_t rs2,
                                                size_t vl);
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vfloat32m1x3_t __riscv_vluxseg3ei64_v_f32m1x3(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64_v_f32m1x4(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64_v_f32m1x5(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64_v_f32m1x6(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64_v_f32m1x7(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64_v_f32m1x8(const float *rs1, vuint64m2_t rs2,
                                              size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64_v_f32m2x2(const float *rs1, vuint64m4_t rs2,
                                              size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64_v_f32m2x3(const float *rs1, vuint64m4_t rs2,
                                              size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei64_v_f32m2x4(const float *rs1, vuint64m4_t rs2,
                                              size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei64_v_f32m4x2(const float *rs1, vuint64m8_t rs2,
                                              size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8_v_f64m1x2(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei8_v_f64m1x3(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8_v_f64m1x4(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8_v_f64m1x5(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8_v_f64m1x6(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8_v_f64m1x7(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8_v_f64m1x8(const double *rs1, vuint8mf8_t rs2,
                                             size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8_v_f64m2x2(const double *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8_v_f64m2x3(const double *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8_v_f64m2x4(const double *rs1, vuint8mf4_t rs2,
                                             size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei8_v_f64m4x2(const double *rs1, vuint8mf2_t rs2,
                                             size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16_v_f64m1x2(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16_v_f64m1x3(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16_v_f64m1x4(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16_v_f64m1x5(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei16_v_f64m1x6(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16_v_f64m1x7(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei16_v_f64m1x8(const double *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei16_v_f64m2x2(const double *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16_v_f64m2x3(const double *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16_v_f64m2x4(const double *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16_v_f64m4x2(const double *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32_v_f64m1x2(const double *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei32_v_f64m1x3(const double *rs1,
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                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32_v_f64m1x4(const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32_v_f64m1x5(const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32_v_f64m1x6(const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei32_v_f64m1x7(const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32_v_f64m1x8(const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32_v_f64m2x2(const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32_v_f64m2x3(const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32_v_f64m2x4(const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32_v_f64m4x2(const double *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64_v_f64m1x2(const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64_v_f64m1x3(const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei64_v_f64m1x4(const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64_v_f64m1x5(const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64_v_f64m1x6(const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64_v_f64m1x7(const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64_v_f64m1x8(const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64_v_f64m2x2(const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64_v_f64m2x3(const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64_v_f64m2x4(const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64_v_f64m4x2(const double *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8_v_i8mf8x2(const int8_t *rs1, vuint8mf8_t rs2,
                                            size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8_v_i8mf8x3(const int8_t *rs1, vuint8mf8_t rs2,
                                            size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8_v_i8mf8x4(const int8_t *rs1, vuint8mf8_t rs2,
                                            size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8_v_i8mf8x5(const int8_t *rs1, vuint8mf8_t rs2,
                                            size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8_v_i8mf8x6(const int8_t *rs1, vuint8mf8_t rs2,
                                            size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8_v_i8mf8x7(const int8_t *rs1, vuint8mf8_t rs2,
                                            size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8_v_i8mf8x8(const int8_t *rs1, vuint8mf8_t rs2,
                                            size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8_v_i8mf4x2(const int8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8_v_i8mf4x3(const int8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8_v_i8mf4x4(const int8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8_v_i8mf4x5(const int8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei8_v_i8mf4x6(const int8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8_v_i8mf4x7(const int8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
```

```
vint8mf4x8_t __riscv_vloxseg8ei8_v_i8mf4x8(const int8_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8_v_i8mf2x2(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8_v_i8mf2x3(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8_v_i8mf2x4(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8_v_i8mf2x5(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei8_v_i8mf2x6(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8_v_i8mf2x7(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8_v_i8mf2x8(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8_v_i8m1x2(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x3_t __riscv_vloxseg3ei8_v_i8m1x3(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8_v_i8m1x4(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x5_t __riscv_vloxseg5ei8_v_i8m1x5(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8_v_i8m1x6(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8_v_i8m1x7(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8_v_i8m1x8(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m2x2_t __riscv_vloxseg2ei8_v_i8m2x2(const int8_t *rs1, vuint8m2_t rs2,
                                         size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8_v_i8m2x3(const int8_t *rs1, vuint8m2_t rs2,
                                         size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8_v_i8m2x4(const int8_t *rs1, vuint8m2_t rs2,
                                         size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8_v_i8m4x2(const int8_t *rs1, vuint8m4_t rs2,
                                         size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16_v_i8mf8x2(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16_v_i8mf8x3(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16_v_i8mf8x4(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16_v_i8mf8x5(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16_v_i8mf8x6(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16_v_i8mf8x7(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16_v_i8mf8x8(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei16_v_i8mf4x2(const int8_t *rs1, vuint16mf2_t rs2,
                                            size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei16_v_i8mf4x3(const int8_t *rs1, vuint16mf2_t rs2,
                                            size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei16_v_i8mf4x4(const int8_t *rs1, vuint16mf2_t rs2,
                                            size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei16_v_i8mf4x5(const int8_t *rs1, vuint16mf2_t rs2,
                                            size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei16_v_i8mf4x6(const int8_t *rs1, vuint16mf2_t rs2,
                                            size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16_v_i8mf4x7(const int8_t *rs1, vuint16mf2_t rs2,
                                            size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16_v_i8mf4x8(const int8_t *rs1, vuint16mf2_t rs2,
                                            size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16_v_i8mf2x2(const int8_t *rs1, vuint16m1_t rs2,
```

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                                          size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16_v_i8mf2x3(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei16_v_i8mf2x4(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16_v_i8mf2x5(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei16_v_i8mf2x6(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16_v_i8mf2x7(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei16_v_i8mf2x8(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16_v_i8m1x2(const int8_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16_v_i8m1x3(const int8_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16_v_i8m1x4(const int8_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16_v_i8m1x5(const int8_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16_v_i8m1x6(const int8_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vint8m1x7_t __riscv_vloxseg7ei16_v_i8m1x7(const int8_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16_v_i8m1x8(const int8_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16_v_i8m2x2(const int8_t *rs1, vuint16m4_t rs2,
                                         size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16_v_i8m2x3(const int8_t *rs1, vuint16m4_t rs2,
                                         size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16_v_i8m2x4(const int8_t *rs1, vuint16m4_t rs2,
                                         size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16_v_i8m4x2(const int8_t *rs1, vuint16m8_t rs2,
                                         size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei32_v_i8mf8x2(const int8_t *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32_v_i8mf8x3(const int8_t *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32_v_i8mf8x4(const int8_t *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32_v_i8mf8x5(const int8_t *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32_v_i8mf8x6(const int8_t *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32_v_i8mf8x7(const int8_t *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32_v_i8mf8x8(const int8_t *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32_v_i8mf4x2(const int8_t *rs1, vuint32m1_t rs2,
                                           size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32_v_i8mf4x3(const int8_t *rs1, vuint32m1_t rs2,
                                           size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32_v_i8mf4x4(const int8_t *rs1, vuint32m1_t rs2,
                                           size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32_v_i8mf4x5(const int8_t *rs1, vuint32m1_t rs2,
                                           size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei32_v_i8mf4x6(const int8_t *rs1, vuint32m1_t rs2,
                                           size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei32_v_i8mf4x7(const int8_t *rs1, vuint32m1_t rs2,
                                           size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32_v_i8mf4x8(const int8_t *rs1, vuint32m1_t rs2,
                                           size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei32_v_i8mf2x2(const int8_t *rs1, vuint32m2_t rs2,
                                           size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32_v_i8mf2x3(const int8_t *rs1, vuint32m2_t rs2,
                                           size_t vl);
```

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vint8mf2x4_t __riscv_vloxseg4ei32_v_i8mf2x4(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32_v_i8mf2x5(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32_v_i8mf2x6(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32_v_i8mf2x7(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei32_v_i8mf2x8(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32_v_i8m1x2(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x3_t __riscv_vloxseg3ei32_v_i8m1x3(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32_v_i8m1x4(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x5_t __riscv_vloxseg5ei32_v_i8m1x5(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x6_t __riscv_vloxseg6ei32_v_i8m1x6(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32_v_i8m1x7(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x8_t __riscv_vloxseg8ei32_v_i8m1x8(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32_v_i8m2x2(const int8_t *rs1, vuint32m8_t rs2,
                                          size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32_v_i8m2x3(const int8_t *rs1, vuint32m8_t rs2,
                                          size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32_v_i8m2x4(const int8_t *rs1, vuint32m8_t rs2,
                                          size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei64_v_i8mf8x2(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64_v_i8mf8x3(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64_v_i8mf8x4(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64_v_i8mf8x5(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64_v_i8mf8x6(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64_v_i8mf8x7(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64_v_i8mf8x8(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64_v_i8mf4x2(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64_v_i8mf4x3(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei64_v_i8mf4x4(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei64_v_i8mf4x5(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei64_v_i8mf4x6(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei64_v_i8mf4x7(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei64_v_i8mf4x8(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei64_v_i8mf2x2(const int8_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei64_v_i8mf2x3(const int8_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei64_v_i8mf2x4(const int8_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei64_v_i8mf2x5(const int8_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei64_v_i8mf2x6(const int8_t *rs1, vuint64m4_t rs2,
```

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                                            size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei64_v_i8mf2x7(const int8_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei64_v_i8mf2x8(const int8_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64_v_i8m1x2(const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64_v_i8m1x3(const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x4_t __riscv_vloxseg4ei64_v_i8m1x4(const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x5_t __riscv_vloxseg5ei64_v_i8m1x5(const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x6_t __riscv_vloxseg6ei64_v_i8m1x6(const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64_v_i8m1x7(const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64_v_i8m1x8(const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8_v_i16mf4x2(const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8_v_i16mf4x3(const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei8_v_i16mf4x4(const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8_v_i16mf4x5(const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8_v_i16mf4x6(const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8_v_i16mf4x7(const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8_v_i16mf4x8(const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8_v_i16mf2x2(const int16_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8_v_i16mf2x3(const int16_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8_v_i16mf2x4(const int16_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8_v_i16mf2x5(const int16_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8_v_i16mf2x6(const int16_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8_v_i16mf2x7(const int16_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8_v_i16mf2x8(const int16_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8_v_i16m1x2(const int16_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8_v_i16m1x3(const int16_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8_v_i16m1x4(const int16_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8_v_i16m1x5(const int16_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8_v_i16m1x6(const int16_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8_v_i16m1x7(const int16_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8_v_i16m1x8(const int16_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8_v_i16m2x2(const int16_t *rs1, vuint8m1_t rs2,
                                           size_t vl);
vint16m2x3_t __riscv_vloxseg3ei8_v_i16m2x3(const int16_t *rs1, vuint8m1_t rs2,
                                           size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8_v_i16m2x4(const int16_t *rs1, vuint8m1_t rs2,
                                           size_t vl);
```

```
vint16m4x2_t __riscv_vloxseg2ei8_v_i16m4x2(const int16_t *rs1, vuint8m2_t rs2,
                                           size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16_v_i16mf4x2(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16_v_i16mf4x3(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei16_v_i16mf4x4(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16_v_i16mf4x5(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16_v_i16mf4x6(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16_v_i16mf4x7(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16_v_i16mf4x8(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei16_v_i16mf2x2(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei16_v_i16mf2x3(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16_v_i16mf2x4(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16_v_i16mf2x5(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16_v_i16mf2x6(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16_v_i16mf2x7(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16_v_i16mf2x8(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16_v_i16m1x2(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16_v_i16m1x3(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16_v_i16m1x4(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16_v_i16m1x5(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16_v_i16m1x6(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16_v_i16m1x7(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16_v_i16m1x8(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16_v_i16m2x2(const int16_t *rs1, vuint16m2_t rs2,
                                            size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16_v_i16m2x3(const int16_t *rs1, vuint16m2_t rs2,
                                            size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16_v_i16m2x4(const int16_t *rs1, vuint16m2_t rs2,
                                            size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16_v_i16m4x2(const int16_t *rs1, vuint16m4_t rs2,
                                            size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32_v_i16mf4x2(const int16_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei32_v_i16mf4x3(const int16_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei32_v_i16mf4x4(const int16_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32_v_i16mf4x5(const int16_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32_v_i16mf4x6(const int16_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32_v_i16mf4x7(const int16_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32_v_i16mf4x8(const int16_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32_v_i16mf2x2(const int16_t *rs1,
```

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                                                vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32_v_i16mf2x3(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32_v_i16mf2x4(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32_v_i16mf2x5(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32_v_i16mf2x6(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei32_v_i16mf2x7(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32_v_i16mf2x8(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32_v_i16m1x2(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32_v_i16m1x3(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32_v_i16m1x4(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32_v_i16m1x5(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32_v_i16m1x6(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x7_t __riscv_vloxseg7ei32_v_i16m1x7(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32_v_i16m1x8(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32_v_i16m2x2(const int16_t *rs1, vuint32m4_t rs2,
                                            size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32_v_i16m2x3(const int16_t *rs1, vuint32m4_t rs2,
                                            size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32_v_i16m2x4(const int16_t *rs1, vuint32m4_t rs2,
                                            size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32_v_i16m4x2(const int16_t *rs1, vuint32m8_t rs2,
                                            size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64_v_i16mf4x2(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64_v_i16mf4x3(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64_v_i16mf4x4(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64_v_i16mf4x5(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64_v_i16mf4x6(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64_v_i16mf4x7(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64_v_i16mf4x8(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64_v_i16mf2x2(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64_v_i16mf2x3(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64_v_i16mf2x4(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64_v_i16mf2x5(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64_v_i16mf2x6(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64_v_i16mf2x7(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64_v_i16mf2x8(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei64_v_i16m1x2(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64_v_i16m1x3(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
```

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vint16m1x4_t __riscv_vloxseg4ei64_v_i16m1x4(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64_v_i16m1x5(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64_v_i16m1x6(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64_v_i16m1x7(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64_v_i16m1x8(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64_v_i16m2x2(const int16_t *rs1, vuint64m8_t rs2,
                                            size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64_v_i16m2x3(const int16_t *rs1, vuint64m8_t rs2,
                                            size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64_v_i16m2x4(const int16_t *rs1, vuint64m8_t rs2,
                                            size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8_v_i32mf2x2(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei8_v_i32mf2x3(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8_v_i32mf2x4(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8_v_i32mf2x5(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei8_v_i32mf2x6(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8_v_i32mf2x7(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8_v_i32mf2x8(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8_v_i32m1x2(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x3_t __riscv_vloxseg3ei8_v_i32m1x3(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x4_t __riscv_vloxseg4ei8_v_i32m1x4(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8_v_i32m1x5(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x6_t __riscv_vloxseg6ei8_v_i32m1x6(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x7_t __riscv_vloxseg7ei8_v_i32m1x7(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x8_t __riscv_vloxseg8ei8_v_i32m1x8(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8_v_i32m2x2(const int32_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8_v_i32m2x3(const int32_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint32m2x4_t __riscv_vloxseg4ei8_v_i32m2x4(const int32_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8_v_i32m4x2(const int32_t *rs1, vuint8m1_t rs2,
                                           size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16_v_i32mf2x2(const int32_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei16_v_i32mf2x3(const int32_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei16_v_i32mf2x4(const int32_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei16_v_i32mf2x5(const int32_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16_v_i32mf2x6(const int32_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16_v_i32mf2x7(const int32_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16_v_i32mf2x8(const int32_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16_v_i32m1x2(const int32_t *rs1,
```

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                                            vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16_v_i32m1x3(const int32_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei16_v_i32m1x4(const int32_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16_v_i32m1x5(const int32_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16_v_i32m1x6(const int32_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei16_v_i32m1x7(const int32_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16_v_i32m1x8(const int32_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16_v_i32m2x2(const int32_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16_v_i32m2x3(const int32_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16_v_i32m2x4(const int32_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16_v_i32m4x2(const int32_t *rs1, vuint16m2_t rs2,
                                            size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32_v_i32mf2x2(const int32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei32_v_i32mf2x3(const int32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32_v_i32mf2x4(const int32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32_v_i32mf2x5(const int32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32_v_i32mf2x6(const int32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32_v_i32mf2x7(const int32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32_v_i32mf2x8(const int32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32_v_i32m1x2(const int32_t *rs1, vuint32m1_t rs2,
                                            size_t vl);
vint32m1x3_t __riscv_vloxseg3ei32_v_i32m1x3(const int32_t *rs1, vuint32m1_t rs2,
                                            size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32_v_i32m1x4(const int32_t *rs1, vuint32m1_t rs2,
                                            size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32_v_i32m1x5(const int32_t *rs1, vuint32m1_t rs2,
                                            size_t vl);
vint32m1x6_t __riscv_vloxseg6ei32_v_i32m1x6(const int32_t *rs1, vuint32m1_t rs2,
                                            size_t vl);
vint32m1x7_t __riscv_vloxseg7ei32_v_i32m1x7(const int32_t *rs1, vuint32m1_t rs2,
                                            size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32_v_i32m1x8(const int32_t *rs1, vuint32m1_t rs2,
                                            size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32_v_i32m2x2(const int32_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32_v_i32m2x3(const int32_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32_v_i32m2x4(const int32_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32_v_i32m4x2(const int32_t *rs1, vuint32m4_t rs2,
                                            size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei64_v_i32mf2x2(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64_v_i32mf2x3(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64_v_i32mf2x4(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei64_v_i32mf2x5(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64_v_i32mf2x6(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
```

```
vint32mf2x7_t __riscv_vloxseg7ei64_v_i32mf2x7(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64_v_i32mf2x8(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64_v_i32m1x2(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64_v_i32m1x3(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x4_t __riscv_vloxseg4ei64_v_i32m1x4(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x5_t __riscv_vloxseg5ei64_v_i32m1x5(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x6_t __riscv_vloxseg6ei64_v_i32m1x6(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x7_t __riscv_vloxseg7ei64_v_i32m1x7(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x8_t __riscv_vloxseg8ei64_v_i32m1x8(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m2x2_t __riscv_vloxseg2ei64_v_i32m2x2(const int32_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint32m2x3_t __riscv_vloxseg3ei64_v_i32m2x3(const int32_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint32m2x4_t __riscv_vloxseg4ei64_v_i32m2x4(const int32_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint32m4x2_t __riscv_vloxseg2ei64_v_i32m4x2(const int32_t *rs1, vuint64m8_t rs2,
                                            size_t vl);
vint64m1x2_t __riscv_vloxseg2ei8_v_i64m1x2(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8_v_i64m1x3(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8_v_i64m1x4(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x5_t __riscv_vloxseg5ei8_v_i64m1x5(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x6_t __riscv_vloxseg6ei8_v_i64m1x6(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x7_t __riscv_vloxseg7ei8_v_i64m1x7(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x8_t __riscv_vloxseg8ei8_v_i64m1x8(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m2x2_t __riscv_vloxseg2ei8_v_i64m2x2(const int64_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint64m2x3_t __riscv_vloxseg3ei8_v_i64m2x3(const int64_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint64m2x4_t __riscv_vloxseg4ei8_v_i64m2x4(const int64_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint64m4x2_t __riscv_vloxseg2ei8_v_i64m4x2(const int64_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16_v_i64m1x2(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16_v_i64m1x3(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16_v_i64m1x4(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei16_v_i64m1x5(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei16_v_i64m1x6(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16_v_i64m1x7(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16_v_i64m1x8(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei16_v_i64m2x2(const int64_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei16_v_i64m2x3(const int64_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei16_v_i64m2x4(const int64_t *rs1,
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                                          vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16_v_i64m4x2(const int64_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32_v_i64m1x2(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32_v_i64m1x3(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32_v_i64m1x4(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei32_v_i64m1x5(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei32_v_i64m1x6(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei32_v_i64m1x7(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32_v_i64m1x8(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32_v_i64m2x2(const int64_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32_v_i64m2x3(const int64_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint64m2x4_t __riscv_vloxseg4ei32_v_i64m2x4(const int64_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint64m4x2_t __riscv_vloxseg2ei32_v_i64m4x2(const int64_t *rs1, vuint32m2_t rs2,
                                          size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64_v_i64m1x2(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64_v_i64m1x3(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64_v_i64m1x4(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64_v_i64m1x5(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64_v_i64m1x6(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64_v_i64m1x7(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64_v_i64m1x8(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64_v_i64m2x2(const int64_t *rs1, vuint64m2_t rs2,
                                          size_t vl);
vint64m2x3_t __riscv_vloxseg3ei64_v_i64m2x3(const int64_t *rs1, vuint64m2_t rs2,
                                          size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64_v_i64m2x4(const int64_t *rs1, vuint64m2_t rs2,
                                          size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64_v_i64m4x2(const int64_t *rs1, vuint64m4_t rs2,
                                          size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8_v_i8mf8x2(const int8_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8_v_i8mf8x3(const int8_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8_v_i8mf8x4(const int8_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8_v_i8mf8x5(const int8_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8_v_i8mf8x6(const int8_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8_v_i8mf8x7(const int8_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8_v_i8mf8x8(const int8_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8_v_i8mf4x2(const int8_t *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei8_v_i8mf4x3(const int8_t *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8_v_i8mf4x4(const int8_t *rs1, vuint8mf4_t rs2,
                                         size_t vl);
```

```
vint8mf4x5_t __riscv_vluxseg5ei8_v_i8mf4x5(const int8_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8_v_i8mf4x6(const int8_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8_v_i8mf4x7(const int8_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8_v_i8mf4x8(const int8_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8_v_i8mf2x2(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei8_v_i8mf2x3(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8_v_i8mf2x4(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8_v_i8mf2x5(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8_v_i8mf2x6(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei8_v_i8mf2x7(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8_v_i8mf2x8(const int8_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8_v_i8m1x2(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8_v_i8m1x3(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x4_t __riscv_vluxseg4ei8_v_i8m1x4(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8_v_i8m1x5(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8_v_i8m1x6(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8_v_i8m1x7(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8_v_i8m1x8(const int8_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vint8m2x2_t __riscv_vluxseg2ei8_v_i8m2x2(const int8_t *rs1, vuint8m2_t rs2,
                                         size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8_v_i8m2x3(const int8_t *rs1, vuint8m2_t rs2,
                                         size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8_v_i8m2x4(const int8_t *rs1, vuint8m2_t rs2,
                                         size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8_v_i8m4x2(const int8_t *rs1, vuint8m4_t rs2,
                                         size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16_v_i8mf8x2(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16_v_i8mf8x3(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16_v_i8mf8x4(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16_v_i8mf8x5(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16_v_i8mf8x6(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei16_v_i8mf8x7(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei16_v_i8mf8x8(const int8_t *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16_v_i8mf4x2(const int8_t *rs1, vuint16mf2_t rs2,
                                            size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16_v_i8mf4x3(const int8_t *rs1, vuint16mf2_t rs2,
                                            size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16_v_i8mf4x4(const int8_t *rs1, vuint16mf2_t rs2,
                                            size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16_v_i8mf4x5(const int8_t *rs1, vuint16mf2_t rs2,
                                            size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16_v_i8mf4x6(const int8_t *rs1, vuint16mf2_t rs2,
```

```
                                          size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16_v_i8mf4x7(const int8_t *rs1, vuint16mf2_t rs2,
                                          size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16_v_i8mf4x8(const int8_t *rs1, vuint16mf2_t rs2,
                                          size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16_v_i8mf2x2(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16_v_i8mf2x3(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16_v_i8mf2x4(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16_v_i8mf2x5(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16_v_i8mf2x6(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16_v_i8mf2x7(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16_v_i8mf2x8(const int8_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16_v_i8m1x2(const int8_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16_v_i8m1x3(const int8_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint8m1x4_t __riscv_vluxseg4ei16_v_i8m1x4(const int8_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint8m1x5_t __riscv_vluxseg5ei16_v_i8m1x5(const int8_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16_v_i8m1x6(const int8_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16_v_i8m1x7(const int8_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16_v_i8m1x8(const int8_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16_v_i8m2x2(const int8_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16_v_i8m2x3(const int8_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16_v_i8m2x4(const int8_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16_v_i8m4x2(const int8_t *rs1, vuint16m8_t rs2,
                                        size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei32_v_i8mf8x2(const int8_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32_v_i8mf8x3(const int8_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32_v_i8mf8x4(const int8_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32_v_i8mf8x5(const int8_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32_v_i8mf8x6(const int8_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32_v_i8mf8x7(const int8_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32_v_i8mf8x8(const int8_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32_v_i8mf4x2(const int8_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32_v_i8mf4x3(const int8_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32_v_i8mf4x4(const int8_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei32_v_i8mf4x5(const int8_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei32_v_i8mf4x6(const int8_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei32_v_i8mf4x7(const int8_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
```

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vint8mf4x8_t __riscv_vluxseg8ei32_v_i8mf4x8(const int8_t *rs1, vuint32m1_t rs2,
                                            size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei32_v_i8mf2x2(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei32_v_i8mf2x3(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei32_v_i8mf2x4(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei32_v_i8mf2x5(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei32_v_i8mf2x6(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32_v_i8mf2x7(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei32_v_i8mf2x8(const int8_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32_v_i8m1x2(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x3_t __riscv_vluxseg3ei32_v_i8m1x3(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32_v_i8m1x4(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32_v_i8m1x5(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32_v_i8m1x6(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x7_t __riscv_vluxseg7ei32_v_i8m1x7(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32_v_i8m1x8(const int8_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32_v_i8m2x2(const int8_t *rs1, vuint32m8_t rs2,
                                          size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32_v_i8m2x3(const int8_t *rs1, vuint32m8_t rs2,
                                          size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32_v_i8m2x4(const int8_t *rs1, vuint32m8_t rs2,
                                          size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64_v_i8mf8x2(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64_v_i8mf8x3(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64_v_i8mf8x4(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64_v_i8mf8x5(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64_v_i8mf8x6(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64_v_i8mf8x7(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64_v_i8mf8x8(const int8_t *rs1, vuint64m1_t rs2,
                                            size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64_v_i8mf4x2(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64_v_i8mf4x3(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei64_v_i8mf4x4(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei64_v_i8mf4x5(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64_v_i8mf4x6(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei64_v_i8mf4x7(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei64_v_i8mf4x8(const int8_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei64_v_i8mf2x2(const int8_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei64_v_i8mf2x3(const int8_t *rs1, vuint64m4_t rs2,
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                                          size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei64_v_i8mf2x4(const int8_t *rs1, vuint64m4_t rs2,
                                          size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei64_v_i8mf2x5(const int8_t *rs1, vuint64m4_t rs2,
                                          size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei64_v_i8mf2x6(const int8_t *rs1, vuint64m4_t rs2,
                                          size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei64_v_i8mf2x7(const int8_t *rs1, vuint64m4_t rs2,
                                          size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei64_v_i8mf2x8(const int8_t *rs1, vuint64m4_t rs2,
                                          size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64_v_i8m1x2(const int8_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64_v_i8m1x3(const int8_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64_v_i8m1x4(const int8_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64_v_i8m1x5(const int8_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64_v_i8m1x6(const int8_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64_v_i8m1x7(const int8_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint8m1x8_t __riscv_vluxseg8ei64_v_i8m1x8(const int8_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8_v_i16mf4x2(const int16_t *rs1,
                                           vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8_v_i16mf4x3(const int16_t *rs1,
                                           vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8_v_i16mf4x4(const int16_t *rs1,
                                           vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8_v_i16mf4x5(const int16_t *rs1,
                                           vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8_v_i16mf4x6(const int16_t *rs1,
                                           vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei8_v_i16mf4x7(const int16_t *rs1,
                                           vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei8_v_i16mf4x8(const int16_t *rs1,
                                           vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8_v_i16mf2x2(const int16_t *rs1,
                                           vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8_v_i16mf2x3(const int16_t *rs1,
                                           vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8_v_i16mf2x4(const int16_t *rs1,
                                           vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8_v_i16mf2x5(const int16_t *rs1,
                                           vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8_v_i16mf2x6(const int16_t *rs1,
                                           vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8_v_i16mf2x7(const int16_t *rs1,
                                           vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8_v_i16mf2x8(const int16_t *rs1,
                                           vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8_v_i16m1x2(const int16_t *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8_v_i16m1x3(const int16_t *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8_v_i16m1x4(const int16_t *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8_v_i16m1x5(const int16_t *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8_v_i16m1x6(const int16_t *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vint16m1x7_t __riscv_vluxseg7ei8_v_i16m1x7(const int16_t *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8_v_i16m1x8(const int16_t *rs1, vuint8mf2_t rs2,
                                         size_t vl);
```

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vint16m2x2_t __riscv_vluxseg2ei8_v_i16m2x2(const int16_t *rs1, vuint8m1_t rs2,
                                           size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8_v_i16m2x3(const int16_t *rs1, vuint8m1_t rs2,
                                           size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8_v_i16m2x4(const int16_t *rs1, vuint8m1_t rs2,
                                           size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8_v_i16m4x2(const int16_t *rs1, vuint8m2_t rs2,
                                           size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16_v_i16mf4x2(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16_v_i16mf4x3(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16_v_i16mf4x4(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16_v_i16mf4x5(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16_v_i16mf4x6(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei16_v_i16mf4x7(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei16_v_i16mf4x8(const int16_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16_v_i16mf2x2(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16_v_i16mf2x3(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16_v_i16mf2x4(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16_v_i16mf2x5(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16_v_i16mf2x6(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16_v_i16mf2x7(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16_v_i16mf2x8(const int16_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16_v_i16m1x2(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16_v_i16m1x3(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16_v_i16m1x4(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16_v_i16m1x5(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16_v_i16m1x6(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16_v_i16m1x7(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16_v_i16m1x8(const int16_t *rs1, vuint16m1_t rs2,
                                            size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16_v_i16m2x2(const int16_t *rs1, vuint16m2_t rs2,
                                            size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16_v_i16m2x3(const int16_t *rs1, vuint16m2_t rs2,
                                            size_t vl);
vint16m2x4_t __riscv_vluxseg4ei16_v_i16m2x4(const int16_t *rs1, vuint16m2_t rs2,
                                            size_t vl);
vint16m4x2_t __riscv_vluxseg2ei16_v_i16m4x2(const int16_t *rs1, vuint16m4_t rs2,
                                            size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32_v_i16mf4x2(const int16_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32_v_i16mf4x3(const int16_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32_v_i16mf4x4(const int16_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32_v_i16mf4x5(const int16_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32_v_i16mf4x6(const int16_t *rs1,
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                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32_v_i16mf4x7(const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32_v_i16mf4x8(const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei32_v_i16mf2x2(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32_v_i16mf2x3(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32_v_i16mf2x4(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32_v_i16mf2x5(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32_v_i16mf2x6(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei32_v_i16mf2x7(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32_v_i16mf2x8(const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32_v_i16m1x2(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32_v_i16m1x3(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x4_t __riscv_vluxseg4ei32_v_i16m1x4(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32_v_i16m1x5(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32_v_i16m1x6(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32_v_i16m1x7(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32_v_i16m1x8(const int16_t *rs1, vuint32m2_t rs2,
                                            size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32_v_i16m2x2(const int16_t *rs1, vuint32m4_t rs2,
                                            size_t vl);
vint16m2x3_t __riscv_vluxseg3ei32_v_i16m2x3(const int16_t *rs1, vuint32m4_t rs2,
                                            size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32_v_i16m2x4(const int16_t *rs1, vuint32m4_t rs2,
                                            size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32_v_i16m4x2(const int16_t *rs1, vuint32m8_t rs2,
                                            size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64_v_i16mf4x2(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64_v_i16mf4x3(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64_v_i16mf4x4(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64_v_i16mf4x5(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64_v_i16mf4x6(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64_v_i16mf4x7(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64_v_i16mf4x8(const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64_v_i16mf2x2(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei64_v_i16mf2x3(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64_v_i16mf2x4(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64_v_i16mf2x5(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei64_v_i16mf2x6(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64_v_i16mf2x7(const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
```

```
vint16mf2x8_t __riscv_vluxseg8ei64_v_i16mf2x8(const int16_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64_v_i16m1x2(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64_v_i16m1x3(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64_v_i16m1x4(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64_v_i16m1x5(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64_v_i16m1x6(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64_v_i16m1x7(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64_v_i16m1x8(const int16_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64_v_i16m2x2(const int16_t *rs1, vuint64m8_t rs2,
                                            size_t vl);
vint16m2x3_t __riscv_vluxseg3ei64_v_i16m2x3(const int16_t *rs1, vuint64m8_t rs2,
                                            size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64_v_i16m2x4(const int16_t *rs1, vuint64m8_t rs2,
                                            size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8_v_i32mf2x2(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8_v_i32mf2x3(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8_v_i32mf2x4(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8_v_i32mf2x5(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8_v_i32mf2x6(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8_v_i32mf2x7(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8_v_i32mf2x8(const int32_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8_v_i32m1x2(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8_v_i32m1x3(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8_v_i32m1x4(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8_v_i32m1x5(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8_v_i32m1x6(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8_v_i32m1x7(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8_v_i32m1x8(const int32_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8_v_i32m2x2(const int32_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8_v_i32m2x3(const int32_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint32m2x4_t __riscv_vluxseg4ei8_v_i32m2x4(const int32_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint32m4x2_t __riscv_vluxseg2ei8_v_i32m4x2(const int32_t *rs1, vuint8m1_t rs2,
                                           size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16_v_i32mf2x2(const int32_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16_v_i32mf2x3(const int32_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16_v_i32mf2x4(const int32_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei16_v_i32mf2x5(const int32_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16_v_i32mf2x6(const int32_t *rs1,
```

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                                                vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei16_v_i32mf2x7(const int32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16_v_i32mf2x8(const int32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16_v_i32m1x2(const int32_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16_v_i32m1x3(const int32_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16_v_i32m1x4(const int32_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16_v_i32m1x5(const int32_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16_v_i32m1x6(const int32_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16_v_i32m1x7(const int32_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16_v_i32m1x8(const int32_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16_v_i32m2x2(const int32_t *rs1, vuint16m1_t rs2,
                                              size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16_v_i32m2x3(const int32_t *rs1, vuint16m1_t rs2,
                                              size_t vl);
vint32m2x4_t __riscv_vluxseg4ei16_v_i32m2x4(const int32_t *rs1, vuint16m1_t rs2,
                                              size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16_v_i32m4x2(const int32_t *rs1, vuint16m2_t rs2,
                                              size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32_v_i32mf2x2(const int32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32_v_i32mf2x3(const int32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32_v_i32mf2x4(const int32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32_v_i32mf2x5(const int32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei32_v_i32mf2x6(const int32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32_v_i32mf2x7(const int32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32_v_i32mf2x8(const int32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32_v_i32m1x2(const int32_t *rs1, vuint32m1_t rs2,
                                              size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32_v_i32m1x3(const int32_t *rs1, vuint32m1_t rs2,
                                              size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32_v_i32m1x4(const int32_t *rs1, vuint32m1_t rs2,
                                              size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32_v_i32m1x5(const int32_t *rs1, vuint32m1_t rs2,
                                              size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32_v_i32m1x6(const int32_t *rs1, vuint32m1_t rs2,
                                              size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32_v_i32m1x7(const int32_t *rs1, vuint32m1_t rs2,
                                              size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32_v_i32m1x8(const int32_t *rs1, vuint32m1_t rs2,
                                              size_t vl);
vint32m2x2_t __riscv_vluxseg2ei32_v_i32m2x2(const int32_t *rs1, vuint32m2_t rs2,
                                              size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32_v_i32m2x3(const int32_t *rs1, vuint32m2_t rs2,
                                              size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32_v_i32m2x4(const int32_t *rs1, vuint32m2_t rs2,
                                              size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32_v_i32m4x2(const int32_t *rs1, vuint32m4_t rs2,
                                              size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei64_v_i32mf2x2(const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64_v_i32mf2x3(const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
```

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vint32mf2x4_t __riscv_vluxseg4ei64_v_i32mf2x4(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64_v_i32mf2x5(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64_v_i32mf2x6(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64_v_i32mf2x7(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei64_v_i32mf2x8(const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64_v_i32m1x2(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64_v_i32m1x3(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64_v_i32m1x4(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64_v_i32m1x5(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x6_t __riscv_vluxseg6ei64_v_i32m1x6(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64_v_i32m1x7(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64_v_i32m1x8(const int32_t *rs1, vuint64m2_t rs2,
                                            size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64_v_i32m2x2(const int32_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64_v_i32m2x3(const int32_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64_v_i32m2x4(const int32_t *rs1, vuint64m4_t rs2,
                                            size_t vl);
vint32m4x2_t __riscv_vluxseg2ei64_v_i32m4x2(const int32_t *rs1, vuint64m8_t rs2,
                                            size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8_v_i64m1x2(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8_v_i64m1x3(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8_v_i64m1x4(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8_v_i64m1x5(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8_v_i64m1x6(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8_v_i64m1x7(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8_v_i64m1x8(const int64_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8_v_i64m2x2(const int64_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8_v_i64m2x3(const int64_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8_v_i64m2x4(const int64_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vint64m4x2_t __riscv_vluxseg2ei8_v_i64m4x2(const int64_t *rs1, vuint8mf2_t rs2,
                                           size_t vl);
vint64m1x2_t __riscv_vluxseg2ei16_v_i64m1x2(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei16_v_i64m1x3(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16_v_i64m1x4(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16_v_i64m1x5(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16_v_i64m1x6(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16_v_i64m1x7(const int64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16_v_i64m1x8(const int64_t *rs1,
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                                          vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16_v_i64m2x2(const int64_t *rs1,
                                          vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16_v_i64m2x3(const int64_t *rs1,
                                          vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16_v_i64m2x4(const int64_t *rs1,
                                          vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16_v_i64m4x2(const int64_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32_v_i64m1x2(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32_v_i64m1x3(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32_v_i64m1x4(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32_v_i64m1x5(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32_v_i64m1x6(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32_v_i64m1x7(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32_v_i64m1x8(const int64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei32_v_i64m2x2(const int64_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32_v_i64m2x3(const int64_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32_v_i64m2x4(const int64_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32_v_i64m4x2(const int64_t *rs1, vuint32m2_t rs2,
                                          size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64_v_i64m1x2(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64_v_i64m1x3(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x4_t __riscv_vluxseg4ei64_v_i64m1x4(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64_v_i64m1x5(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64_v_i64m1x6(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64_v_i64m1x7(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64_v_i64m1x8(const int64_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64_v_i64m2x2(const int64_t *rs1, vuint64m2_t rs2,
                                          size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64_v_i64m2x3(const int64_t *rs1, vuint64m2_t rs2,
                                          size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64_v_i64m2x4(const int64_t *rs1, vuint64m2_t rs2,
                                          size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64_v_i64m4x2(const int64_t *rs1, vuint64m4_t rs2,
                                          size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8_v_u8mf8x2(const uint8_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei8_v_u8mf8x3(const uint8_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8_v_u8mf8x4(const uint8_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8_v_u8mf8x5(const uint8_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8_v_u8mf8x6(const uint8_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei8_v_u8mf8x7(const uint8_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8_v_u8mf8x8(const uint8_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
```

```
vuint8mf4x2_t __riscv_vloxseg2ei8_v_u8mf4x2(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8_v_u8mf4x3(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8_v_u8mf4x4(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8_v_u8mf4x5(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8_v_u8mf4x6(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8_v_u8mf4x7(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8_v_u8mf4x8(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8_v_u8mf2x2(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8_v_u8mf2x3(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei8_v_u8mf2x4(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8_v_u8mf2x5(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8_v_u8mf2x6(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8_v_u8mf2x7(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8_v_u8mf2x8(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8_v_u8m1x2(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei8_v_u8m1x3(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8_v_u8m1x4(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8_v_u8m1x5(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8_v_u8m1x6(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8_v_u8m1x7(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8_v_u8m1x8(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8_v_u8m2x2(const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8_v_u8m2x3(const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8_v_u8m2x4(const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8_v_u8m4x2(const uint8_t *rs1, vuint8m4_t rs2,
                                          size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16_v_u8mf8x2(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16_v_u8mf8x3(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei16_v_u8mf8x4(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei16_v_u8mf8x5(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16_v_u8mf8x6(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16_v_u8mf8x7(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16_v_u8mf8x8(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16_v_u8mf4x2(const uint8_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei16_v_u8mf4x3(const uint8_t *rs1,
```

```
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16_v_u8mf4x4(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16_v_u8mf4x5(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16_v_u8mf4x6(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16_v_u8mf4x7(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16_v_u8mf4x8(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16_v_u8mf2x2(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16_v_u8mf2x3(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16_v_u8mf2x4(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16_v_u8mf2x5(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16_v_u8mf2x6(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16_v_u8mf2x7(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei16_v_u8mf2x8(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16_v_u8m1x2(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16_v_u8m1x3(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16_v_u8m1x4(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16_v_u8m1x5(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16_v_u8m1x6(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei16_v_u8m1x7(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16_v_u8m1x8(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16_v_u8m2x2(const uint8_t *rs1, vuint16m4_t rs2,
                                           size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16_v_u8m2x3(const uint8_t *rs1, vuint16m4_t rs2,
                                           size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16_v_u8m2x4(const uint8_t *rs1, vuint16m4_t rs2,
                                           size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16_v_u8m4x2(const uint8_t *rs1, vuint16m8_t rs2,
                                           size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32_v_u8mf8x2(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32_v_u8mf8x3(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32_v_u8mf8x4(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32_v_u8mf8x5(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32_v_u8mf8x6(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei32_v_u8mf8x7(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32_v_u8mf8x8(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32_v_u8mf4x2(const uint8_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei32_v_u8mf4x3(const uint8_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32_v_u8mf4x4(const uint8_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
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vuint8mf4x5_t __riscv_vloxseg5ei32_v_u8mf4x5(const uint8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32_v_u8mf4x6(const uint8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32_v_u8mf4x7(const uint8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32_v_u8mf4x8(const uint8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32_v_u8mf2x2(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32_v_u8mf2x3(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32_v_u8mf2x4(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32_v_u8mf2x5(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32_v_u8mf2x6(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei32_v_u8mf2x7(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32_v_u8mf2x8(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32_v_u8m1x2(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei32_v_u8m1x3(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32_v_u8m1x4(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32_v_u8m1x5(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei32_v_u8m1x6(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32_v_u8m1x7(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32_v_u8m1x8(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32_v_u8m2x2(const uint8_t *rs1, vuint32m8_t rs2,
                                           size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32_v_u8m2x3(const uint8_t *rs1, vuint32m8_t rs2,
                                           size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32_v_u8m2x4(const uint8_t *rs1, vuint32m8_t rs2,
                                           size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64_v_u8mf8x2(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64_v_u8mf8x3(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64_v_u8mf8x4(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64_v_u8mf8x5(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64_v_u8mf8x6(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64_v_u8mf8x7(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei64_v_u8mf8x8(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei64_v_u8mf4x2(const uint8_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64_v_u8mf4x3(const uint8_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64_v_u8mf4x4(const uint8_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei64_v_u8mf4x5(const uint8_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64_v_u8mf4x6(const uint8_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei64_v_u8mf4x7(const uint8_t *rs1,
```

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                                            vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64_v_u8mf4x8(const uint8_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64_v_u8mf2x2(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64_v_u8mf2x3(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64_v_u8mf2x4(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64_v_u8mf2x5(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64_v_u8mf2x6(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64_v_u8mf2x7(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64_v_u8mf2x8(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64_v_u8m1x2(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64_v_u8m1x3(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64_v_u8m1x4(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei64_v_u8m1x5(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64_v_u8m1x6(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64_v_u8m1x7(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64_v_u8m1x8(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8_v_u16mf4x2(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8_v_u16mf4x3(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei8_v_u16mf4x4(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8_v_u16mf4x5(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8_v_u16mf4x6(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8_v_u16mf4x7(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8_v_u16mf4x8(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8_v_u16mf2x2(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8_v_u16mf2x3(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8_v_u16mf2x4(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8_v_u16mf2x5(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8_v_u16mf2x6(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8_v_u16mf2x7(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8_v_u16mf2x8(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8_v_u16m1x2(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8_v_u16m1x3(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei8_v_u16m1x4(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8_v_u16m1x5(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
```

```
vuint16m1x6_t __riscv_vloxseg6ei8_v_u16m1x6(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8_v_u16m1x7(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8_v_u16m1x8(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8_v_u16m2x2(const uint16_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8_v_u16m2x3(const uint16_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8_v_u16m2x4(const uint16_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8_v_u16m4x2(const uint16_t *rs1, vuint8m2_t rs2,
                                            size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16_v_u16mf4x2(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16_v_u16mf4x3(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei16_v_u16mf4x4(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16_v_u16mf4x5(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16_v_u16mf4x6(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16_v_u16mf4x7(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16_v_u16mf4x8(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16_v_u16mf2x2(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16_v_u16mf2x3(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16_v_u16mf2x4(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16_v_u16mf2x5(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16_v_u16mf2x6(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16_v_u16mf2x7(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16_v_u16mf2x8(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16_v_u16m1x2(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei16_v_u16m1x3(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16_v_u16m1x4(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16_v_u16m1x5(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16_v_u16m1x6(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16_v_u16m1x7(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei16_v_u16m1x8(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei16_v_u16m2x2(const uint16_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16_v_u16m2x3(const uint16_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16_v_u16m2x4(const uint16_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei16_v_u16m4x2(const uint16_t *rs1,
                                             vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32_v_u16mf4x2(const uint16_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei32_v_u16mf4x3(const uint16_t *rs1,
```

```
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32_v_u16mf4x4(const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32_v_u16mf4x5(const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32_v_u16mf4x6(const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32_v_u16mf4x7(const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32_v_u16mf4x8(const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32_v_u16mf2x2(const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32_v_u16mf2x3(const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32_v_u16mf2x4(const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32_v_u16mf2x5(const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32_v_u16mf2x6(const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32_v_u16mf2x7(const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei32_v_u16mf2x8(const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32_v_u16m1x2(const uint16_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32_v_u16m1x3(const uint16_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei32_v_u16m1x4(const uint16_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32_v_u16m1x5(const uint16_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32_v_u16m1x6(const uint16_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei32_v_u16m1x7(const uint16_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32_v_u16m1x8(const uint16_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32_v_u16m2x2(const uint16_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei32_v_u16m2x3(const uint16_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32_v_u16m2x4(const uint16_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32_v_u16m4x2(const uint16_t *rs1,
                                             vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64_v_u16mf4x2(const uint16_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64_v_u16mf4x3(const uint16_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64_v_u16mf4x4(const uint16_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64_v_u16mf4x5(const uint16_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64_v_u16mf4x6(const uint16_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64_v_u16mf4x7(const uint16_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64_v_u16mf4x8(const uint16_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64_v_u16mf2x2(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei64_v_u16mf2x3(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64_v_u16mf2x4(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
```

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vuint16mf2x5_t __riscv_vloxseg5ei64_v_u16mf2x5(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64_v_u16mf2x6(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64_v_u16mf2x7(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64_v_u16mf2x8(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64_v_u16m1x2(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64_v_u16m1x3(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64_v_u16m1x4(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64_v_u16m1x5(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64_v_u16m1x6(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei64_v_u16m1x7(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei64_v_u16m1x8(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64_v_u16m2x2(const uint16_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64_v_u16m2x3(const uint16_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64_v_u16m2x4(const uint16_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8_v_u32mf2x2(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8_v_u32mf2x3(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8_v_u32mf2x4(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8_v_u32mf2x5(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8_v_u32mf2x6(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8_v_u32mf2x7(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8_v_u32mf2x8(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8_v_u32m1x2(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8_v_u32m1x3(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8_v_u32m1x4(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8_v_u32m1x5(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8_v_u32m1x6(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8_v_u32m1x7(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei8_v_u32m1x8(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei8_v_u32m2x2(const uint32_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8_v_u32m2x3(const uint32_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei8_v_u32m2x4(const uint32_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8_v_u32m4x2(const uint32_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16_v_u32mf2x2(const uint32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei16_v_u32mf2x3(const uint32_t *rs1,
```

```
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16_v_u32mf2x4(const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei16_v_u32mf2x5(const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16_v_u32mf2x6(const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16_v_u32mf2x7(const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16_v_u32mf2x8(const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16_v_u32m1x2(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16_v_u32m1x3(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16_v_u32m1x4(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16_v_u32m1x5(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16_v_u32m1x6(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16_v_u32m1x7(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei16_v_u32m1x8(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16_v_u32m2x2(const uint32_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16_v_u32m2x3(const uint32_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16_v_u32m2x4(const uint32_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16_v_u32m4x2(const uint32_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei32_v_u32mf2x2(const uint32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei32_v_u32mf2x3(const uint32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei32_v_u32mf2x4(const uint32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32_v_u32mf2x5(const uint32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32_v_u32mf2x6(const uint32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32_v_u32mf2x7(const uint32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32_v_u32mf2x8(const uint32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32_v_u32m1x2(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32_v_u32m1x3(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32_v_u32m1x4(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei32_v_u32m1x5(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32_v_u32m1x6(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32_v_u32m1x7(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32_v_u32m1x8(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32_v_u32m2x2(const uint32_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei32_v_u32m2x3(const uint32_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei32_v_u32m2x4(const uint32_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
```

```
vuint32m4x2_t __riscv_vloxseg2ei32_v_u32m4x2(const uint32_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64_v_u32mf2x2(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64_v_u32mf2x3(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64_v_u32mf2x4(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64_v_u32mf2x5(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64_v_u32mf2x6(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64_v_u32mf2x7(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64_v_u32mf2x8(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64_v_u32m1x2(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei64_v_u32m1x3(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64_v_u32m1x4(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64_v_u32m1x5(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64_v_u32m1x6(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64_v_u32m1x7(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64_v_u32m1x8(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64_v_u32m2x2(const uint32_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei64_v_u32m2x3(const uint32_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64_v_u32m2x4(const uint32_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64_v_u32m4x2(const uint32_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8_v_u64m1x2(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8_v_u64m1x3(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8_v_u64m1x4(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8_v_u64m1x5(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei8_v_u64m1x6(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8_v_u64m1x7(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8_v_u64m1x8(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8_v_u64m2x2(const uint64_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei8_v_u64m2x3(const uint64_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei8_v_u64m2x4(const uint64_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8_v_u64m4x2(const uint64_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16_v_u64m1x2(const uint64_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16_v_u64m1x3(const uint64_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16_v_u64m1x4(const uint64_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei16_v_u64m1x5(const uint64_t *rs1,
```

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                                          vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16_v_u64m1x6(const uint64_t *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16_v_u64m1x7(const uint64_t *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16_v_u64m1x8(const uint64_t *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16_v_u64m2x2(const uint64_t *rs1,
                                          vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16_v_u64m2x3(const uint64_t *rs1,
                                          vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16_v_u64m2x4(const uint64_t *rs1,
                                          vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16_v_u64m4x2(const uint64_t *rs1,
                                          vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32_v_u64m1x2(const uint64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei32_v_u64m1x3(const uint64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32_v_u64m1x4(const uint64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32_v_u64m1x5(const uint64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei32_v_u64m1x6(const uint64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32_v_u64m1x7(const uint64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32_v_u64m1x8(const uint64_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei32_v_u64m2x2(const uint64_t *rs1,
                                          vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32_v_u64m2x3(const uint64_t *rs1,
                                          vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32_v_u64m2x4(const uint64_t *rs1,
                                          vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei32_v_u64m4x2(const uint64_t *rs1,
                                          vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64_v_u64m1x2(const uint64_t *rs1,
                                          vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64_v_u64m1x3(const uint64_t *rs1,
                                          vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64_v_u64m1x4(const uint64_t *rs1,
                                          vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64_v_u64m1x5(const uint64_t *rs1,
                                          vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64_v_u64m1x6(const uint64_t *rs1,
                                          vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64_v_u64m1x7(const uint64_t *rs1,
                                          vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64_v_u64m1x8(const uint64_t *rs1,
                                          vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64_v_u64m2x2(const uint64_t *rs1,
                                          vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64_v_u64m2x3(const uint64_t *rs1,
                                          vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64_v_u64m2x4(const uint64_t *rs1,
                                          vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64_v_u64m4x2(const uint64_t *rs1,
                                          vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8_v_u8mf8x2(const uint8_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8_v_u8mf8x3(const uint8_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei8_v_u8mf8x4(const uint8_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8_v_u8mf8x5(const uint8_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
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vuint8mf8x6_t __riscv_vluxseg6ei8_v_u8mf8x6(const uint8_t *rs1, vuint8mf8_t rs2,
                                            size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8_v_u8mf8x7(const uint8_t *rs1, vuint8mf8_t rs2,
                                            size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8_v_u8mf8x8(const uint8_t *rs1, vuint8mf8_t rs2,
                                            size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8_v_u8mf4x2(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8_v_u8mf4x3(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8_v_u8mf4x4(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8_v_u8mf4x5(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8_v_u8mf4x6(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8_v_u8mf4x7(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei8_v_u8mf4x8(const uint8_t *rs1, vuint8mf4_t rs2,
                                            size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8_v_u8mf2x2(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8_v_u8mf2x3(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8_v_u8mf2x4(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8_v_u8mf2x5(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8_v_u8mf2x6(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8_v_u8mf2x7(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8_v_u8mf2x8(const uint8_t *rs1, vuint8mf2_t rs2,
                                            size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8_v_u8m1x2(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8_v_u8m1x3(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8_v_u8m1x4(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8_v_u8m1x5(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8_v_u8m1x6(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8_v_u8m1x7(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei8_v_u8m1x8(const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8_v_u8m2x2(const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8_v_u8m2x3(const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8_v_u8m2x4(const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei8_v_u8m4x2(const uint8_t *rs1, vuint8m4_t rs2,
                                          size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei16_v_u8mf8x2(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16_v_u8mf8x3(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16_v_u8mf8x4(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16_v_u8mf8x5(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16_v_u8mf8x6(const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16_v_u8mf8x7(const uint8_t *rs1,
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                                            vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16_v_u8mf8x8(const uint8_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16_v_u8mf4x2(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16_v_u8mf4x3(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16_v_u8mf4x4(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16_v_u8mf4x5(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16_v_u8mf4x6(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16_v_u8mf4x7(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16_v_u8mf4x8(const uint8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16_v_u8mf2x2(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16_v_u8mf2x3(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16_v_u8mf2x4(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei16_v_u8mf2x5(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16_v_u8mf2x6(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16_v_u8mf2x7(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei16_v_u8mf2x8(const uint8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16_v_u8m1x2(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16_v_u8m1x3(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei16_v_u8m1x4(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16_v_u8m1x5(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16_v_u8m1x6(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16_v_u8m1x7(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16_v_u8m1x8(const uint8_t *rs1, vuint16m2_t rs2,
                                           size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16_v_u8m2x2(const uint8_t *rs1, vuint16m4_t rs2,
                                           size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16_v_u8m2x3(const uint8_t *rs1, vuint16m4_t rs2,
                                           size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16_v_u8m2x4(const uint8_t *rs1, vuint16m4_t rs2,
                                           size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16_v_u8m4x2(const uint8_t *rs1, vuint16m8_t rs2,
                                           size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32_v_u8mf8x2(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32_v_u8mf8x3(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32_v_u8mf8x4(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32_v_u8mf8x5(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32_v_u8mf8x6(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei32_v_u8mf8x7(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32_v_u8mf8x8(const uint8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
```

```
vuint8mf4x2_t __riscv_vluxseg2ei32_v_u8mf4x2(const uint8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32_v_u8mf4x3(const uint8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32_v_u8mf4x4(const uint8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei32_v_u8mf4x5(const uint8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei32_v_u8mf4x6(const uint8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei32_v_u8mf4x7(const uint8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei32_v_u8mf4x8(const uint8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32_v_u8mf2x2(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32_v_u8mf2x3(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei32_v_u8mf2x4(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32_v_u8mf2x5(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32_v_u8mf2x6(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei32_v_u8mf2x7(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei32_v_u8mf2x8(const uint8_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32_v_u8m1x2(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32_v_u8m1x3(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32_v_u8m1x4(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32_v_u8m1x5(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32_v_u8m1x6(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32_v_u8m1x7(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32_v_u8m1x8(const uint8_t *rs1, vuint32m4_t rs2,
                                           size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32_v_u8m2x2(const uint8_t *rs1, vuint32m8_t rs2,
                                           size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32_v_u8m2x3(const uint8_t *rs1, vuint32m8_t rs2,
                                           size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei32_v_u8m2x4(const uint8_t *rs1, vuint32m8_t rs2,
                                           size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64_v_u8mf8x2(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64_v_u8mf8x3(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64_v_u8mf8x4(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei64_v_u8mf8x5(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei64_v_u8mf8x6(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64_v_u8mf8x7(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64_v_u8mf8x8(const uint8_t *rs1,
                                             vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64_v_u8mf4x2(const uint8_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64_v_u8mf4x3(const uint8_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64_v_u8mf4x4(const uint8_t *rs1,
```

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                                            vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64_v_u8mf4x5(const uint8_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64_v_u8mf4x6(const uint8_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64_v_u8mf4x7(const uint8_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64_v_u8mf4x8(const uint8_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64_v_u8mf2x2(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64_v_u8mf2x3(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64_v_u8mf2x4(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64_v_u8mf2x5(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64_v_u8mf2x6(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64_v_u8mf2x7(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64_v_u8mf2x8(const uint8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei64_v_u8m1x2(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64_v_u8m1x3(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64_v_u8m1x4(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei64_v_u8m1x5(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64_v_u8m1x6(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64_v_u8m1x7(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei64_v_u8m1x8(const uint8_t *rs1, vuint64m8_t rs2,
                                           size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8_v_u16mf4x2(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8_v_u16mf4x3(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8_v_u16mf4x4(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8_v_u16mf4x5(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei8_v_u16mf4x6(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei8_v_u16mf4x7(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8_v_u16mf4x8(const uint16_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8_v_u16mf2x2(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8_v_u16mf2x3(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8_v_u16mf2x4(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8_v_u16mf2x5(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei8_v_u16mf2x6(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei8_v_u16mf2x7(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei8_v_u16mf2x8(const uint16_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8_v_u16m1x2(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
```

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vuint16m1x3_t __riscv_vluxseg3ei8_v_u16m1x3(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei8_v_u16m1x4(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei8_v_u16m1x5(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei8_v_u16m1x6(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei8_v_u16m1x7(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei8_v_u16m1x8(const uint16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei8_v_u16m2x2(const uint16_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei8_v_u16m2x3(const uint16_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8_v_u16m2x4(const uint16_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei8_v_u16m4x2(const uint16_t *rs1, vuint8m2_t rs2,
                                            size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16_v_u16mf4x2(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16_v_u16mf4x3(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16_v_u16mf4x4(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei16_v_u16mf4x5(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei16_v_u16mf4x6(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei16_v_u16mf4x7(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei16_v_u16mf4x8(const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei16_v_u16mf2x2(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei16_v_u16mf2x3(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei16_v_u16mf2x4(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei16_v_u16mf2x5(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei16_v_u16mf2x6(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei16_v_u16mf2x7(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei16_v_u16mf2x8(const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16_v_u16m1x2(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei16_v_u16m1x3(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16_v_u16m1x4(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei16_v_u16m1x5(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei16_v_u16m1x6(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16_v_u16m1x7(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16_v_u16m1x8(const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16_v_u16m2x2(const uint16_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16_v_u16m2x3(const uint16_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei16_v_u16m2x4(const uint16_t *rs1,
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                                                vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei16_v_u16m4x2(const uint16_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32_v_u16mf4x2(const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32_v_u16mf4x3(const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32_v_u16mf4x4(const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32_v_u16mf4x5(const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32_v_u16mf4x6(const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32_v_u16mf4x7(const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32_v_u16mf4x8(const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32_v_u16mf2x2(const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32_v_u16mf2x3(const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32_v_u16mf2x4(const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei32_v_u16mf2x5(const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32_v_u16mf2x6(const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32_v_u16mf2x7(const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32_v_u16mf2x8(const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32_v_u16m1x2(const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32_v_u16m1x3(const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei32_v_u16m1x4(const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32_v_u16m1x5(const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32_v_u16m1x6(const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32_v_u16m1x7(const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32_v_u16m1x8(const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32_v_u16m2x2(const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32_v_u16m2x3(const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32_v_u16m2x4(const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32_v_u16m4x2(const uint16_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64_v_u16mf4x2(const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64_v_u16mf4x3(const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64_v_u16mf4x4(const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64_v_u16mf4x5(const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64_v_u16mf4x6(const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei64_v_u16mf4x7(const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64_v_u16mf4x8(const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
```

```
vuint16mf2x2_t __riscv_vluxseg2ei64_v_u16mf2x2(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64_v_u16mf2x3(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64_v_u16mf2x4(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64_v_u16mf2x5(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64_v_u16mf2x6(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei64_v_u16mf2x7(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64_v_u16mf2x8(const uint16_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei64_v_u16m1x2(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64_v_u16m1x3(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei64_v_u16m1x4(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64_v_u16m1x5(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64_v_u16m1x6(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64_v_u16m1x7(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64_v_u16m1x8(const uint16_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64_v_u16m2x2(const uint16_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64_v_u16m2x3(const uint16_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64_v_u16m2x4(const uint16_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8_v_u32mf2x2(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8_v_u32mf2x3(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8_v_u32mf2x4(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8_v_u32mf2x5(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8_v_u32mf2x6(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8_v_u32mf2x7(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8_v_u32mf2x8(const uint32_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8_v_u32m1x2(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8_v_u32m1x3(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8_v_u32m1x4(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei8_v_u32m1x5(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei8_v_u32m1x6(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8_v_u32m1x7(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8_v_u32m1x8(const uint32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8_v_u32m2x2(const uint32_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8_v_u32m2x3(const uint32_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8_v_u32m2x4(const uint32_t *rs1,
```

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                                                vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8_v_u32m4x2(const uint32_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16_v_u32mf2x2(const uint32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16_v_u32mf2x3(const uint32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16_v_u32mf2x4(const uint32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16_v_u32mf2x5(const uint32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16_v_u32mf2x6(const uint32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16_v_u32mf2x7(const uint32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16_v_u32mf2x8(const uint32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16_v_u32m1x2(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16_v_u32m1x3(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16_v_u32m1x4(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei16_v_u32m1x5(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16_v_u32m1x6(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei16_v_u32m1x7(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16_v_u32m1x8(const uint32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16_v_u32m2x2(const uint32_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16_v_u32m2x3(const uint32_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei16_v_u32m2x4(const uint32_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei16_v_u32m4x2(const uint32_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32_v_u32mf2x2(const uint32_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32_v_u32mf2x3(const uint32_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32_v_u32mf2x4(const uint32_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32_v_u32mf2x5(const uint32_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32_v_u32mf2x6(const uint32_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32_v_u32mf2x7(const uint32_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32_v_u32mf2x8(const uint32_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32_v_u32m1x2(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32_v_u32m1x3(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32_v_u32m1x4(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32_v_u32m1x5(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32_v_u32m1x6(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei32_v_u32m1x7(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32_v_u32m1x8(const uint32_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
```

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vuint32m2x2_t __riscv_vluxseg2ei32_v_u32m2x2(const uint32_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32_v_u32m2x3(const uint32_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32_v_u32m2x4(const uint32_t *rs1,
                                             vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32_v_u32m4x2(const uint32_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64_v_u32mf2x2(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei64_v_u32mf2x3(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64_v_u32mf2x4(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64_v_u32mf2x5(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64_v_u32mf2x6(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei64_v_u32mf2x7(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64_v_u32mf2x8(const uint32_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64_v_u32m1x2(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64_v_u32m1x3(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64_v_u32m1x4(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei64_v_u32m1x5(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64_v_u32m1x6(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei64_v_u32m1x7(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei64_v_u32m1x8(const uint32_t *rs1,
                                             vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64_v_u32m2x2(const uint32_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64_v_u32m2x3(const uint32_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei64_v_u32m2x4(const uint32_t *rs1,
                                             vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64_v_u32m4x2(const uint32_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8_v_u64m1x2(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8_v_u64m1x3(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8_v_u64m1x4(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8_v_u64m1x5(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8_v_u64m1x6(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei8_v_u64m1x7(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei8_v_u64m1x8(const uint64_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8_v_u64m2x2(const uint64_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8_v_u64m2x3(const uint64_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei8_v_u64m2x4(const uint64_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8_v_u64m4x2(const uint64_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16_v_u64m1x2(const uint64_t *rs1,
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                                            vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16_v_u64m1x3(const uint64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16_v_u64m1x4(const uint64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16_v_u64m1x5(const uint64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei16_v_u64m1x6(const uint64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16_v_u64m1x7(const uint64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16_v_u64m1x8(const uint64_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16_v_u64m2x2(const uint64_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16_v_u64m2x3(const uint64_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16_v_u64m2x4(const uint64_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16_v_u64m4x2(const uint64_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32_v_u64m1x2(const uint64_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei32_v_u64m1x3(const uint64_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32_v_u64m1x4(const uint64_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32_v_u64m1x5(const uint64_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32_v_u64m1x6(const uint64_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32_v_u64m1x7(const uint64_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32_v_u64m1x8(const uint64_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei32_v_u64m2x2(const uint64_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32_v_u64m2x3(const uint64_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32_v_u64m2x4(const uint64_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei32_v_u64m4x2(const uint64_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64_v_u64m1x2(const uint64_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64_v_u64m1x3(const uint64_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64_v_u64m1x4(const uint64_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64_v_u64m1x5(const uint64_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64_v_u64m1x6(const uint64_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64_v_u64m1x7(const uint64_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64_v_u64m1x8(const uint64_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei64_v_u64m2x2(const uint64_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64_v_u64m2x3(const uint64_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64_v_u64m2x4(const uint64_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei64_v_u64m4x2(const uint64_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vloxseg2ei8_v_f16mf4x2_m(vbool64_t vm,
```

```
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei8_v_f16mf4x3_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei8_v_f16mf4x4_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8_v_f16mf4x5_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8_v_f16mf4x6_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8_v_f16mf4x7_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8_v_f16mf4x8_m(vbool64_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8_v_f16mf2x2_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8_v_f16mf2x3_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8_v_f16mf2x4_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8_v_f16mf2x5_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8_v_f16mf2x6_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8_v_f16mf2x7_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8_v_f16mf2x8_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8_v_f16m1x2_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8_v_f16m1x3_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8_v_f16m1x4_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8_v_f16m1x5_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8_v_f16m1x6_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei8_v_f16m1x7_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8_v_f16m1x8_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8_v_f16m2x2_m(vbool8_t vm, const _Float16 *rs1,
                                               vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8_v_f16m2x3_m(vbool8_t vm, const _Float16 *rs1,
                                               vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8_v_f16m2x4_m(vbool8_t vm, const _Float16 *rs1,
```

```
                                                vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8_v_f16m4x2_m(vbool4_t vm, const _Float16 *rs1,
                                               vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16_v_f16mf4x2_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16_v_f16mf4x3_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16_v_f16mf4x4_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16_v_f16mf4x5_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16_v_f16mf4x6_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16_v_f16mf4x7_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16_v_f16mf4x8_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16_v_f16mf2x2_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16_v_f16mf2x3_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16_v_f16mf2x4_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16_v_f16mf2x5_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei16_v_f16mf2x6_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16_v_f16mf2x7_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16_v_f16mf2x8_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei16_v_f16m1x2_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16_v_f16m1x3_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei16_v_f16m1x4_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16_v_f16m1x5_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16_v_f16m1x6_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16_v_f16m1x7_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16_v_f16m1x8_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16_v_f16m2x2_m(vbool8_t vm,
```

```
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16_v_f16m2x3_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16_v_f16m2x4_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16_v_f16m4x2_m(vbool4_t vm,
                                                const _Float16 *rs1,
                                                vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei32_v_f16mf4x2_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32_v_f16mf4x3_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32_v_f16mf4x4_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32_v_f16mf4x5_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32_v_f16mf4x6_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32_v_f16mf4x7_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32_v_f16mf4x8_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32_v_f16mf2x2_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32_v_f16mf2x3_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32_v_f16mf2x4_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32_v_f16mf2x5_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32_v_f16mf2x6_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32_v_f16mf2x7_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32_v_f16mf2x8_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32_v_f16m1x2_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32_v_f16m1x3_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei32_v_f16m1x4_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32_v_f16m1x5_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei32_v_f16m1x6_m(vbool16_t vm,
                                                const _Float16 *rs1,
```

```
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei32_v_f16m1x7_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32_v_f16m1x8_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32_v_f16m2x2_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32_v_f16m2x3_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32_v_f16m2x4_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32_v_f16m4x2_m(vbool4_t vm,
                                                const _Float16 *rs1,
                                                vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64_v_f16mf4x2_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei64_v_f16mf4x3_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64_v_f16mf4x4_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64_v_f16mf4x5_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64_v_f16mf4x6_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64_v_f16mf4x7_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64_v_f16mf4x8_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64_v_f16mf2x2_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64_v_f16mf2x3_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64_v_f16mf2x4_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64_v_f16mf2x5_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei64_v_f16mf2x6_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64_v_f16mf2x7_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64_v_f16mf2x8_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64_v_f16m1x2_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64_v_f16m1x3_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
```

```
vfloat16m1x4_t __riscv_vloxseg4ei64_v_f16m1x4_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64_v_f16m1x5_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64_v_f16m1x6_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64_v_f16m1x7_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64_v_f16m1x8_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64_v_f16m2x2_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64_v_f16m2x3_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64_v_f16m2x4_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8_v_f32mf2x2_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8_v_f32mf2x3_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8_v_f32mf2x4_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8_v_f32mf2x5_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei8_v_f32mf2x6_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8_v_f32mf2x7_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8_v_f32mf2x8_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei8_v_f32m1x2_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8_v_f32m1x3_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei8_v_f32m1x4_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8_v_f32m1x5_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8_v_f32m1x6_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8_v_f32m1x7_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8_v_f32m1x8_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8_v_f32m2x2_m(vbool16_t vm, const float *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8_v_f32m2x3_m(vbool16_t vm, const float *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8_v_f32m2x4_m(vbool16_t vm, const float *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8_v_f32m4x2_m(vbool8_t vm, const float *rs1,
                                               vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei16_v_f32mf2x2_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16_v_f32mf2x3_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16_v_f32mf2x4_m(vbool64_t vm,
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                                                const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16_v_f32mf2x5_m(vbool64_t vm,
                                                const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16_v_f32mf2x6_m(vbool64_t vm,
                                                const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16_v_f32mf2x7_m(vbool64_t vm,
                                                const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16_v_f32mf2x8_m(vbool64_t vm,
                                                const float *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16_v_f32m1x2_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16_v_f32m1x3_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16_v_f32m1x4_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16_v_f32m1x5_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16_v_f32m1x6_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16_v_f32m1x7_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16_v_f32m1x8_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16_v_f32m2x2_m(vbool16_t vm, const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16_v_f32m2x3_m(vbool16_t vm, const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei16_v_f32m2x4_m(vbool16_t vm, const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16_v_f32m4x2_m(vbool8_t vm, const float *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei32_v_f32mf2x2_m(vbool64_t vm,
                                                const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei32_v_f32mf2x3_m(vbool64_t vm,
                                                const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei32_v_f32mf2x4_m(vbool64_t vm,
                                                const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32_v_f32mf2x5_m(vbool64_t vm,
                                                const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32_v_f32mf2x6_m(vbool64_t vm,
                                                const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32_v_f32mf2x7_m(vbool64_t vm,
                                                const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32_v_f32mf2x8_m(vbool64_t vm,
                                                const float *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32_v_f32m1x2_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32_v_f32m1x3_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32_v_f32m1x4_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32_v_f32m1x5_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32_v_f32m1x6_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
```

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vfloat32m1x7_t __riscv_vloxseg7ei32_v_f32m1x7_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32_v_f32m1x8_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32_v_f32m2x2_m(vbool16_t vm, const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32_v_f32m2x3_m(vbool16_t vm, const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32_v_f32m2x4_m(vbool16_t vm, const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32_v_f32m4x2_m(vbool8_t vm, const float *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei64_v_f32mf2x2_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64_v_f32mf2x3_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64_v_f32mf2x4_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64_v_f32mf2x5_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64_v_f32mf2x6_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64_v_f32mf2x7_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64_v_f32mf2x8_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64_v_f32m1x2_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64_v_f32m1x3_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64_v_f32m1x4_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64_v_f32m1x5_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64_v_f32m1x6_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64_v_f32m1x7_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64_v_f32m1x8_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64_v_f32m2x2_m(vbool16_t vm, const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64_v_f32m2x3_m(vbool16_t vm, const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64_v_f32m2x4_m(vbool16_t vm, const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64_v_f32m4x2_m(vbool8_t vm, const float *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8_v_f64m1x2_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8_v_f64m1x3_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei8_v_f64m1x4_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8_v_f64m1x5_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei8_v_f64m1x6_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8_v_f64m1x7_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
```

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vfloat64m1x8_t __riscv_vloxseg8ei8_v_f64m1x8_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8_v_f64m2x2_m(vbool32_t vm, const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8_v_f64m2x3_m(vbool32_t vm, const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8_v_f64m2x4_m(vbool32_t vm, const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8_v_f64m4x2_m(vbool16_t vm, const double *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei16_v_f64m1x2_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16_v_f64m1x3_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei16_v_f64m1x4_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16_v_f64m1x5_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16_v_f64m1x6_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16_v_f64m1x7_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16_v_f64m1x8_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16_v_f64m2x2_m(vbool32_t vm, const double *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16_v_f64m2x3_m(vbool32_t vm, const double *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16_v_f64m2x4_m(vbool32_t vm, const double *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16_v_f64m4x2_m(vbool16_t vm, const double *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32_v_f64m1x2_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32_v_f64m1x3_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32_v_f64m1x4_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32_v_f64m1x5_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32_v_f64m1x6_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32_v_f64m1x7_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32_v_f64m1x8_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei32_v_f64m2x2_m(vbool32_t vm, const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32_v_f64m2x3_m(vbool32_t vm, const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei32_v_f64m2x4_m(vbool32_t vm, const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei32_v_f64m4x2_m(vbool16_t vm, const double *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei64_v_f64m1x2_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64_v_f64m1x3_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64_v_f64m1x4_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64_v_f64m1x5_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64_v_f64m1x6_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64_v_f64m1x7_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64_v_f64m1x8_m(vbool64_t vm, const double *rs1,
```

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                                                vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64_v_f64m2x2_m(vbool32_t vm, const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64_v_f64m2x3_m(vbool32_t vm, const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64_v_f64m2x4_m(vbool32_t vm, const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64_v_f64m4x2_m(vbool16_t vm, const double *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8_v_f16mf4x2_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8_v_f16mf4x3_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei8_v_f16mf4x4_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8_v_f16mf4x5_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8_v_f16mf4x6_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei8_v_f16mf4x7_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8_v_f16mf4x8_m(vbool64_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8_v_f16mf2x2_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8_v_f16mf2x3_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8_v_f16mf2x4_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8_v_f16mf2x5_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8_v_f16mf2x6_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8_v_f16mf2x7_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8_v_f16mf2x8_m(vbool32_t vm,
                                                 const _Float16 *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8_v_f16m1x2_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8_v_f16m1x3_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8_v_f16m1x4_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8_v_f16m1x5_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8_v_f16m1x6_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8_v_f16m1x7_m(vbool16_t vm,
```

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                                            const _Float16 *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8_v_f16m1x8_m(vbool16_t vm,
                                            const _Float16 *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8_v_f16m2x2_m(vbool8_t vm, const _Float16 *rs1,
                                            vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8_v_f16m2x3_m(vbool8_t vm, const _Float16 *rs1,
                                            vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8_v_f16m2x4_m(vbool8_t vm, const _Float16 *rs1,
                                            vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8_v_f16m4x2_m(vbool4_t vm, const _Float16 *rs1,
                                            vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei16_v_f16mf4x2_m(vbool64_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16_v_f16mf4x3_m(vbool64_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei16_v_f16mf4x4_m(vbool64_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16_v_f16mf4x5_m(vbool64_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16_v_f16mf4x6_m(vbool64_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16_v_f16mf4x7_m(vbool64_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16_v_f16mf4x8_m(vbool64_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16_v_f16mf2x2_m(vbool32_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei16_v_f16mf2x3_m(vbool32_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16_v_f16mf2x4_m(vbool32_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16_v_f16mf2x5_m(vbool32_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei16_v_f16mf2x6_m(vbool32_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16_v_f16mf2x7_m(vbool32_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16_v_f16mf2x8_m(vbool32_t vm,
                                              const _Float16 *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16_v_f16m1x2_m(vbool16_t vm,
                                            const _Float16 *rs1,
                                            vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16_v_f16m1x3_m(vbool16_t vm,
                                            const _Float16 *rs1,
                                            vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16_v_f16m1x4_m(vbool16_t vm,
                                            const _Float16 *rs1,
                                            vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16_v_f16m1x5_m(vbool16_t vm,
                                            const _Float16 *rs1,
                                            vuint16m1_t rs2, size_t vl);
```

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vfloat16m1x6_t __riscv_vluxseg6ei16_v_f16m1x6_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16_v_f16m1x7_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16_v_f16m1x8_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16_v_f16m2x2_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16_v_f16m2x3_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16_v_f16m2x4_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16_v_f16m4x2_m(vbool4_t vm,
                                                const _Float16 *rs1,
                                                vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32_v_f16mf4x2_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32_v_f16mf4x3_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei32_v_f16mf4x4_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32_v_f16mf4x5_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei32_v_f16mf4x6_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei32_v_f16mf4x7_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei32_v_f16mf4x8_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32_v_f16mf2x2_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32_v_f16mf2x3_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32_v_f16mf2x4_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32_v_f16mf2x5_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32_v_f16mf2x6_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32_v_f16mf2x7_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32_v_f16mf2x8_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32_v_f16m1x2_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32_v_f16m1x3_m(vbool16_t vm,
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                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32_v_f16m1x4_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32_v_f16m1x5_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32_v_f16m1x6_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32_v_f16m1x7_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32_v_f16m1x8_m(vbool16_t vm,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32_v_f16m2x2_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei32_v_f16m2x3_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32_v_f16m2x4_m(vbool8_t vm,
                                                const _Float16 *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32_v_f16m4x2_m(vbool4_t vm,
                                                const _Float16 *rs1,
                                                vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64_v_f16mf4x2_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64_v_f16mf4x3_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64_v_f16mf4x4_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64_v_f16mf4x5_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64_v_f16mf4x6_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei64_v_f16mf4x7_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64_v_f16mf4x8_m(vbool64_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64_v_f16mf2x2_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64_v_f16mf2x3_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64_v_f16mf2x4_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64_v_f16mf2x5_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64_v_f16mf2x6_m(vbool32_t vm,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64_v_f16mf2x7_m(vbool32_t vm,
                                                  const _Float16 *rs1,
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                                                vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64_v_f16mf2x8_m(vbool32_t vm,
                                                const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64_v_f16m1x2_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64_v_f16m1x3_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64_v_f16m1x4_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei64_v_f16m1x5_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64_v_f16m1x6_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei64_v_f16m1x7_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64_v_f16m1x8_m(vbool16_t vm,
                                               const _Float16 *rs1,
                                               vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64_v_f16m2x2_m(vbool8_t vm,
                                               const _Float16 *rs1,
                                               vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64_v_f16m2x3_m(vbool8_t vm,
                                               const _Float16 *rs1,
                                               vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64_v_f16m2x4_m(vbool8_t vm,
                                               const _Float16 *rs1,
                                               vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8_v_f32mf2x2_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8_v_f32mf2x3_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8_v_f32mf2x4_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8_v_f32mf2x5_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei8_v_f32mf2x6_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8_v_f32mf2x7_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8_v_f32mf2x8_m(vbool64_t vm, const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8_v_f32m1x2_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8_v_f32m1x3_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8_v_f32m1x4_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8_v_f32m1x5_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8_v_f32m1x6_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8_v_f32m1x7_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8_v_f32m1x8_m(vbool32_t vm, const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8_v_f32m2x2_m(vbool16_t vm, const float *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8_v_f32m2x3_m(vbool16_t vm, const float *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8_v_f32m2x4_m(vbool16_t vm, const float *rs1,
```

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                                                vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8_v_f32m4x2_m(vbool8_t vm, const float *rs1,
                                               vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16_v_f32mf2x2_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16_v_f32mf2x3_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei16_v_f32mf2x4_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16_v_f32mf2x5_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei16_v_f32mf2x6_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei16_v_f32mf2x7_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16_v_f32mf2x8_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16_v_f32m1x2_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16_v_f32m1x3_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16_v_f32m1x4_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16_v_f32m1x5_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16_v_f32m1x6_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16_v_f32m1x7_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16_v_f32m1x8_m(vbool32_t vm, const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16_v_f32m2x2_m(vbool16_t vm, const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16_v_f32m2x3_m(vbool16_t vm, const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16_v_f32m2x4_m(vbool16_t vm, const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16_v_f32m4x2_m(vbool8_t vm, const float *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32_v_f32mf2x2_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32_v_f32mf2x3_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32_v_f32mf2x4_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32_v_f32mf2x5_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei32_v_f32mf2x6_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32_v_f32mf2x7_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32_v_f32mf2x8_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
```

```
vfloat32m1x2_t __riscv_vluxseg2ei32_v_f32m1x2_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32_v_f32m1x3_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32_v_f32m1x4_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32_v_f32m1x5_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32_v_f32m1x6_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32_v_f32m1x7_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32_v_f32m1x8_m(vbool32_t vm, const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32_v_f32m2x2_m(vbool16_t vm, const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32_v_f32m2x3_m(vbool16_t vm, const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32_v_f32m2x4_m(vbool16_t vm, const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32_v_f32m4x2_m(vbool8_t vm, const float *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64_v_f32mf2x2_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64_v_f32mf2x3_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64_v_f32mf2x4_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64_v_f32mf2x5_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei64_v_f32mf2x6_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64_v_f32mf2x7_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei64_v_f32mf2x8_m(vbool64_t vm,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64_v_f32m1x2_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei64_v_f32m1x3_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64_v_f32m1x4_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64_v_f32m1x5_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64_v_f32m1x6_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64_v_f32m1x7_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64_v_f32m1x8_m(vbool32_t vm, const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64_v_f32m2x2_m(vbool16_t vm, const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64_v_f32m2x3_m(vbool16_t vm, const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei64_v_f32m2x4_m(vbool16_t vm, const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei64_v_f32m4x2_m(vbool8_t vm, const float *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8_v_f64m1x2_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
```

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vfloat64m1x3_t __riscv_vluxseg3ei8_v_f64m1x3_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8_v_f64m1x4_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8_v_f64m1x5_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8_v_f64m1x6_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8_v_f64m1x7_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8_v_f64m1x8_m(vbool64_t vm, const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8_v_f64m2x2_m(vbool32_t vm, const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8_v_f64m2x3_m(vbool32_t vm, const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8_v_f64m2x4_m(vbool32_t vm, const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei8_v_f64m4x2_m(vbool16_t vm, const double *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16_v_f64m1x2_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16_v_f64m1x3_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16_v_f64m1x4_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16_v_f64m1x5_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei16_v_f64m1x6_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16_v_f64m1x7_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei16_v_f64m1x8_m(vbool64_t vm, const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei16_v_f64m2x2_m(vbool32_t vm, const double *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16_v_f64m2x3_m(vbool32_t vm, const double *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16_v_f64m2x4_m(vbool32_t vm, const double *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16_v_f64m4x2_m(vbool16_t vm, const double *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32_v_f64m1x2_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei32_v_f64m1x3_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32_v_f64m1x4_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32_v_f64m1x5_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32_v_f64m1x6_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei32_v_f64m1x7_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32_v_f64m1x8_m(vbool64_t vm, const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32_v_f64m2x2_m(vbool32_t vm, const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32_v_f64m2x3_m(vbool32_t vm, const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32_v_f64m2x4_m(vbool32_t vm, const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32_v_f64m4x2_m(vbool16_t vm, const double *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64_v_f64m1x2_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64_v_f64m1x3_m(vbool64_t vm, const double *rs1,
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                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei64_v_f64m1x4_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64_v_f64m1x5_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64_v_f64m1x6_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64_v_f64m1x7_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64_v_f64m1x8_m(vbool64_t vm, const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64_v_f64m2x2_m(vbool32_t vm, const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64_v_f64m2x3_m(vbool32_t vm, const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64_v_f64m2x4_m(vbool32_t vm, const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64_v_f64m4x2_m(vbool16_t vm, const double *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8_v_i8mf8x2_m(vbool64_t vm, const int8_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8_v_i8mf8x3_m(vbool64_t vm, const int8_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8_v_i8mf8x4_m(vbool64_t vm, const int8_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8_v_i8mf8x5_m(vbool64_t vm, const int8_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8_v_i8mf8x6_m(vbool64_t vm, const int8_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8_v_i8mf8x7_m(vbool64_t vm, const int8_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8_v_i8mf8x8_m(vbool64_t vm, const int8_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8_v_i8mf4x2_m(vbool32_t vm, const int8_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8_v_i8mf4x3_m(vbool32_t vm, const int8_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8_v_i8mf4x4_m(vbool32_t vm, const int8_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8_v_i8mf4x5_m(vbool32_t vm, const int8_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei8_v_i8mf4x6_m(vbool32_t vm, const int8_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8_v_i8mf4x7_m(vbool32_t vm, const int8_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei8_v_i8mf4x8_m(vbool32_t vm, const int8_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8_v_i8mf2x2_m(vbool16_t vm, const int8_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8_v_i8mf2x3_m(vbool16_t vm, const int8_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8_v_i8mf2x4_m(vbool16_t vm, const int8_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8_v_i8mf2x5_m(vbool16_t vm, const int8_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei8_v_i8mf2x6_m(vbool16_t vm, const int8_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8_v_i8mf2x7_m(vbool16_t vm, const int8_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8_v_i8mf2x8_m(vbool16_t vm, const int8_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8_v_i8m1x2_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei8_v_i8m1x3_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8_v_i8m1x4_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
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vint8m1x5_t __riscv_vloxseg5ei8_v_i8m1x5_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8_v_i8m1x6_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8_v_i8m1x7_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8_v_i8m1x8_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei8_v_i8m2x2_m(vbool4_t vm, const int8_t *rs1,
                                           vuint8m2_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8_v_i8m2x3_m(vbool4_t vm, const int8_t *rs1,
                                           vuint8m2_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8_v_i8m2x4_m(vbool4_t vm, const int8_t *rs1,
                                           vuint8m2_t rs2, size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8_v_i8m4x2_m(vbool2_t vm, const int8_t *rs1,
                                           vuint8m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16_v_i8mf8x2_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16_v_i8mf8x3_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16_v_i8mf8x4_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16_v_i8mf8x5_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16_v_i8mf8x6_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16_v_i8mf8x7_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16_v_i8mf8x8_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei16_v_i8mf4x2_m(vbool32_t vm, const int8_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei16_v_i8mf4x3_m(vbool32_t vm, const int8_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei16_v_i8mf4x4_m(vbool32_t vm, const int8_t *rs1,
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                                              vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16_v_i8mf4x7_m(vbool32_t vm, const int8_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16_v_i8mf4x8_m(vbool32_t vm, const int8_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16_v_i8mf2x2_m(vbool16_t vm, const int8_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16_v_i8mf2x3_m(vbool16_t vm, const int8_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
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                                              vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16_v_i8mf2x5_m(vbool16_t vm, const int8_t *rs1,
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                                              vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16_v_i8mf2x7_m(vbool16_t vm, const int8_t *rs1,
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vint8mf2x8_t __riscv_vloxseg8ei16_v_i8mf2x8_m(vbool16_t vm, const int8_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16_v_i8m1x2_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16_v_i8m1x3_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16_v_i8m1x4_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16_v_i8m1x5_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16_v_i8m1x6_m(vbool8_t vm, const int8_t *rs1,
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                                            vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei16_v_i8m1x7_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16_v_i8m1x8_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16_v_i8m2x2_m(vbool4_t vm, const int8_t *rs1,
                                            vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16_v_i8m2x3_m(vbool4_t vm, const int8_t *rs1,
                                            vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16_v_i8m2x4_m(vbool4_t vm, const int8_t *rs1,
                                            vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16_v_i8m4x2_m(vbool2_t vm, const int8_t *rs1,
                                            vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei32_v_i8mf8x2_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32_v_i8mf8x3_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32_v_i8mf8x4_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32_v_i8mf8x5_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32_v_i8mf8x6_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32_v_i8mf8x7_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32_v_i8mf8x8_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32_v_i8mf4x2_m(vbool32_t vm, const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32_v_i8mf4x3_m(vbool32_t vm, const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32_v_i8mf4x4_m(vbool32_t vm, const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32_v_i8mf4x5_m(vbool32_t vm, const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
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                                              vuint32m1_t rs2, size_t vl);
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                                              vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32_v_i8mf4x8_m(vbool32_t vm, const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei32_v_i8mf2x2_m(vbool16_t vm, const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32_v_i8mf2x3_m(vbool16_t vm, const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei32_v_i8mf2x4_m(vbool16_t vm, const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32_v_i8mf2x5_m(vbool16_t vm, const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32_v_i8mf2x6_m(vbool16_t vm, const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32_v_i8mf2x7_m(vbool16_t vm, const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
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                                              vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32_v_i8m1x2_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
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                                            vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32_v_i8m1x4_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
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                                            vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei32_v_i8m1x6_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32_v_i8m1x7_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
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vint8m1x8_t __riscv_vloxseg8ei32_v_i8m1x8_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32_v_i8m2x2_m(vbool4_t vm, const int8_t *rs1,
                                            vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32_v_i8m2x3_m(vbool4_t vm, const int8_t *rs1,
                                            vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32_v_i8m2x4_m(vbool4_t vm, const int8_t *rs1,
                                            vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei64_v_i8mf8x2_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64_v_i8mf8x3_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64_v_i8mf8x4_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64_v_i8mf8x5_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64_v_i8mf8x6_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64_v_i8mf8x7_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64_v_i8mf8x8_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64_v_i8mf4x2_m(vbool32_t vm, const int8_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64_v_i8mf4x3_m(vbool32_t vm, const int8_t *rs1,
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vint8mf2x8_t __riscv_vloxseg8ei64_v_i8mf2x8_m(vbool16_t vm, const int8_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64_v_i8m1x2_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64_v_i8m1x3_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
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vint8m1x5_t __riscv_vloxseg5ei64_v_i8m1x5_m(vbool8_t vm, const int8_t *rs1,
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vint8m1x6_t __riscv_vloxseg6ei64_v_i8m1x6_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64_v_i8m1x7_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64_v_i8m1x8_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8_v_i16mf4x2_m(vbool64_t vm, const int16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8_v_i16mf4x3_m(vbool64_t vm, const int16_t *rs1,
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                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei8_v_i16mf4x4_m(vbool64_t vm, const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8_v_i16mf4x5_m(vbool64_t vm, const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8_v_i16mf4x6_m(vbool64_t vm, const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8_v_i16mf4x7_m(vbool64_t vm, const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8_v_i16mf4x8_m(vbool64_t vm, const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8_v_i16mf2x2_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8_v_i16mf2x3_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8_v_i16mf2x4_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8_v_i16mf2x5_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8_v_i16mf2x6_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8_v_i16mf2x7_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8_v_i16mf2x8_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8_v_i16m1x2_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8_v_i16m1x3_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8_v_i16m1x4_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8_v_i16m1x5_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8_v_i16m1x6_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8_v_i16m1x7_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8_v_i16m1x8_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8_v_i16m2x2_m(vbool8_t vm, const int16_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei8_v_i16m2x3_m(vbool8_t vm, const int16_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8_v_i16m2x4_m(vbool8_t vm, const int16_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei8_v_i16m4x2_m(vbool4_t vm, const int16_t *rs1,
                                             vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16_v_i16mf4x2_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16_v_i16mf4x3_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei16_v_i16mf4x4_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16_v_i16mf4x5_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16_v_i16mf4x6_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16_v_i16mf4x7_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16_v_i16mf4x8_m(vbool64_t vm,
                                                const int16_t *rs1,
```

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                                                vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei16_v_i16mf2x2_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei16_v_i16mf2x3_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16_v_i16mf2x4_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16_v_i16mf2x5_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16_v_i16mf2x6_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16_v_i16mf2x7_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16_v_i16mf2x8_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16_v_i16m1x2_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16_v_i16m1x3_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16_v_i16m1x4_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16_v_i16m1x5_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16_v_i16m1x6_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16_v_i16m1x7_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16_v_i16m1x8_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16_v_i16m2x2_m(vbool8_t vm, const int16_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16_v_i16m2x3_m(vbool8_t vm, const int16_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16_v_i16m2x4_m(vbool8_t vm, const int16_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16_v_i16m4x2_m(vbool4_t vm, const int16_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32_v_i16mf4x2_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei32_v_i16mf4x3_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei32_v_i16mf4x4_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32_v_i16mf4x5_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32_v_i16mf4x6_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32_v_i16mf4x7_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32_v_i16mf4x8_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32_v_i16mf2x2_m(vbool32_t vm,
                                                const int16_t *rs1,
```

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                                                vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32_v_i16mf2x3_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32_v_i16mf2x4_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32_v_i16mf2x5_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32_v_i16mf2x6_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei32_v_i16mf2x7_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32_v_i16mf2x8_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32_v_i16m1x2_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32_v_i16m1x3_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32_v_i16m1x4_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32_v_i16m1x5_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32_v_i16m1x6_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei32_v_i16m1x7_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32_v_i16m1x8_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32_v_i16m2x2_m(vbool8_t vm, const int16_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32_v_i16m2x3_m(vbool8_t vm, const int16_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32_v_i16m2x4_m(vbool8_t vm, const int16_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32_v_i16m4x2_m(vbool4_t vm, const int16_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64_v_i16mf4x2_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64_v_i16mf4x3_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64_v_i16mf4x4_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64_v_i16mf4x5_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64_v_i16mf4x6_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64_v_i16mf4x7_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64_v_i16mf4x8_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64_v_i16mf2x2_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64_v_i16mf2x3_m(vbool32_t vm,
                                                const int16_t *rs1,
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                                                vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64_v_i16mf2x4_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64_v_i16mf2x5_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64_v_i16mf2x6_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64_v_i16mf2x7_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64_v_i16mf2x8_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei64_v_i16m1x2_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64_v_i16m1x3_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei64_v_i16m1x4_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64_v_i16m1x5_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64_v_i16m1x6_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64_v_i16m1x7_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64_v_i16m1x8_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64_v_i16m2x2_m(vbool8_t vm, const int16_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64_v_i16m2x3_m(vbool8_t vm, const int16_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64_v_i16m2x4_m(vbool8_t vm, const int16_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8_v_i32mf2x2_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei8_v_i32mf2x3_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8_v_i32mf2x4_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8_v_i32mf2x5_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei8_v_i32mf2x6_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8_v_i32mf2x7_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8_v_i32mf2x8_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8_v_i32m1x2_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei8_v_i32m1x3_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei8_v_i32m1x4_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8_v_i32m1x5_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei8_v_i32m1x6_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei8_v_i32m1x7_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei8_v_i32m1x8_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8_v_i32m2x2_m(vbool16_t vm, const int32_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8_v_i32m2x3_m(vbool16_t vm, const int32_t *rs1,
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                                                vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei8_v_i32m2x4_m(vbool16_t vm, const int32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8_v_i32m4x2_m(vbool8_t vm, const int32_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16_v_i32mf2x2_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei16_v_i32mf2x3_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei16_v_i32mf2x4_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei16_v_i32mf2x5_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16_v_i32mf2x6_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16_v_i32mf2x7_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16_v_i32mf2x8_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16_v_i32m1x2_m(vbool32_t vm, const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16_v_i32m1x3_m(vbool32_t vm, const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei16_v_i32m1x4_m(vbool32_t vm, const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16_v_i32m1x5_m(vbool32_t vm, const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16_v_i32m1x6_m(vbool32_t vm, const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei16_v_i32m1x7_m(vbool32_t vm, const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16_v_i32m1x8_m(vbool32_t vm, const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16_v_i32m2x2_m(vbool16_t vm, const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16_v_i32m2x3_m(vbool16_t vm, const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16_v_i32m2x4_m(vbool16_t vm, const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16_v_i32m4x2_m(vbool8_t vm, const int32_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32_v_i32mf2x2_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei32_v_i32mf2x3_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32_v_i32mf2x4_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32_v_i32mf2x5_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32_v_i32mf2x6_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32_v_i32mf2x7_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32_v_i32mf2x8_m(vbool64_t vm,
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                                                const int32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32_v_i32m1x2_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei32_v_i32m1x3_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32_v_i32m1x4_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32_v_i32m1x5_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei32_v_i32m1x6_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei32_v_i32m1x7_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32_v_i32m1x8_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32_v_i32m2x2_m(vbool16_t vm, const int32_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32_v_i32m2x3_m(vbool16_t vm, const int32_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32_v_i32m2x4_m(vbool16_t vm, const int32_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32_v_i32m4x2_m(vbool8_t vm, const int32_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei64_v_i32mf2x2_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64_v_i32mf2x3_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64_v_i32mf2x4_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei64_v_i32mf2x5_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64_v_i32mf2x6_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei64_v_i32mf2x7_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64_v_i32mf2x8_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64_v_i32m1x2_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64_v_i32m1x3_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei64_v_i32m1x4_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei64_v_i32m1x5_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei64_v_i32m1x6_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei64_v_i32m1x7_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei64_v_i32m1x8_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei64_v_i32m2x2_m(vbool16_t vm, const int32_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei64_v_i32m2x3_m(vbool16_t vm, const int32_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei64_v_i32m2x4_m(vbool16_t vm, const int32_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei64_v_i32m4x2_m(vbool8_t vm, const int32_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
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vint64m1x2_t __riscv_vloxseg2ei8_v_i64m1x2_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8_v_i64m1x3_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8_v_i64m1x4_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei8_v_i64m1x5_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei8_v_i64m1x6_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei8_v_i64m1x7_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei8_v_i64m1x8_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei8_v_i64m2x2_m(vbool32_t vm, const int64_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei8_v_i64m2x3_m(vbool32_t vm, const int64_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei8_v_i64m2x4_m(vbool32_t vm, const int64_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei8_v_i64m4x2_m(vbool16_t vm, const int64_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16_v_i64m1x2_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16_v_i64m1x3_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16_v_i64m1x4_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei16_v_i64m1x5_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei16_v_i64m1x6_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16_v_i64m1x7_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16_v_i64m1x8_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei16_v_i64m2x2_m(vbool32_t vm, const int64_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei16_v_i64m2x3_m(vbool32_t vm, const int64_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei16_v_i64m2x4_m(vbool32_t vm, const int64_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16_v_i64m4x2_m(vbool16_t vm, const int64_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32_v_i64m1x2_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32_v_i64m1x3_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32_v_i64m1x4_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei32_v_i64m1x5_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei32_v_i64m1x6_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei32_v_i64m1x7_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32_v_i64m1x8_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32_v_i64m2x2_m(vbool32_t vm, const int64_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32_v_i64m2x3_m(vbool32_t vm, const int64_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei32_v_i64m2x4_m(vbool32_t vm, const int64_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei32_v_i64m4x2_m(vbool16_t vm, const int64_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64_v_i64m1x2_m(vbool64_t vm, const int64_t *rs1,
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                                                vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64_v_i64m1x3_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64_v_i64m1x4_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64_v_i64m1x5_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64_v_i64m1x6_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64_v_i64m1x7_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64_v_i64m1x8_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64_v_i64m2x2_m(vbool32_t vm, const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei64_v_i64m2x3_m(vbool32_t vm, const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64_v_i64m2x4_m(vbool32_t vm, const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64_v_i64m4x2_m(vbool16_t vm, const int64_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8_v_i8mf8x2_m(vbool64_t vm, const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8_v_i8mf8x3_m(vbool64_t vm, const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8_v_i8mf8x4_m(vbool64_t vm, const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8_v_i8mf8x5_m(vbool64_t vm, const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8_v_i8mf8x6_m(vbool64_t vm, const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8_v_i8mf8x7_m(vbool64_t vm, const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8_v_i8mf8x8_m(vbool64_t vm, const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8_v_i8mf4x2_m(vbool32_t vm, const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei8_v_i8mf4x3_m(vbool32_t vm, const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8_v_i8mf4x4_m(vbool32_t vm, const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei8_v_i8mf4x5_m(vbool32_t vm, const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8_v_i8mf4x6_m(vbool32_t vm, const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8_v_i8mf4x7_m(vbool32_t vm, const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8_v_i8mf4x8_m(vbool32_t vm, const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8_v_i8mf2x2_m(vbool16_t vm, const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei8_v_i8mf2x3_m(vbool16_t vm, const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8_v_i8mf2x4_m(vbool16_t vm, const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8_v_i8mf2x5_m(vbool16_t vm, const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8_v_i8mf2x6_m(vbool16_t vm, const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei8_v_i8mf2x7_m(vbool16_t vm, const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8_v_i8mf2x8_m(vbool16_t vm, const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8_v_i8m1x2_m(vbool8_t vm, const int8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8_v_i8m1x3_m(vbool8_t vm, const int8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
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vint8m1x4_t __riscv_vluxseg4ei8_v_i8m1x4_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8_v_i8m1x5_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8_v_i8m1x6_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8_v_i8m1x7_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8_v_i8m1x8_m(vbool8_t vm, const int8_t *rs1,
                                           vuint8m1_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei8_v_i8m2x2_m(vbool4_t vm, const int8_t *rs1,
                                           vuint8m2_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8_v_i8m2x3_m(vbool4_t vm, const int8_t *rs1,
                                           vuint8m2_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8_v_i8m2x4_m(vbool4_t vm, const int8_t *rs1,
                                           vuint8m2_t rs2, size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8_v_i8m4x2_m(vbool2_t vm, const int8_t *rs1,
                                           vuint8m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16_v_i8mf8x2_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16_v_i8mf8x3_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16_v_i8mf8x4_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16_v_i8mf8x5_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16_v_i8mf8x6_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei16_v_i8mf8x7_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei16_v_i8mf8x8_m(vbool64_t vm, const int8_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16_v_i8mf4x2_m(vbool32_t vm, const int8_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16_v_i8mf4x3_m(vbool32_t vm, const int8_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16_v_i8mf4x4_m(vbool32_t vm, const int8_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16_v_i8mf4x5_m(vbool32_t vm, const int8_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16_v_i8mf4x6_m(vbool32_t vm, const int8_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16_v_i8mf4x7_m(vbool32_t vm, const int8_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16_v_i8mf4x8_m(vbool32_t vm, const int8_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16_v_i8mf2x2_m(vbool16_t vm, const int8_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16_v_i8mf2x3_m(vbool16_t vm, const int8_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16_v_i8mf2x4_m(vbool16_t vm, const int8_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16_v_i8mf2x5_m(vbool16_t vm, const int8_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16_v_i8mf2x6_m(vbool16_t vm, const int8_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16_v_i8mf2x7_m(vbool16_t vm, const int8_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16_v_i8mf2x8_m(vbool16_t vm, const int8_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16_v_i8m1x2_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16_v_i8m1x3_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei16_v_i8m1x4_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei16_v_i8m1x5_m(vbool8_t vm, const int8_t *rs1,
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                                            vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16_v_i8m1x6_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16_v_i8m1x7_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16_v_i8m1x8_m(vbool8_t vm, const int8_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16_v_i8m2x2_m(vbool4_t vm, const int8_t *rs1,
                                            vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16_v_i8m2x3_m(vbool4_t vm, const int8_t *rs1,
                                            vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16_v_i8m2x4_m(vbool4_t vm, const int8_t *rs1,
                                            vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16_v_i8m4x2_m(vbool2_t vm, const int8_t *rs1,
                                            vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei32_v_i8mf8x2_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32_v_i8mf8x3_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32_v_i8mf8x4_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32_v_i8mf8x5_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32_v_i8mf8x6_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32_v_i8mf8x7_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32_v_i8mf8x8_m(vbool64_t vm, const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32_v_i8mf4x2_m(vbool32_t vm, const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32_v_i8mf4x3_m(vbool32_t vm, const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32_v_i8mf4x4_m(vbool32_t vm, const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
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                                              vuint32m1_t rs2, size_t vl);
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vint8mf4x8_t __riscv_vluxseg8ei32_v_i8mf4x8_m(vbool32_t vm, const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
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                                              vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei32_v_i8mf2x3_m(vbool16_t vm, const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
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                                              vuint32m2_t rs2, size_t vl);
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                                              vuint32m2_t rs2, size_t vl);
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                                              vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32_v_i8mf2x7_m(vbool16_t vm, const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei32_v_i8mf2x8_m(vbool16_t vm, const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32_v_i8m1x2_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei32_v_i8m1x3_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32_v_i8m1x4_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32_v_i8m1x5_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32_v_i8m1x6_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
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vint8m1x7_t __riscv_vluxseg7ei32_v_i8m1x7_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32_v_i8m1x8_m(vbool8_t vm, const int8_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32_v_i8m2x2_m(vbool4_t vm, const int8_t *rs1,
                                            vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32_v_i8m2x3_m(vbool4_t vm, const int8_t *rs1,
                                            vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32_v_i8m2x4_m(vbool4_t vm, const int8_t *rs1,
                                            vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64_v_i8mf8x2_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64_v_i8mf8x3_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64_v_i8mf8x4_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64_v_i8mf8x5_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64_v_i8mf8x6_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64_v_i8mf8x7_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64_v_i8mf8x8_m(vbool64_t vm, const int8_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64_v_i8mf4x2_m(vbool32_t vm, const int8_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64_v_i8mf4x3_m(vbool32_t vm, const int8_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei64_v_i8mf4x4_m(vbool32_t vm, const int8_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei64_v_i8mf4x5_m(vbool32_t vm, const int8_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64_v_i8mf4x6_m(vbool32_t vm, const int8_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
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                                              vuint64m2_t rs2, size_t vl);
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                                              vuint64m4_t rs2, size_t vl);
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                                              vuint64m4_t rs2, size_t vl);
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                                              vuint64m4_t rs2, size_t vl);
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                                              vuint64m4_t rs2, size_t vl);
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                                              vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64_v_i8m1x2_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64_v_i8m1x3_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64_v_i8m1x4_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64_v_i8m1x5_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64_v_i8m1x6_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64_v_i8m1x7_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei64_v_i8m1x8_m(vbool8_t vm, const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8_v_i16mf4x2_m(vbool64_t vm, const int16_t *rs1,
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                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8_v_i16mf4x3_m(vbool64_t vm, const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8_v_i16mf4x4_m(vbool64_t vm, const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8_v_i16mf4x5_m(vbool64_t vm, const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8_v_i16mf4x6_m(vbool64_t vm, const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei8_v_i16mf4x7_m(vbool64_t vm, const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei8_v_i16mf4x8_m(vbool64_t vm, const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8_v_i16mf2x2_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8_v_i16mf2x3_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8_v_i16mf2x4_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8_v_i16mf2x5_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8_v_i16mf2x6_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8_v_i16mf2x7_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8_v_i16mf2x8_m(vbool32_t vm, const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8_v_i16m1x2_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8_v_i16m1x3_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8_v_i16m1x4_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8_v_i16m1x5_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8_v_i16m1x6_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei8_v_i16m1x7_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8_v_i16m1x8_m(vbool16_t vm, const int16_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei8_v_i16m2x2_m(vbool8_t vm, const int16_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8_v_i16m2x3_m(vbool8_t vm, const int16_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8_v_i16m2x4_m(vbool8_t vm, const int16_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8_v_i16m4x2_m(vbool4_t vm, const int16_t *rs1,
                                             vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16_v_i16mf4x2_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16_v_i16mf4x3_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16_v_i16mf4x4_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16_v_i16mf4x5_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16_v_i16mf4x6_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei16_v_i16mf4x7_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
```

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vint16mf4x8_t __riscv_vluxseg8ei16_v_i16mf4x8_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16_v_i16mf2x2_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16_v_i16mf2x3_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16_v_i16mf2x4_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16_v_i16mf2x5_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16_v_i16mf2x6_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16_v_i16mf2x7_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16_v_i16mf2x8_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16_v_i16m1x2_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16_v_i16m1x3_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16_v_i16m1x4_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16_v_i16m1x5_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16_v_i16m1x6_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16_v_i16m1x7_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16_v_i16m1x8_m(vbool16_t vm, const int16_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16_v_i16m2x2_m(vbool8_t vm, const int16_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16_v_i16m2x3_m(vbool8_t vm, const int16_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei16_v_i16m2x4_m(vbool8_t vm, const int16_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei16_v_i16m4x2_m(vbool4_t vm, const int16_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32_v_i16mf4x2_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32_v_i16mf4x3_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32_v_i16mf4x4_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32_v_i16mf4x5_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32_v_i16mf4x6_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32_v_i16mf4x7_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32_v_i16mf4x8_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
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vint16mf2x2_t __riscv_vluxseg2ei32_v_i16mf2x2_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32_v_i16mf2x3_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32_v_i16mf2x4_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32_v_i16mf2x5_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32_v_i16mf2x6_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei32_v_i16mf2x7_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32_v_i16mf2x8_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32_v_i16m1x2_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32_v_i16m1x3_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei32_v_i16m1x4_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32_v_i16m1x5_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32_v_i16m1x6_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32_v_i16m1x7_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32_v_i16m1x8_m(vbool16_t vm, const int16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32_v_i16m2x2_m(vbool8_t vm, const int16_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei32_v_i16m2x3_m(vbool8_t vm, const int16_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32_v_i16m2x4_m(vbool8_t vm, const int16_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32_v_i16m4x2_m(vbool4_t vm, const int16_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64_v_i16mf4x2_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64_v_i16mf4x3_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64_v_i16mf4x4_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64_v_i16mf4x5_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64_v_i16mf4x6_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64_v_i16mf4x7_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64_v_i16mf4x8_m(vbool64_t vm,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64_v_i16mf2x2_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
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vint16mf2x3_t __riscv_vluxseg3ei64_v_i16mf2x3_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64_v_i16mf2x4_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64_v_i16mf2x5_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei64_v_i16mf2x6_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64_v_i16mf2x7_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei64_v_i16mf2x8_m(vbool32_t vm,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64_v_i16m1x2_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64_v_i16m1x3_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64_v_i16m1x4_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64_v_i16m1x5_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64_v_i16m1x6_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64_v_i16m1x7_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64_v_i16m1x8_m(vbool16_t vm, const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64_v_i16m2x2_m(vbool8_t vm, const int16_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei64_v_i16m2x3_m(vbool8_t vm, const int16_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64_v_i16m2x4_m(vbool8_t vm, const int16_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8_v_i32mf2x2_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8_v_i32mf2x3_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8_v_i32mf2x4_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8_v_i32mf2x5_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8_v_i32mf2x6_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8_v_i32mf2x7_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8_v_i32mf2x8_m(vbool64_t vm, const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8_v_i32m1x2_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8_v_i32m1x3_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8_v_i32m1x4_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8_v_i32m1x5_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8_v_i32m1x6_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8_v_i32m1x7_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8_v_i32m1x8_m(vbool32_t vm, const int32_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8_v_i32m2x2_m(vbool16_t vm, const int32_t *rs1,
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                                                vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8_v_i32m2x3_m(vbool16_t vm, const int32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei8_v_i32m2x4_m(vbool16_t vm, const int32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei8_v_i32m4x2_m(vbool8_t vm, const int32_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16_v_i32mf2x2_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16_v_i32mf2x3_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16_v_i32mf2x4_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei16_v_i32mf2x5_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16_v_i32mf2x6_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei16_v_i32mf2x7_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16_v_i32mf2x8_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16_v_i32m1x2_m(vbool32_t vm, const int32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16_v_i32m1x3_m(vbool32_t vm, const int32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16_v_i32m1x4_m(vbool32_t vm, const int32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16_v_i32m1x5_m(vbool32_t vm, const int32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16_v_i32m1x6_m(vbool32_t vm, const int32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16_v_i32m1x7_m(vbool32_t vm, const int32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16_v_i32m1x8_m(vbool32_t vm, const int32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16_v_i32m2x2_m(vbool16_t vm, const int32_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16_v_i32m2x3_m(vbool16_t vm, const int32_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei16_v_i32m2x4_m(vbool16_t vm, const int32_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16_v_i32m4x2_m(vbool8_t vm, const int32_t *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32_v_i32mf2x2_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32_v_i32mf2x3_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32_v_i32mf2x4_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32_v_i32mf2x5_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei32_v_i32mf2x6_m(vbool64_t vm,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32_v_i32mf2x7_m(vbool64_t vm,
                                                   const int32_t *rs1,
```

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                                                vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32_v_i32mf2x8_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32_v_i32m1x2_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32_v_i32m1x3_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32_v_i32m1x4_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32_v_i32m1x5_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32_v_i32m1x6_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32_v_i32m1x7_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32_v_i32m1x8_m(vbool32_t vm, const int32_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei32_v_i32m2x2_m(vbool16_t vm, const int32_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32_v_i32m2x3_m(vbool16_t vm, const int32_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32_v_i32m2x4_m(vbool16_t vm, const int32_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32_v_i32m4x2_m(vbool8_t vm, const int32_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei64_v_i32mf2x2_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64_v_i32mf2x3_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei64_v_i32mf2x4_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64_v_i32mf2x5_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64_v_i32mf2x6_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64_v_i32mf2x7_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei64_v_i32mf2x8_m(vbool64_t vm,
                                                const int32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64_v_i32m1x2_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64_v_i32m1x3_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64_v_i32m1x4_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64_v_i32m1x5_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei64_v_i32m1x6_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64_v_i32m1x7_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64_v_i32m1x8_m(vbool32_t vm, const int32_t *rs1,
                                              vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64_v_i32m2x2_m(vbool16_t vm, const int32_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64_v_i32m2x3_m(vbool16_t vm, const int32_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64_v_i32m2x4_m(vbool16_t vm, const int32_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
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vint32m4x2_t __riscv_vluxseg2ei64_v_i32m4x2_m(vbool8_t vm, const int32_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8_v_i64m1x2_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8_v_i64m1x3_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8_v_i64m1x4_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8_v_i64m1x5_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8_v_i64m1x6_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8_v_i64m1x7_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8_v_i64m1x8_m(vbool64_t vm, const int64_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8_v_i64m2x2_m(vbool32_t vm, const int64_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8_v_i64m2x3_m(vbool32_t vm, const int64_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8_v_i64m2x4_m(vbool32_t vm, const int64_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei8_v_i64m4x2_m(vbool16_t vm, const int64_t *rs1,
                                             vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei16_v_i64m1x2_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei16_v_i64m1x3_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16_v_i64m1x4_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16_v_i64m1x5_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16_v_i64m1x6_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16_v_i64m1x7_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16_v_i64m1x8_m(vbool64_t vm, const int64_t *rs1,
                                              vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16_v_i64m2x2_m(vbool32_t vm, const int64_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16_v_i64m2x3_m(vbool32_t vm, const int64_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16_v_i64m2x4_m(vbool32_t vm, const int64_t *rs1,
                                              vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16_v_i64m4x2_m(vbool16_t vm, const int64_t *rs1,
                                              vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32_v_i64m1x2_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32_v_i64m1x3_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32_v_i64m1x4_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32_v_i64m1x5_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32_v_i64m1x6_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32_v_i64m1x7_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32_v_i64m1x8_m(vbool64_t vm, const int64_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei32_v_i64m2x2_m(vbool32_t vm, const int64_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32_v_i64m2x3_m(vbool32_t vm, const int64_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32_v_i64m2x4_m(vbool32_t vm, const int64_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32_v_i64m4x2_m(vbool16_t vm, const int64_t *rs1,
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                                                vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64_v_i64m1x2_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64_v_i64m1x3_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei64_v_i64m1x4_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64_v_i64m1x5_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64_v_i64m1x6_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64_v_i64m1x7_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64_v_i64m1x8_m(vbool64_t vm, const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64_v_i64m2x2_m(vbool32_t vm, const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64_v_i64m2x3_m(vbool32_t vm, const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64_v_i64m2x4_m(vbool32_t vm, const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64_v_i64m4x2_m(vbool16_t vm, const int64_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8_v_u8mf8x2_m(vbool64_t vm, const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei8_v_u8mf8x3_m(vbool64_t vm, const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8_v_u8mf8x4_m(vbool64_t vm, const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8_v_u8mf8x5_m(vbool64_t vm, const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8_v_u8mf8x6_m(vbool64_t vm, const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei8_v_u8mf8x7_m(vbool64_t vm, const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8_v_u8mf8x8_m(vbool64_t vm, const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei8_v_u8mf4x2_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8_v_u8mf4x3_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8_v_u8mf4x4_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8_v_u8mf4x5_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8_v_u8mf4x6_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8_v_u8mf4x7_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8_v_u8mf4x8_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8_v_u8mf2x2_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8_v_u8mf2x3_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei8_v_u8mf2x4_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8_v_u8mf2x5_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8_v_u8mf2x6_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8_v_u8mf2x7_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8_v_u8mf2x8_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8_v_u8m1x2_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
```

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vuint8m1x3_t __riscv_vloxseg3ei8_v_u8m1x3_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8_v_u8m1x4_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8_v_u8m1x5_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8_v_u8m1x6_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8_v_u8m1x7_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8_v_u8m1x8_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8_v_u8m2x2_m(vbool4_t vm, const uint8_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8_v_u8m2x3_m(vbool4_t vm, const uint8_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8_v_u8m2x4_m(vbool4_t vm, const uint8_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8_v_u8m4x2_m(vbool2_t vm, const uint8_t *rs1,
                                            vuint8m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16_v_u8mf8x2_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16_v_u8mf8x3_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei16_v_u8mf8x4_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei16_v_u8mf8x5_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16_v_u8mf8x6_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16_v_u8mf8x7_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16_v_u8mf8x8_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16_v_u8mf4x2_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei16_v_u8mf4x3_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16_v_u8mf4x4_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16_v_u8mf4x5_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16_v_u8mf4x6_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16_v_u8mf4x7_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16_v_u8mf4x8_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16_v_u8mf2x2_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16_v_u8mf2x3_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16_v_u8mf2x4_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16_v_u8mf2x5_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16_v_u8mf2x6_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16_v_u8mf2x7_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei16_v_u8mf2x8_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16_v_u8m1x2_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16_v_u8m1x3_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16_v_u8m1x4_m(vbool8_t vm, const uint8_t *rs1,
```

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                                                vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16_v_u8m1x5_m(vbool8_t vm, const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16_v_u8m1x6_m(vbool8_t vm, const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei16_v_u8m1x7_m(vbool8_t vm, const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16_v_u8m1x8_m(vbool8_t vm, const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16_v_u8m2x2_m(vbool4_t vm, const uint8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16_v_u8m2x3_m(vbool4_t vm, const uint8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16_v_u8m2x4_m(vbool4_t vm, const uint8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16_v_u8m4x2_m(vbool2_t vm, const uint8_t *rs1,
                                                vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32_v_u8mf8x2_m(vbool64_t vm, const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32_v_u8mf8x3_m(vbool64_t vm, const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32_v_u8mf8x4_m(vbool64_t vm, const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32_v_u8mf8x5_m(vbool64_t vm, const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32_v_u8mf8x6_m(vbool64_t vm, const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei32_v_u8mf8x7_m(vbool64_t vm, const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32_v_u8mf8x8_m(vbool64_t vm, const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32_v_u8mf4x2_m(vbool32_t vm, const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei32_v_u8mf4x3_m(vbool32_t vm, const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32_v_u8mf4x4_m(vbool32_t vm, const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei32_v_u8mf4x5_m(vbool32_t vm, const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32_v_u8mf4x6_m(vbool32_t vm, const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32_v_u8mf4x7_m(vbool32_t vm, const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32_v_u8mf4x8_m(vbool32_t vm, const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32_v_u8mf2x2_m(vbool16_t vm, const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32_v_u8mf2x3_m(vbool16_t vm, const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32_v_u8mf2x4_m(vbool16_t vm, const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32_v_u8mf2x5_m(vbool16_t vm, const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32_v_u8mf2x6_m(vbool16_t vm, const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei32_v_u8mf2x7_m(vbool16_t vm, const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32_v_u8mf2x8_m(vbool16_t vm, const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32_v_u8m1x2_m(vbool8_t vm, const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei32_v_u8m1x3_m(vbool8_t vm, const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32_v_u8m1x4_m(vbool8_t vm, const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32_v_u8m1x5_m(vbool8_t vm, const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
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vuint8m1x6_t __riscv_vloxseg6ei32_v_u8m1x6_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32_v_u8m1x7_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32_v_u8m1x8_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32_v_u8m2x2_m(vbool4_t vm, const uint8_t *rs1,
                                             vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32_v_u8m2x3_m(vbool4_t vm, const uint8_t *rs1,
                                             vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32_v_u8m2x4_m(vbool4_t vm, const uint8_t *rs1,
                                             vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64_v_u8mf8x2_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64_v_u8mf8x3_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64_v_u8mf8x4_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64_v_u8mf8x5_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64_v_u8mf8x6_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64_v_u8mf8x7_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei64_v_u8mf8x8_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei64_v_u8mf4x2_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64_v_u8mf4x3_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64_v_u8mf4x4_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei64_v_u8mf4x5_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64_v_u8mf4x6_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei64_v_u8mf4x7_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64_v_u8mf4x8_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64_v_u8mf2x2_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64_v_u8mf2x3_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64_v_u8mf2x4_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64_v_u8mf2x5_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64_v_u8mf2x6_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64_v_u8mf2x7_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64_v_u8mf2x8_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64_v_u8m1x2_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64_v_u8m1x3_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64_v_u8m1x4_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei64_v_u8m1x5_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64_v_u8m1x6_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64_v_u8m1x7_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64_v_u8m1x8_m(vbool8_t vm, const uint8_t *rs1,
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                                                vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8_v_u16mf4x2_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8_v_u16mf4x3_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei8_v_u16mf4x4_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8_v_u16mf4x5_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8_v_u16mf4x6_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8_v_u16mf4x7_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8_v_u16mf4x8_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8_v_u16mf2x2_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8_v_u16mf2x3_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8_v_u16mf2x4_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8_v_u16mf2x5_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8_v_u16mf2x6_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8_v_u16mf2x7_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8_v_u16mf2x8_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8_v_u16m1x2_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8_v_u16m1x3_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei8_v_u16m1x4_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8_v_u16m1x5_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei8_v_u16m1x6_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8_v_u16m1x7_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8_v_u16m1x8_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8_v_u16m2x2_m(vbool8_t vm, const uint16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8_v_u16m2x3_m(vbool8_t vm, const uint16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8_v_u16m2x4_m(vbool8_t vm, const uint16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8_v_u16m4x2_m(vbool4_t vm, const uint16_t *rs1,
                                              vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16_v_u16mf4x2_m(vbool64_t vm,
                                                 const uint16_t *rs1,
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                                                vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16_v_u16mf4x3_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei16_v_u16mf4x4_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16_v_u16mf4x5_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16_v_u16mf4x6_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16_v_u16mf4x7_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16_v_u16mf4x8_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16_v_u16mf2x2_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16_v_u16mf2x3_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16_v_u16mf2x4_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16_v_u16mf2x5_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16_v_u16mf2x6_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16_v_u16mf2x7_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16_v_u16mf2x8_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16_v_u16m1x2_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei16_v_u16m1x3_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16_v_u16m1x4_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16_v_u16m1x5_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16_v_u16m1x6_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16_v_u16m1x7_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei16_v_u16m1x8_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei16_v_u16m2x2_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16_v_u16m2x3_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16_v_u16m2x4_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
```

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vuint16m4x2_t __riscv_vloxseg2ei16_v_u16m4x2_m(vbool4_t vm, const uint16_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32_v_u16mf4x2_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei32_v_u16mf4x3_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32_v_u16mf4x4_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32_v_u16mf4x5_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32_v_u16mf4x6_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32_v_u16mf4x7_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32_v_u16mf4x8_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32_v_u16mf2x2_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32_v_u16mf2x3_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32_v_u16mf2x4_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32_v_u16mf2x5_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32_v_u16mf2x6_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32_v_u16mf2x7_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei32_v_u16mf2x8_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32_v_u16m1x2_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32_v_u16m1x3_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei32_v_u16m1x4_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32_v_u16m1x5_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32_v_u16m1x6_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei32_v_u16m1x7_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32_v_u16m1x8_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32_v_u16m2x2_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
```

```
vuint16m2x3_t __riscv_vloxseg3ei32_v_u16m2x3_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32_v_u16m2x4_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32_v_u16m4x2_m(vbool4_t vm, const uint16_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64_v_u16mf4x2_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64_v_u16mf4x3_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64_v_u16mf4x4_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64_v_u16mf4x5_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64_v_u16mf4x6_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64_v_u16mf4x7_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64_v_u16mf4x8_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64_v_u16mf2x2_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei64_v_u16mf2x3_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64_v_u16mf2x4_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei64_v_u16mf2x5_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64_v_u16mf2x6_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64_v_u16mf2x7_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64_v_u16mf2x8_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64_v_u16m1x2_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64_v_u16m1x3_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64_v_u16m1x4_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64_v_u16m1x5_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64_v_u16m1x6_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei64_v_u16m1x7_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei64_v_u16m1x8_m(vbool16_t vm,
```

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                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64_v_u16m2x2_m(vbool8_t vm, const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64_v_u16m2x3_m(vbool8_t vm, const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64_v_u16m2x4_m(vbool8_t vm, const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8_v_u32mf2x2_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8_v_u32mf2x3_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8_v_u32mf2x4_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8_v_u32mf2x5_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8_v_u32mf2x6_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8_v_u32mf2x7_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8_v_u32mf2x8_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8_v_u32m1x2_m(vbool32_t vm, const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8_v_u32m1x3_m(vbool32_t vm, const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8_v_u32m1x4_m(vbool32_t vm, const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8_v_u32m1x5_m(vbool32_t vm, const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8_v_u32m1x6_m(vbool32_t vm, const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8_v_u32m1x7_m(vbool32_t vm, const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei8_v_u32m1x8_m(vbool32_t vm, const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei8_v_u32m2x2_m(vbool16_t vm, const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8_v_u32m2x3_m(vbool16_t vm, const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei8_v_u32m2x4_m(vbool16_t vm, const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8_v_u32m4x2_m(vbool8_t vm, const uint32_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16_v_u32mf2x2_m(vbool64_t vm,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei16_v_u32mf2x3_m(vbool64_t vm,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16_v_u32mf2x4_m(vbool64_t vm,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei16_v_u32mf2x5_m(vbool64_t vm,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16_v_u32mf2x6_m(vbool64_t vm,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16_v_u32mf2x7_m(vbool64_t vm,
```

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                                                const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16_v_u32mf2x8_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16_v_u32m1x2_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16_v_u32m1x3_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16_v_u32m1x4_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16_v_u32m1x5_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16_v_u32m1x6_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16_v_u32m1x7_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei16_v_u32m1x8_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16_v_u32m2x2_m(vbool16_t vm,
                                               const uint32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16_v_u32m2x3_m(vbool16_t vm,
                                               const uint32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16_v_u32m2x4_m(vbool16_t vm,
                                               const uint32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16_v_u32m4x2_m(vbool8_t vm, const uint32_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei32_v_u32mf2x2_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei32_v_u32mf2x3_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei32_v_u32mf2x4_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32_v_u32mf2x5_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32_v_u32mf2x6_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32_v_u32mf2x7_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32_v_u32mf2x8_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32_v_u32m1x2_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32_v_u32m1x3_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32_v_u32m1x4_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
```

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vuint32m1x5_t __riscv_vloxseg5ei32_v_u32m1x5_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32_v_u32m1x6_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32_v_u32m1x7_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32_v_u32m1x8_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32_v_u32m2x2_m(vbool16_t vm,
                                               const uint32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei32_v_u32m2x3_m(vbool16_t vm,
                                               const uint32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei32_v_u32m2x4_m(vbool16_t vm,
                                               const uint32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei32_v_u32m4x2_m(vbool8_t vm, const uint32_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64_v_u32mf2x2_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64_v_u32mf2x3_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64_v_u32mf2x4_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64_v_u32mf2x5_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64_v_u32mf2x6_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64_v_u32mf2x7_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64_v_u32mf2x8_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64_v_u32m1x2_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei64_v_u32m1x3_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64_v_u32m1x4_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64_v_u32m1x5_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64_v_u32m1x6_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64_v_u32m1x7_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64_v_u32m1x8_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64_v_u32m2x2_m(vbool16_t vm,
                                               const uint32_t *rs1,
```

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                                                vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei64_v_u32m2x3_m(vbool16_t vm,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64_v_u32m2x4_m(vbool16_t vm,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64_v_u32m4x2_m(vbool8_t vm, const uint32_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8_v_u64m1x2_m(vbool64_t vm, const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8_v_u64m1x3_m(vbool64_t vm, const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8_v_u64m1x4_m(vbool64_t vm, const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8_v_u64m1x5_m(vbool64_t vm, const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei8_v_u64m1x6_m(vbool64_t vm, const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8_v_u64m1x7_m(vbool64_t vm, const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8_v_u64m1x8_m(vbool64_t vm, const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8_v_u64m2x2_m(vbool32_t vm, const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei8_v_u64m2x3_m(vbool32_t vm, const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei8_v_u64m2x4_m(vbool32_t vm, const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8_v_u64m4x2_m(vbool16_t vm, const uint64_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16_v_u64m1x2_m(vbool64_t vm,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16_v_u64m1x3_m(vbool64_t vm,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16_v_u64m1x4_m(vbool64_t vm,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei16_v_u64m1x5_m(vbool64_t vm,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16_v_u64m1x6_m(vbool64_t vm,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16_v_u64m1x7_m(vbool64_t vm,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16_v_u64m1x8_m(vbool64_t vm,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16_v_u64m2x2_m(vbool32_t vm,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16_v_u64m2x3_m(vbool32_t vm,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16_v_u64m2x4_m(vbool32_t vm,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16_v_u64m4x2_m(vbool16_t vm,
                                                const uint64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32_v_u64m1x2_m(vbool64_t vm,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
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vuint64m1x3_t __riscv_vloxseg3ei32_v_u64m1x3_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32_v_u64m1x4_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32_v_u64m1x5_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei32_v_u64m1x6_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32_v_u64m1x7_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32_v_u64m1x8_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei32_v_u64m2x2_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32_v_u64m2x3_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32_v_u64m2x4_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei32_v_u64m4x2_m(vbool16_t vm,
                                               const uint64_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64_v_u64m1x2_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64_v_u64m1x3_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64_v_u64m1x4_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64_v_u64m1x5_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64_v_u64m1x6_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64_v_u64m1x7_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64_v_u64m1x8_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64_v_u64m2x2_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64_v_u64m2x3_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64_v_u64m2x4_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64_v_u64m4x2_m(vbool16_t vm,
                                               const uint64_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8_v_u8mf8x2_m(vbool64_t vm, const uint8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8_v_u8mf8x3_m(vbool64_t vm, const uint8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
```

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vuint8mf8x4_t __riscv_vluxseg4ei8_v_u8mf8x4_m(vbool64_t vm, const uint8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8_v_u8mf8x5_m(vbool64_t vm, const uint8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei8_v_u8mf8x6_m(vbool64_t vm, const uint8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8_v_u8mf8x7_m(vbool64_t vm, const uint8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8_v_u8mf8x8_m(vbool64_t vm, const uint8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8_v_u8mf4x2_m(vbool32_t vm, const uint8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8_v_u8mf4x3_m(vbool32_t vm, const uint8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8_v_u8mf4x4_m(vbool32_t vm, const uint8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8_v_u8mf4x5_m(vbool32_t vm, const uint8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8_v_u8mf4x6_m(vbool32_t vm, const uint8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8_v_u8mf4x7_m(vbool32_t vm, const uint8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei8_v_u8mf4x8_m(vbool32_t vm, const uint8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8_v_u8mf2x2_m(vbool16_t vm, const uint8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8_v_u8mf2x3_m(vbool16_t vm, const uint8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8_v_u8mf2x4_m(vbool16_t vm, const uint8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8_v_u8mf2x5_m(vbool16_t vm, const uint8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8_v_u8mf2x6_m(vbool16_t vm, const uint8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8_v_u8mf2x7_m(vbool16_t vm, const uint8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8_v_u8mf2x8_m(vbool16_t vm, const uint8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8_v_u8m1x2_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8_v_u8m1x3_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8_v_u8m1x4_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8_v_u8m1x5_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8_v_u8m1x6_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8_v_u8m1x7_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei8_v_u8m1x8_m(vbool8_t vm, const uint8_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8_v_u8m2x2_m(vbool4_t vm, const uint8_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8_v_u8m2x3_m(vbool4_t vm, const uint8_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8_v_u8m2x4_m(vbool4_t vm, const uint8_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei8_v_u8m4x2_m(vbool2_t vm, const uint8_t *rs1,
                                            vuint8m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei16_v_u8mf8x2_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16_v_u8mf8x3_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16_v_u8mf8x4_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16_v_u8mf8x5_m(vbool64_t vm, const uint8_t *rs1,
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                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16_v_u8mf8x6_m(vbool64_t vm, const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16_v_u8mf8x7_m(vbool64_t vm, const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16_v_u8mf8x8_m(vbool64_t vm, const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16_v_u8mf4x2_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16_v_u8mf4x3_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16_v_u8mf4x4_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16_v_u8mf4x5_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16_v_u8mf4x6_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16_v_u8mf4x7_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16_v_u8mf4x8_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16_v_u8mf2x2_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16_v_u8mf2x3_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16_v_u8mf2x4_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei16_v_u8mf2x5_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16_v_u8mf2x6_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16_v_u8mf2x7_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei16_v_u8mf2x8_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16_v_u8m1x2_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16_v_u8m1x3_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei16_v_u8m1x4_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16_v_u8m1x5_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16_v_u8m1x6_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16_v_u8m1x7_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16_v_u8m1x8_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16_v_u8m2x2_m(vbool4_t vm, const uint8_t *rs1,
                                             vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16_v_u8m2x3_m(vbool4_t vm, const uint8_t *rs1,
                                             vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16_v_u8m2x4_m(vbool4_t vm, const uint8_t *rs1,
                                             vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16_v_u8m4x2_m(vbool2_t vm, const uint8_t *rs1,
                                             vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32_v_u8mf8x2_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32_v_u8mf8x3_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32_v_u8mf8x4_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32_v_u8mf8x5_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32_v_u8mf8x6_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
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vuint8mf8x7_t __riscv_vluxseg7ei32_v_u8mf8x7_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32_v_u8mf8x8_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei32_v_u8mf4x2_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32_v_u8mf4x3_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32_v_u8mf4x4_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei32_v_u8mf4x5_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei32_v_u8mf4x6_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei32_v_u8mf4x7_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei32_v_u8mf4x8_m(vbool32_t vm, const uint8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32_v_u8mf2x2_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32_v_u8mf2x3_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei32_v_u8mf2x4_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32_v_u8mf2x5_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32_v_u8mf2x6_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei32_v_u8mf2x7_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei32_v_u8mf2x8_m(vbool16_t vm, const uint8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32_v_u8m1x2_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32_v_u8m1x3_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32_v_u8m1x4_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32_v_u8m1x5_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32_v_u8m1x6_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32_v_u8m1x7_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32_v_u8m1x8_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32_v_u8m2x2_m(vbool4_t vm, const uint8_t *rs1,
                                             vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32_v_u8m2x3_m(vbool4_t vm, const uint8_t *rs1,
                                             vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei32_v_u8m2x4_m(vbool4_t vm, const uint8_t *rs1,
                                             vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64_v_u8mf8x2_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64_v_u8mf8x3_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64_v_u8mf8x4_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei64_v_u8mf8x5_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei64_v_u8mf8x6_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64_v_u8mf8x7_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64_v_u8mf8x8_m(vbool64_t vm, const uint8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64_v_u8mf4x2_m(vbool32_t vm, const uint8_t *rs1,
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                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64_v_u8mf4x3_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64_v_u8mf4x4_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64_v_u8mf4x5_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64_v_u8mf4x6_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64_v_u8mf4x7_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64_v_u8mf4x8_m(vbool32_t vm, const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64_v_u8mf2x2_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64_v_u8mf2x3_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64_v_u8mf2x4_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64_v_u8mf2x5_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64_v_u8mf2x6_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64_v_u8mf2x7_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64_v_u8mf2x8_m(vbool16_t vm, const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei64_v_u8m1x2_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64_v_u8m1x3_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64_v_u8m1x4_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei64_v_u8m1x5_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64_v_u8m1x6_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64_v_u8m1x7_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei64_v_u8m1x8_m(vbool8_t vm, const uint8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8_v_u16mf4x2_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8_v_u16mf4x3_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8_v_u16mf4x4_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8_v_u16mf4x5_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei8_v_u16mf4x6_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei8_v_u16mf4x7_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8_v_u16mf4x8_m(vbool64_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8_v_u16mf2x2_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8_v_u16mf2x3_m(vbool32_t vm,
                                                const uint16_t *rs1,
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                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8_v_u16mf2x4_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8_v_u16mf2x5_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei8_v_u16mf2x6_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei8_v_u16mf2x7_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei8_v_u16mf2x8_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8_v_u16m1x2_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei8_v_u16m1x3_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei8_v_u16m1x4_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei8_v_u16m1x5_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei8_v_u16m1x6_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei8_v_u16m1x7_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei8_v_u16m1x8_m(vbool16_t vm, const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei8_v_u16m2x2_m(vbool8_t vm, const uint16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei8_v_u16m2x3_m(vbool8_t vm, const uint16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8_v_u16m2x4_m(vbool8_t vm, const uint16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei8_v_u16m4x2_m(vbool4_t vm, const uint16_t *rs1,
                                              vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16_v_u16mf4x2_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16_v_u16mf4x3_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16_v_u16mf4x4_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei16_v_u16mf4x5_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei16_v_u16mf4x6_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei16_v_u16mf4x7_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei16_v_u16mf4x8_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei16_v_u16mf2x2_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei16_v_u16mf2x3_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei16_v_u16mf2x4_m(vbool32_t vm,
                                                 const uint16_t *rs1,
```

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                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei16_v_u16mf2x5_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei16_v_u16mf2x6_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei16_v_u16mf2x7_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei16_v_u16mf2x8_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16_v_u16m1x2_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei16_v_u16m1x3_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16_v_u16m1x4_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei16_v_u16m1x5_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei16_v_u16m1x6_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16_v_u16m1x7_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16_v_u16m1x8_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16_v_u16m2x2_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16_v_u16m2x3_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei16_v_u16m2x4_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei16_v_u16m4x2_m(vbool4_t vm, const uint16_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32_v_u16mf4x2_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32_v_u16mf4x3_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32_v_u16mf4x4_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32_v_u16mf4x5_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32_v_u16mf4x6_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32_v_u16mf4x7_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32_v_u16mf4x8_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32_v_u16mf2x2_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32_v_u16mf2x3_m(vbool32_t vm,
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                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32_v_u16mf2x4_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei32_v_u16mf2x5_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32_v_u16mf2x6_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32_v_u16mf2x7_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32_v_u16mf2x8_m(vbool32_t vm,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32_v_u16m1x2_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32_v_u16m1x3_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei32_v_u16m1x4_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32_v_u16m1x5_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32_v_u16m1x6_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32_v_u16m1x7_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32_v_u16m1x8_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32_v_u16m2x2_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32_v_u16m2x3_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32_v_u16m2x4_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32_v_u16m4x2_m(vbool4_t vm, const uint16_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64_v_u16mf4x2_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64_v_u16mf4x3_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64_v_u16mf4x4_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64_v_u16mf4x5_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64_v_u16mf4x6_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei64_v_u16mf4x7_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64_v_u16mf4x8_m(vbool64_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
```

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vuint16mf2x2_t __riscv_vluxseg2ei64_v_u16mf2x2_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64_v_u16mf2x3_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64_v_u16mf2x4_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64_v_u16mf2x5_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64_v_u16mf2x6_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei64_v_u16mf2x7_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64_v_u16mf2x8_m(vbool32_t vm,
                                                 const uint16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei64_v_u16m1x2_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64_v_u16m1x3_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei64_v_u16m1x4_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64_v_u16m1x5_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64_v_u16m1x6_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64_v_u16m1x7_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64_v_u16m1x8_m(vbool16_t vm,
                                               const uint16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64_v_u16m2x2_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64_v_u16m2x3_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64_v_u16m2x4_m(vbool8_t vm, const uint16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8_v_u32mf2x2_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8_v_u32mf2x3_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8_v_u32mf2x4_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8_v_u32mf2x5_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8_v_u32mf2x6_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8_v_u32mf2x7_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8_v_u32mf2x8_m(vbool64_t vm,
```

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                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8_v_u32m1x2_m(vbool32_t vm, const uint32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8_v_u32m1x3_m(vbool32_t vm, const uint32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8_v_u32m1x4_m(vbool32_t vm, const uint32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei8_v_u32m1x5_m(vbool32_t vm, const uint32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei8_v_u32m1x6_m(vbool32_t vm, const uint32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8_v_u32m1x7_m(vbool32_t vm, const uint32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8_v_u32m1x8_m(vbool32_t vm, const uint32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8_v_u32m2x2_m(vbool16_t vm, const uint32_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8_v_u32m2x3_m(vbool16_t vm, const uint32_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8_v_u32m2x4_m(vbool16_t vm, const uint32_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8_v_u32m4x2_m(vbool8_t vm, const uint32_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16_v_u32mf2x2_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16_v_u32mf2x3_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16_v_u32mf2x4_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16_v_u32mf2x5_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16_v_u32mf2x6_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16_v_u32mf2x7_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16_v_u32mf2x8_m(vbool64_t vm,
                                                 const uint32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16_v_u32m1x2_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16_v_u32m1x3_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16_v_u32m1x4_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei16_v_u32m1x5_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16_v_u32m1x6_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei16_v_u32m1x7_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16_v_u32m1x8_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16_v_u32m2x2_m(vbool16_t vm,
```

```
                                            const uint32_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16_v_u32m2x3_m(vbool16_t vm,
                                            const uint32_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei16_v_u32m2x4_m(vbool16_t vm,
                                            const uint32_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei16_v_u32m4x2_m(vbool8_t vm, const uint32_t *rs1,
                                            vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32_v_u32mf2x2_m(vbool64_t vm,
                                              const uint32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32_v_u32mf2x3_m(vbool64_t vm,
                                              const uint32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32_v_u32mf2x4_m(vbool64_t vm,
                                              const uint32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32_v_u32mf2x5_m(vbool64_t vm,
                                              const uint32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32_v_u32mf2x6_m(vbool64_t vm,
                                              const uint32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32_v_u32mf2x7_m(vbool64_t vm,
                                              const uint32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32_v_u32mf2x8_m(vbool64_t vm,
                                              const uint32_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32_v_u32m1x2_m(vbool32_t vm,
                                            const uint32_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32_v_u32m1x3_m(vbool32_t vm,
                                            const uint32_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32_v_u32m1x4_m(vbool32_t vm,
                                            const uint32_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32_v_u32m1x5_m(vbool32_t vm,
                                            const uint32_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32_v_u32m1x6_m(vbool32_t vm,
                                            const uint32_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei32_v_u32m1x7_m(vbool32_t vm,
                                            const uint32_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32_v_u32m1x8_m(vbool32_t vm,
                                            const uint32_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei32_v_u32m2x2_m(vbool16_t vm,
                                            const uint32_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32_v_u32m2x3_m(vbool16_t vm,
                                            const uint32_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32_v_u32m2x4_m(vbool16_t vm,
                                            const uint32_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32_v_u32m4x2_m(vbool8_t vm, const uint32_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64_v_u32mf2x2_m(vbool64_t vm,
                                              const uint32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei64_v_u32mf2x3_m(vbool64_t vm,
```

```
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64_v_u32mf2x4_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64_v_u32mf2x5_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64_v_u32mf2x6_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei64_v_u32mf2x7_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64_v_u32mf2x8_m(vbool64_t vm,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64_v_u32m1x2_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64_v_u32m1x3_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64_v_u32m1x4_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei64_v_u32m1x5_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64_v_u32m1x6_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei64_v_u32m1x7_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei64_v_u32m1x8_m(vbool32_t vm,
                                               const uint32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64_v_u32m2x2_m(vbool16_t vm,
                                               const uint32_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64_v_u32m2x3_m(vbool16_t vm,
                                               const uint32_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei64_v_u32m2x4_m(vbool16_t vm,
                                               const uint32_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64_v_u32m4x2_m(vbool8_t vm, const uint32_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8_v_u64m1x2_m(vbool64_t vm, const uint64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8_v_u64m1x3_m(vbool64_t vm, const uint64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8_v_u64m1x4_m(vbool64_t vm, const uint64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8_v_u64m1x5_m(vbool64_t vm, const uint64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8_v_u64m1x6_m(vbool64_t vm, const uint64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei8_v_u64m1x7_m(vbool64_t vm, const uint64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei8_v_u64m1x8_m(vbool64_t vm, const uint64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8_v_u64m2x2_m(vbool32_t vm, const uint64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8_v_u64m2x3_m(vbool32_t vm, const uint64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
```

```
vuint64m2x4_t __riscv_vluxseg4ei8_v_u64m2x4_m(vbool32_t vm, const uint64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8_v_u64m4x2_m(vbool16_t vm, const uint64_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16_v_u64m1x2_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16_v_u64m1x3_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16_v_u64m1x4_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16_v_u64m1x5_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei16_v_u64m1x6_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16_v_u64m1x7_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16_v_u64m1x8_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16_v_u64m2x2_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16_v_u64m2x3_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16_v_u64m2x4_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16_v_u64m4x2_m(vbool16_t vm,
                                               const uint64_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32_v_u64m1x2_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei32_v_u64m1x3_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32_v_u64m1x4_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32_v_u64m1x5_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32_v_u64m1x6_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32_v_u64m1x7_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32_v_u64m1x8_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei32_v_u64m2x2_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32_v_u64m2x3_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32_v_u64m2x4_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
```

```
vuint64m4x2_t __riscv_vluxseg2ei32_v_u64m4x2_m(vbool16_t vm,
                                               const uint64_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64_v_u64m1x2_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64_v_u64m1x3_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64_v_u64m1x4_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64_v_u64m1x5_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64_v_u64m1x6_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64_v_u64m1x7_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64_v_u64m1x8_m(vbool64_t vm,
                                               const uint64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei64_v_u64m2x2_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64_v_u64m2x3_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64_v_u64m2x4_m(vbool32_t vm,
                                               const uint64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei64_v_u64m4x2_m(vbool16_t vm,
                                               const uint64_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
```

A.2.6. Vector Indexed Segment Store Intrinsics

```
void __riscv_vsoxseg2ei8_v_f16mf4x2(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f16mf4x3(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f16mf4x4(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_f16mf4x5(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_f16mf4x6(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_f16mf4x7(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_f16mf4x8(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f16mf2x2(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f16mf2x3(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f16mf2x4(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_f16mf2x5(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_f16mf2x6(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_f16mf2x7(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x7_t vs3, size_t vl);
```

```
void __riscv_vsoxseg8ei8_v_f16mf2x8(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f16m1x2(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f16m1x3(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f16m1x4(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_f16m1x5(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_f16m1x6(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_f16m1x7(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_f16m1x8(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f16m2x2(_Float16 *rs1, vuint8m1_t vs2,
                                   vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f16m2x3(_Float16 *rs1, vuint8m1_t vs2,
                                   vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f16m2x4(_Float16 *rs1, vuint8m1_t vs2,
                                   vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f16m4x2(_Float16 *rs1, vuint8m2_t vs2,
                                   vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f16mf4x2(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_f16mf4x3(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_f16mf4x4(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_f16mf4x5(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_f16mf4x6(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_f16mf4x7(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_f16mf4x8(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f16mf2x2(_Float16 *rs1, vuint16mf2_t vs2,
                                     vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_f16mf2x3(_Float16 *rs1, vuint16mf2_t vs2,
                                     vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_f16mf2x4(_Float16 *rs1, vuint16mf2_t vs2,
                                     vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_f16mf2x5(_Float16 *rs1, vuint16mf2_t vs2,
                                     vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_f16mf2x6(_Float16 *rs1, vuint16mf2_t vs2,
                                     vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_f16mf2x7(_Float16 *rs1, vuint16mf2_t vs2,
                                     vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_f16mf2x8(_Float16 *rs1, vuint16mf2_t vs2,
                                     vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f16m1x2(_Float16 *rs1, vuint16m1_t vs2,
                                    vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_f16m1x3(_Float16 *rs1, vuint16m1_t vs2,
                                    vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_f16m1x4(_Float16 *rs1, vuint16m1_t vs2,
                                    vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_f16m1x5(_Float16 *rs1, vuint16m1_t vs2,
                                    vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_f16m1x6(_Float16 *rs1, vuint16m1_t vs2,
                                    vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_f16m1x7(_Float16 *rs1, vuint16m1_t vs2,
                                    vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_f16m1x8(_Float16 *rs1, vuint16m1_t vs2,
                                    vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f16m2x2(_Float16 *rs1, vuint16m2_t vs2,
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                                    vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_f16m2x3(_Float16 *rs1, vuint16m2_t vs2,
                                    vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_f16m2x4(_Float16 *rs1, vuint16m2_t vs2,
                                    vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f16m4x2(_Float16 *rs1, vuint16m4_t vs2,
                                    vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f16mf4x2(_Float16 *rs1, vuint32mf2_t vs2,
                                     vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_f16mf4x3(_Float16 *rs1, vuint32mf2_t vs2,
                                     vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_f16mf4x4(_Float16 *rs1, vuint32mf2_t vs2,
                                     vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_f16mf4x5(_Float16 *rs1, vuint32mf2_t vs2,
                                     vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_f16mf4x6(_Float16 *rs1, vuint32mf2_t vs2,
                                     vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_f16mf4x7(_Float16 *rs1, vuint32mf2_t vs2,
                                     vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_f16mf4x8(_Float16 *rs1, vuint32mf2_t vs2,
                                     vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f16mf2x2(_Float16 *rs1, vuint32m1_t vs2,
                                     vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_f16mf2x3(_Float16 *rs1, vuint32m1_t vs2,
                                     vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_f16mf2x4(_Float16 *rs1, vuint32m1_t vs2,
                                     vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_f16mf2x5(_Float16 *rs1, vuint32m1_t vs2,
                                     vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_f16mf2x6(_Float16 *rs1, vuint32m1_t vs2,
                                     vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_f16mf2x7(_Float16 *rs1, vuint32m1_t vs2,
                                     vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_f16mf2x8(_Float16 *rs1, vuint32m1_t vs2,
                                     vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f16m1x2(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_f16m1x3(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_f16m1x4(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_f16m1x5(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_f16m1x6(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_f16m1x7(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_f16m1x8(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f16m2x2(_Float16 *rs1, vuint32m4_t vs2,
                                    vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_f16m2x3(_Float16 *rs1, vuint32m4_t vs2,
                                    vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_f16m2x4(_Float16 *rs1, vuint32m4_t vs2,
                                    vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f16m4x2(_Float16 *rs1, vuint32m8_t vs2,
                                    vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f16mf4x2(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_f16mf4x3(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_f16mf4x4(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_f16mf4x5(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_f16mf4x6(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x6_t vs3, size_t vl);
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void __riscv_vsoxseg7ei64_v_f16mf4x7(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_f16mf4x8(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f16mf2x2(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_f16mf2x3(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_f16mf2x4(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_f16mf2x5(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_f16mf2x6(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_f16mf2x7(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_f16mf2x8(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f16m1x2(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_f16m1x3(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_f16m1x4(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_f16m1x5(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_f16m1x6(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_f16m1x7(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_f16m1x8(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f16m2x2(_Float16 *rs1, vuint64m8_t vs2,
                                    vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_f16m2x3(_Float16 *rs1, vuint64m8_t vs2,
                                    vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_f16m2x4(_Float16 *rs1, vuint64m8_t vs2,
                                    vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f32mf2x2(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f32mf2x3(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f32mf2x4(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_f32mf2x5(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_f32mf2x6(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_f32mf2x7(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_f32mf2x8(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f32m1x2(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f32m1x3(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f32m1x4(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_f32m1x5(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_f32m1x6(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_f32m1x7(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_f32m1x8(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f32m2x2(float *rs1, vuint8mf2_t vs2,
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                                    vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f32m2x3(float *rs1, vuint8mf2_t vs2,
                                    vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f32m2x4(float *rs1, vuint8mf2_t vs2,
                                    vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f32m4x2(float *rs1, vuint8m1_t vs2,
                                    vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f32mf2x2(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_f32mf2x3(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_f32mf2x4(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_f32mf2x5(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_f32mf2x6(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_f32mf2x7(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_f32mf2x8(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f32m1x2(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_f32m1x3(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_f32m1x4(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_f32m1x5(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_f32m1x6(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_f32m1x7(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_f32m1x8(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f32m2x2(float *rs1, vuint16m1_t vs2,
                                    vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_f32m2x3(float *rs1, vuint16m1_t vs2,
                                    vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_f32m2x4(float *rs1, vuint16m1_t vs2,
                                    vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f32m4x2(float *rs1, vuint16m2_t vs2,
                                    vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f32mf2x2(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_f32mf2x3(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_f32mf2x4(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_f32mf2x5(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_f32mf2x6(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_f32mf2x7(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_f32mf2x8(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f32m1x2(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_f32m1x3(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_f32m1x4(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_f32m1x5(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_f32m1x6(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x6_t vs3, size_t vl);
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void __riscv_vsoxseg7ei32_v_f32m1x7(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_f32m1x8(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f32m2x2(float *rs1, vuint32m2_t vs2,
                                    vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_f32m2x3(float *rs1, vuint32m2_t vs2,
                                    vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_f32m2x4(float *rs1, vuint32m2_t vs2,
                                    vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f32m4x2(float *rs1, vuint32m4_t vs2,
                                    vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f32mf2x2(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_f32mf2x3(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_f32mf2x4(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_f32mf2x5(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_f32mf2x6(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_f32mf2x7(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_f32mf2x8(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f32m1x2(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_f32m1x3(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_f32m1x4(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_f32m1x5(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_f32m1x6(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_f32m1x7(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_f32m1x8(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f32m2x2(float *rs1, vuint64m4_t vs2,
                                    vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_f32m2x3(float *rs1, vuint64m4_t vs2,
                                    vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_f32m2x4(float *rs1, vuint64m4_t vs2,
                                    vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f32m4x2(float *rs1, vuint64m8_t vs2,
                                    vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f64m1x2(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f64m1x3(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f64m1x4(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_f64m1x5(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_f64m1x6(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_f64m1x7(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_f64m1x8(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f64m2x2(double *rs1, vuint8mf4_t vs2,
                                   vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f64m2x3(double *rs1, vuint8mf4_t vs2,
                                   vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f64m2x4(double *rs1, vuint8mf4_t vs2,
```

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                                    vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f64m4x2(double *rs1, vuint8mf2_t vs2,
                                   vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f64m1x2(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_f64m1x3(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_f64m1x4(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_f64m1x5(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_f64m1x6(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_f64m1x7(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_f64m1x8(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f64m2x2(double *rs1, vuint16mf2_t vs2,
                                    vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_f64m2x3(double *rs1, vuint16mf2_t vs2,
                                    vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_f64m2x4(double *rs1, vuint16mf2_t vs2,
                                    vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f64m4x2(double *rs1, vuint16m1_t vs2,
                                    vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f64m1x2(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_f64m1x3(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_f64m1x4(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_f64m1x5(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_f64m1x6(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_f64m1x7(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_f64m1x8(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f64m2x2(double *rs1, vuint32m1_t vs2,
                                    vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_f64m2x3(double *rs1, vuint32m1_t vs2,
                                    vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_f64m2x4(double *rs1, vuint32m1_t vs2,
                                    vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f64m4x2(double *rs1, vuint32m2_t vs2,
                                    vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f64m1x2(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_f64m1x3(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_f64m1x4(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_f64m1x5(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_f64m1x6(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_f64m1x7(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_f64m1x8(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f64m2x2(double *rs1, vuint64m2_t vs2,
                                    vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_f64m2x3(double *rs1, vuint64m2_t vs2,
                                    vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_f64m2x4(double *rs1, vuint64m2_t vs2,
                                    vfloat64m2x4_t vs3, size_t vl);
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void __riscv_vsoxseg2ei64_v_f64m4x2(double *rs1, vuint64m4_t vs2,
                                    vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f16mf4x2(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f16mf4x3(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f16mf4x4(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_f16mf4x5(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_f16mf4x6(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_f16mf4x7(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_f16mf4x8(_Float16 *rs1, vuint8mf8_t vs2,
                                    vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f16mf2x2(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f16mf2x3(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f16mf2x4(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_f16mf2x5(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_f16mf2x6(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_f16mf2x7(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_f16mf2x8(_Float16 *rs1, vuint8mf4_t vs2,
                                    vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f16m1x2(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f16m1x3(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f16m1x4(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_f16m1x5(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_f16m1x6(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_f16m1x7(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_f16m1x8(_Float16 *rs1, vuint8mf2_t vs2,
                                   vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f16m2x2(_Float16 *rs1, vuint8m1_t vs2,
                                   vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f16m2x3(_Float16 *rs1, vuint8m1_t vs2,
                                   vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f16m2x4(_Float16 *rs1, vuint8m1_t vs2,
                                   vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f16m4x2(_Float16 *rs1, vuint8m2_t vs2,
                                   vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f16mf4x2(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_f16mf4x3(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_f16mf4x4(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_f16mf4x5(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_f16mf4x6(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_f16mf4x7(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_f16mf4x8(_Float16 *rs1, vuint16mf4_t vs2,
                                     vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f16mf2x2(_Float16 *rs1, vuint16mf2_t vs2,
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                                    vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_f16mf2x3(_Float16 *rs1, vuint16mf2_t vs2,
                                    vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_f16mf2x4(_Float16 *rs1, vuint16mf2_t vs2,
                                    vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_f16mf2x5(_Float16 *rs1, vuint16mf2_t vs2,
                                    vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_f16mf2x6(_Float16 *rs1, vuint16mf2_t vs2,
                                    vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_f16mf2x7(_Float16 *rs1, vuint16mf2_t vs2,
                                    vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_f16mf2x8(_Float16 *rs1, vuint16mf2_t vs2,
                                    vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f16m1x2(_Float16 *rs1, vuint16m1_t vs2,
                                   vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_f16m1x3(_Float16 *rs1, vuint16m1_t vs2,
                                   vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_f16m1x4(_Float16 *rs1, vuint16m1_t vs2,
                                   vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_f16m1x5(_Float16 *rs1, vuint16m1_t vs2,
                                   vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_f16m1x6(_Float16 *rs1, vuint16m1_t vs2,
                                   vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_f16m1x7(_Float16 *rs1, vuint16m1_t vs2,
                                   vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_f16m1x8(_Float16 *rs1, vuint16m1_t vs2,
                                   vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f16m2x2(_Float16 *rs1, vuint16m2_t vs2,
                                   vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_f16m2x3(_Float16 *rs1, vuint16m2_t vs2,
                                   vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_f16m2x4(_Float16 *rs1, vuint16m2_t vs2,
                                   vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f16m4x2(_Float16 *rs1, vuint16m4_t vs2,
                                   vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f16mf4x2(_Float16 *rs1, vuint32mf2_t vs2,
                                    vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_f16mf4x3(_Float16 *rs1, vuint32mf2_t vs2,
                                    vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_f16mf4x4(_Float16 *rs1, vuint32mf2_t vs2,
                                    vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_f16mf4x5(_Float16 *rs1, vuint32mf2_t vs2,
                                    vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_f16mf4x6(_Float16 *rs1, vuint32mf2_t vs2,
                                    vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_f16mf4x7(_Float16 *rs1, vuint32mf2_t vs2,
                                    vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_f16mf4x8(_Float16 *rs1, vuint32mf2_t vs2,
                                    vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f16mf2x2(_Float16 *rs1, vuint32m1_t vs2,
                                    vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_f16mf2x3(_Float16 *rs1, vuint32m1_t vs2,
                                    vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_f16mf2x4(_Float16 *rs1, vuint32m1_t vs2,
                                    vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_f16mf2x5(_Float16 *rs1, vuint32m1_t vs2,
                                    vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_f16mf2x6(_Float16 *rs1, vuint32m1_t vs2,
                                    vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_f16mf2x7(_Float16 *rs1, vuint32m1_t vs2,
                                    vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_f16mf2x8(_Float16 *rs1, vuint32m1_t vs2,
                                    vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f16m1x2(_Float16 *rs1, vuint32m2_t vs2,
                                   vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_f16m1x3(_Float16 *rs1, vuint32m2_t vs2,
                                   vfloat16m1x3_t vs3, size_t vl);
```

```
void __riscv_vsuxseg4ei32_v_f16m1x4(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_f16m1x5(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_f16m1x6(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_f16m1x7(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_f16m1x8(_Float16 *rs1, vuint32m2_t vs2,
                                    vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f16m2x2(_Float16 *rs1, vuint32m4_t vs2,
                                    vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_f16m2x3(_Float16 *rs1, vuint32m4_t vs2,
                                    vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_f16m2x4(_Float16 *rs1, vuint32m4_t vs2,
                                    vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f16m4x2(_Float16 *rs1, vuint32m8_t vs2,
                                    vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f16mf4x2(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_f16mf4x3(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_f16mf4x4(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_f16mf4x5(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_f16mf4x6(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_f16mf4x7(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_f16mf4x8(_Float16 *rs1, vuint64m1_t vs2,
                                     vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f16mf2x2(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_f16mf2x3(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_f16mf2x4(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_f16mf2x5(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_f16mf2x6(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_f16mf2x7(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_f16mf2x8(_Float16 *rs1, vuint64m2_t vs2,
                                     vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f16m1x2(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_f16m1x3(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_f16m1x4(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_f16m1x5(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_f16m1x6(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_f16m1x7(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_f16m1x8(_Float16 *rs1, vuint64m4_t vs2,
                                    vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f16m2x2(_Float16 *rs1, vuint64m8_t vs2,
                                    vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_f16m2x3(_Float16 *rs1, vuint64m8_t vs2,
                                    vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_f16m2x4(_Float16 *rs1, vuint64m8_t vs2,
                                    vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f32mf2x2(float *rs1, vuint8mf8_t vs2,
```

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                                    vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f32mf2x3(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f32mf2x4(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_f32mf2x5(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_f32mf2x6(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_f32mf2x7(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_f32mf2x8(float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f32m1x2(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f32m1x3(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f32m1x4(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_f32m1x5(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_f32m1x6(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_f32m1x7(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_f32m1x8(float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f32m2x2(float *rs1, vuint8mf2_t vs2,
                                   vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f32m2x3(float *rs1, vuint8mf2_t vs2,
                                   vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f32m2x4(float *rs1, vuint8mf2_t vs2,
                                   vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f32m4x2(float *rs1, vuint8m1_t vs2,
                                   vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f32mf2x2(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_f32mf2x3(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_f32mf2x4(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_f32mf2x5(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_f32mf2x6(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_f32mf2x7(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_f32mf2x8(float *rs1, vuint16mf4_t vs2,
                                     vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f32m1x2(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_f32m1x3(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_f32m1x4(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_f32m1x5(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_f32m1x6(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_f32m1x7(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_f32m1x8(float *rs1, vuint16mf2_t vs2,
                                    vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f32m2x2(float *rs1, vuint16m1_t vs2,
                                    vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_f32m2x3(float *rs1, vuint16m1_t vs2,
                                    vfloat32m2x3_t vs3, size_t vl);
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void __riscv_vsuxseg4ei16_v_f32m2x4(float *rs1, vuint16m1_t vs2,
                                    vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f32m4x2(float *rs1, vuint16m2_t vs2,
                                    vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f32mf2x2(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_f32mf2x3(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_f32mf2x4(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_f32mf2x5(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_f32mf2x6(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_f32mf2x7(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_f32mf2x8(float *rs1, vuint32mf2_t vs2,
                                     vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f32m1x2(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_f32m1x3(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_f32m1x4(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_f32m1x5(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_f32m1x6(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_f32m1x7(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_f32m1x8(float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f32m2x2(float *rs1, vuint32m2_t vs2,
                                    vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_f32m2x3(float *rs1, vuint32m2_t vs2,
                                    vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_f32m2x4(float *rs1, vuint32m2_t vs2,
                                    vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f32m4x2(float *rs1, vuint32m4_t vs2,
                                    vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f32mf2x2(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_f32mf2x3(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_f32mf2x4(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_f32mf2x5(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_f32mf2x6(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_f32mf2x7(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_f32mf2x8(float *rs1, vuint64m1_t vs2,
                                     vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f32m1x2(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_f32m1x3(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_f32m1x4(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_f32m1x5(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_f32m1x6(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_f32m1x7(float *rs1, vuint64m2_t vs2,
                                    vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_f32m1x8(float *rs1, vuint64m2_t vs2,
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                                    vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f32m2x2(float *rs1, vuint64m4_t vs2,
                                    vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_f32m2x3(float *rs1, vuint64m4_t vs2,
                                    vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_f32m2x4(float *rs1, vuint64m4_t vs2,
                                    vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f32m4x2(float *rs1, vuint64m8_t vs2,
                                    vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f64m1x2(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f64m1x3(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f64m1x4(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_f64m1x5(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_f64m1x6(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_f64m1x7(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_f64m1x8(double *rs1, vuint8mf8_t vs2,
                                   vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f64m2x2(double *rs1, vuint8mf4_t vs2,
                                   vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f64m2x3(double *rs1, vuint8mf4_t vs2,
                                   vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f64m2x4(double *rs1, vuint8mf4_t vs2,
                                   vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f64m4x2(double *rs1, vuint8mf2_t vs2,
                                   vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f64m1x2(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_f64m1x3(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_f64m1x4(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_f64m1x5(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_f64m1x6(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_f64m1x7(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_f64m1x8(double *rs1, vuint16mf4_t vs2,
                                    vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f64m2x2(double *rs1, vuint16mf2_t vs2,
                                    vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_f64m2x3(double *rs1, vuint16mf2_t vs2,
                                    vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_f64m2x4(double *rs1, vuint16mf2_t vs2,
                                    vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f64m4x2(double *rs1, vuint16m1_t vs2,
                                    vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f64m1x2(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_f64m1x3(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_f64m1x4(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_f64m1x5(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_f64m1x6(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_f64m1x7(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_f64m1x8(double *rs1, vuint32mf2_t vs2,
                                    vfloat64m1x8_t vs3, size_t vl);
```

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void __riscv_vsuxseg2ei32_v_f64m2x2(double *rs1, vuint32m1_t vs2,
                                    vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_f64m2x3(double *rs1, vuint32m1_t vs2,
                                    vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_f64m2x4(double *rs1, vuint32m1_t vs2,
                                    vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f64m4x2(double *rs1, vuint32m2_t vs2,
                                    vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f64m1x2(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_f64m1x3(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_f64m1x4(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_f64m1x5(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_f64m1x6(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_f64m1x7(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_f64m1x8(double *rs1, vuint64m1_t vs2,
                                    vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f64m2x2(double *rs1, vuint64m2_t vs2,
                                    vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_f64m2x3(double *rs1, vuint64m2_t vs2,
                                    vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_f64m2x4(double *rs1, vuint64m2_t vs2,
                                    vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f64m4x2(double *rs1, vuint64m4_t vs2,
                                    vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i8mf8x2(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i8mf8x3(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i8mf8x4(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i8mf8x5(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i8mf8x6(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i8mf8x7(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i8mf8x8(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i8mf4x2(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i8mf4x3(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i8mf4x4(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i8mf4x5(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i8mf4x6(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i8mf4x7(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i8mf4x8(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i8mf2x2(int8_t *rs1, vuint8mf2_t vs2,
                                   vint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i8mf2x3(int8_t *rs1, vuint8mf2_t vs2,
                                   vint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i8mf2x4(int8_t *rs1, vuint8mf2_t vs2,
                                   vint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i8mf2x5(int8_t *rs1, vuint8mf2_t vs2,
                                   vint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i8mf2x6(int8_t *rs1, vuint8mf2_t vs2,
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                                    vint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i8mf2x7(int8_t *rs1, vuint8mf2_t vs2,
                                    vint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i8mf2x8(int8_t *rs1, vuint8mf2_t vs2,
                                    vint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i8m1x2(int8_t *rs1, vuint8m1_t vs2, vint8m1x2_t vs3,
                                  size_t vl);
void __riscv_vsoxseg3ei8_v_i8m1x3(int8_t *rs1, vuint8m1_t vs2, vint8m1x3_t vs3,
                                  size_t vl);
void __riscv_vsoxseg4ei8_v_i8m1x4(int8_t *rs1, vuint8m1_t vs2, vint8m1x4_t vs3,
                                  size_t vl);
void __riscv_vsoxseg5ei8_v_i8m1x5(int8_t *rs1, vuint8m1_t vs2, vint8m1x5_t vs3,
                                  size_t vl);
void __riscv_vsoxseg6ei8_v_i8m1x6(int8_t *rs1, vuint8m1_t vs2, vint8m1x6_t vs3,
                                  size_t vl);
void __riscv_vsoxseg7ei8_v_i8m1x7(int8_t *rs1, vuint8m1_t vs2, vint8m1x7_t vs3,
                                  size_t vl);
void __riscv_vsoxseg8ei8_v_i8m1x8(int8_t *rs1, vuint8m1_t vs2, vint8m1x8_t vs3,
                                  size_t vl);
void __riscv_vsoxseg2ei8_v_i8m2x2(int8_t *rs1, vuint8m2_t vs2, vint8m2x2_t vs3,
                                  size_t vl);
void __riscv_vsoxseg3ei8_v_i8m2x3(int8_t *rs1, vuint8m2_t vs2, vint8m2x3_t vs3,
                                  size_t vl);
void __riscv_vsoxseg4ei8_v_i8m2x4(int8_t *rs1, vuint8m2_t vs2, vint8m2x4_t vs3,
                                  size_t vl);
void __riscv_vsoxseg2ei8_v_i8m4x2(int8_t *rs1, vuint8m4_t vs2, vint8m4x2_t vs3,
                                  size_t vl);
void __riscv_vsoxseg2ei16_v_i8mf8x2(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i8mf8x3(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i8mf8x4(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_i8mf8x5(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_i8mf8x6(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_i8mf8x7(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_i8mf8x8(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i8mf4x2(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i8mf4x3(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i8mf4x4(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_i8mf4x5(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_i8mf4x6(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_i8mf4x7(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_i8mf4x8(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i8mf2x2(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i8mf2x3(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i8mf2x4(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_i8mf2x5(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_i8mf2x6(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_i8mf2x7(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x7_t vs3, size_t vl);
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void __riscv_vsoxseg8ei16_v_i8mf2x8(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i8m1x2(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i8m1x3(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i8m1x4(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_i8m1x5(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_i8m1x6(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_i8m1x7(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_i8m1x8(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i8m2x2(int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i8m2x3(int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i8m2x4(int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i8m4x2(int8_t *rs1, vuint16m8_t vs2,
                                   vint8m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i8mf8x2(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i8mf8x3(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i8mf8x4(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_i8mf8x5(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_i8mf8x6(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_i8mf8x7(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_i8mf8x8(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i8mf4x2(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i8mf4x3(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i8mf4x4(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_i8mf4x5(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_i8mf4x6(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_i8mf4x7(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_i8mf4x8(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i8mf2x2(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i8mf2x3(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i8mf2x4(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_i8mf2x5(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_i8mf2x6(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_i8mf2x7(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_i8mf2x8(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i8m1x2(int8_t *rs1, vuint32m4_t vs2,
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                                    vint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i8m1x3(int8_t *rs1, vuint32m4_t vs2,
                                    vint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i8m1x4(int8_t *rs1, vuint32m4_t vs2,
                                    vint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_i8m1x5(int8_t *rs1, vuint32m4_t vs2,
                                    vint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_i8m1x6(int8_t *rs1, vuint32m4_t vs2,
                                    vint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_i8m1x7(int8_t *rs1, vuint32m4_t vs2,
                                    vint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_i8m1x8(int8_t *rs1, vuint32m4_t vs2,
                                    vint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i8m2x2(int8_t *rs1, vuint32m8_t vs2,
                                    vint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i8m2x3(int8_t *rs1, vuint32m8_t vs2,
                                    vint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i8m2x4(int8_t *rs1, vuint32m8_t vs2,
                                    vint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i8mf8x2(int8_t *rs1, vuint64m1_t vs2,
                                     vint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i8mf8x3(int8_t *rs1, vuint64m1_t vs2,
                                     vint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i8mf8x4(int8_t *rs1, vuint64m1_t vs2,
                                     vint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_i8mf8x5(int8_t *rs1, vuint64m1_t vs2,
                                     vint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_i8mf8x6(int8_t *rs1, vuint64m1_t vs2,
                                     vint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_i8mf8x7(int8_t *rs1, vuint64m1_t vs2,
                                     vint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_i8mf8x8(int8_t *rs1, vuint64m1_t vs2,
                                     vint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i8mf4x2(int8_t *rs1, vuint64m2_t vs2,
                                     vint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i8mf4x3(int8_t *rs1, vuint64m2_t vs2,
                                     vint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i8mf4x4(int8_t *rs1, vuint64m2_t vs2,
                                     vint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_i8mf4x5(int8_t *rs1, vuint64m2_t vs2,
                                     vint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_i8mf4x6(int8_t *rs1, vuint64m2_t vs2,
                                     vint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_i8mf4x7(int8_t *rs1, vuint64m2_t vs2,
                                     vint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_i8mf4x8(int8_t *rs1, vuint64m2_t vs2,
                                     vint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i8mf2x2(int8_t *rs1, vuint64m4_t vs2,
                                     vint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i8mf2x3(int8_t *rs1, vuint64m4_t vs2,
                                     vint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i8mf2x4(int8_t *rs1, vuint64m4_t vs2,
                                     vint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_i8mf2x5(int8_t *rs1, vuint64m4_t vs2,
                                     vint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_i8mf2x6(int8_t *rs1, vuint64m4_t vs2,
                                     vint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_i8mf2x7(int8_t *rs1, vuint64m4_t vs2,
                                     vint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_i8mf2x8(int8_t *rs1, vuint64m4_t vs2,
                                     vint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i8m1x2(int8_t *rs1, vuint64m8_t vs2,
                                    vint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i8m1x3(int8_t *rs1, vuint64m8_t vs2,
                                    vint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i8m1x4(int8_t *rs1, vuint64m8_t vs2,
                                    vint8m1x4_t vs3, size_t vl);
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void __riscv_vsoxseg5ei64_v_i8m1x5(int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_i8m1x6(int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_i8m1x7(int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_i8m1x8(int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i16mf4x2(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i16mf4x3(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i16mf4x4(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i16mf4x5(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i16mf4x6(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i16mf4x7(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i16mf4x8(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i16mf2x2(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i16mf2x3(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i16mf2x4(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i16mf2x5(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i16mf2x6(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i16mf2x7(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i16mf2x8(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i16m1x2(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i16m1x3(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i16m1x4(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i16m1x5(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i16m1x6(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i16m1x7(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i16m1x8(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i16m2x2(int16_t *rs1, vuint8m1_t vs2,
                                   vint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i16m2x3(int16_t *rs1, vuint8m1_t vs2,
                                   vint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i16m2x4(int16_t *rs1, vuint8m1_t vs2,
                                   vint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i16m4x2(int16_t *rs1, vuint8m2_t vs2,
                                   vint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i16mf4x2(int16_t *rs1, vuint16mf4_t vs2,
                                     vint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i16mf4x3(int16_t *rs1, vuint16mf4_t vs2,
                                     vint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i16mf4x4(int16_t *rs1, vuint16mf4_t vs2,
                                     vint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_i16mf4x5(int16_t *rs1, vuint16mf4_t vs2,
                                     vint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_i16mf4x6(int16_t *rs1, vuint16mf4_t vs2,
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                                    vint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_i16mf4x7(int16_t *rs1, vuint16mf4_t vs2,
                                    vint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_i16mf4x8(int16_t *rs1, vuint16mf4_t vs2,
                                    vint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i16mf2x2(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i16mf2x3(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i16mf2x4(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_i16mf2x5(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_i16mf2x6(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_i16mf2x7(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_i16mf2x8(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i16m1x2(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i16m1x3(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i16m1x4(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_i16m1x5(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_i16m1x6(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_i16m1x7(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_i16m1x8(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i16m2x2(int16_t *rs1, vuint16m2_t vs2,
                                   vint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i16m2x3(int16_t *rs1, vuint16m2_t vs2,
                                   vint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i16m2x4(int16_t *rs1, vuint16m2_t vs2,
                                   vint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i16m4x2(int16_t *rs1, vuint16m4_t vs2,
                                   vint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i16mf4x2(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i16mf4x3(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i16mf4x4(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_i16mf4x5(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_i16mf4x6(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_i16mf4x7(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_i16mf4x8(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i16mf2x2(int16_t *rs1, vuint32m1_t vs2,
                                    vint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i16mf2x3(int16_t *rs1, vuint32m1_t vs2,
                                    vint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i16mf2x4(int16_t *rs1, vuint32m1_t vs2,
                                    vint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_i16mf2x5(int16_t *rs1, vuint32m1_t vs2,
                                    vint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_i16mf2x6(int16_t *rs1, vuint32m1_t vs2,
                                    vint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_i16mf2x7(int16_t *rs1, vuint32m1_t vs2,
                                    vint16mf2x7_t vs3, size_t vl);
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void __riscv_vsoxseg8ei32_v_i16mf2x8(int16_t *rs1, vuint32m1_t vs2,
                                     vint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i16m1x2(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i16m1x3(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i16m1x4(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_i16m1x5(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_i16m1x6(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_i16m1x7(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_i16m1x8(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i16m2x2(int16_t *rs1, vuint32m4_t vs2,
                                    vint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i16m2x3(int16_t *rs1, vuint32m4_t vs2,
                                    vint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i16m2x4(int16_t *rs1, vuint32m4_t vs2,
                                    vint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i16m4x2(int16_t *rs1, vuint32m8_t vs2,
                                    vint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i16mf4x2(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i16mf4x3(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i16mf4x4(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_i16mf4x5(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_i16mf4x6(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_i16mf4x7(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_i16mf4x8(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i16mf2x2(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i16mf2x3(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i16mf2x4(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_i16mf2x5(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_i16mf2x6(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_i16mf2x7(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_i16mf2x8(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i16m1x2(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i16m1x3(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i16m1x4(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_i16m1x5(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_i16m1x6(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_i16m1x7(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_i16m1x8(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i16m2x2(int16_t *rs1, vuint64m8_t vs2,
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                                    vint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i16m2x3(int16_t *rs1, vuint64m8_t vs2,
                                    vint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i16m2x4(int16_t *rs1, vuint64m8_t vs2,
                                    vint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i32mf2x2(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i32mf2x3(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i32mf2x4(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i32mf2x5(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i32mf2x6(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i32mf2x7(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i32mf2x8(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i32m1x2(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i32m1x3(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i32m1x4(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i32m1x5(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i32m1x6(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i32m1x7(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i32m1x8(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i32m2x2(int32_t *rs1, vuint8mf2_t vs2,
                                   vint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i32m2x3(int32_t *rs1, vuint8mf2_t vs2,
                                   vint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i32m2x4(int32_t *rs1, vuint8mf2_t vs2,
                                   vint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i32m4x2(int32_t *rs1, vuint8m1_t vs2,
                                   vint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i32mf2x2(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i32mf2x3(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i32mf2x4(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_i32mf2x5(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_i32mf2x6(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_i32mf2x7(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_i32mf2x8(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i32m1x2(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i32m1x3(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i32m1x4(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_i32m1x5(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_i32m1x6(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_i32m1x7(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x7_t vs3, size_t vl);
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void __riscv_vsoxseg8ei16_v_i32m1x8(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i32m2x2(int32_t *rs1, vuint16m1_t vs2,
                                    vint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i32m2x3(int32_t *rs1, vuint16m1_t vs2,
                                    vint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i32m2x4(int32_t *rs1, vuint16m1_t vs2,
                                    vint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i32m4x2(int32_t *rs1, vuint16m2_t vs2,
                                    vint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i32mf2x2(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i32mf2x3(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i32mf2x4(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_i32mf2x5(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_i32mf2x6(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_i32mf2x7(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_i32mf2x8(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i32m1x2(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i32m1x3(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i32m1x4(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_i32m1x5(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_i32m1x6(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_i32m1x7(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_i32m1x8(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i32m2x2(int32_t *rs1, vuint32m2_t vs2,
                                    vint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i32m2x3(int32_t *rs1, vuint32m2_t vs2,
                                    vint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i32m2x4(int32_t *rs1, vuint32m2_t vs2,
                                    vint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i32m4x2(int32_t *rs1, vuint32m4_t vs2,
                                    vint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i32mf2x2(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i32mf2x3(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i32mf2x4(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_i32mf2x5(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_i32mf2x6(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_i32mf2x7(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_i32mf2x8(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i32m1x2(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i32m1x3(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i32m1x4(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_i32m1x5(int32_t *rs1, vuint64m2_t vs2,
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                                    vint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_i32m1x6(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_i32m1x7(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_i32m1x8(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i32m2x2(int32_t *rs1, vuint64m4_t vs2,
                                    vint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i32m2x3(int32_t *rs1, vuint64m4_t vs2,
                                    vint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i32m2x4(int32_t *rs1, vuint64m4_t vs2,
                                    vint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i32m4x2(int32_t *rs1, vuint64m8_t vs2,
                                    vint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i64m1x2(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i64m1x3(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i64m1x4(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i64m1x5(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i64m1x6(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i64m1x7(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i64m1x8(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i64m2x2(int64_t *rs1, vuint8mf4_t vs2,
                                   vint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i64m2x3(int64_t *rs1, vuint8mf4_t vs2,
                                   vint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i64m2x4(int64_t *rs1, vuint8mf4_t vs2,
                                   vint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i64m4x2(int64_t *rs1, vuint8mf2_t vs2,
                                   vint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i64m1x2(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i64m1x3(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i64m1x4(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_i64m1x5(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_i64m1x6(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_i64m1x7(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_i64m1x8(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i64m2x2(int64_t *rs1, vuint16mf2_t vs2,
                                    vint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i64m2x3(int64_t *rs1, vuint16mf2_t vs2,
                                    vint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i64m2x4(int64_t *rs1, vuint16mf2_t vs2,
                                    vint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i64m4x2(int64_t *rs1, vuint16m1_t vs2,
                                    vint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i64m1x2(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i64m1x3(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i64m1x4(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_i64m1x5(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x5_t vs3, size_t vl);
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void __riscv_vsoxseg6ei32_v_i64m1x6(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_i64m1x7(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_i64m1x8(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i64m2x2(int64_t *rs1, vuint32m1_t vs2,
                                    vint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i64m2x3(int64_t *rs1, vuint32m1_t vs2,
                                    vint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i64m2x4(int64_t *rs1, vuint32m1_t vs2,
                                    vint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i64m4x2(int64_t *rs1, vuint32m2_t vs2,
                                    vint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i64m1x2(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i64m1x3(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i64m1x4(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_i64m1x5(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_i64m1x6(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_i64m1x7(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_i64m1x8(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i64m2x2(int64_t *rs1, vuint64m2_t vs2,
                                    vint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i64m2x3(int64_t *rs1, vuint64m2_t vs2,
                                    vint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i64m2x4(int64_t *rs1, vuint64m2_t vs2,
                                    vint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i64m4x2(int64_t *rs1, vuint64m4_t vs2,
                                    vint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i8mf8x2(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i8mf8x3(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i8mf8x4(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i8mf8x5(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i8mf8x6(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i8mf8x7(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i8mf8x8(int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i8mf4x2(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i8mf4x3(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i8mf4x4(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i8mf4x5(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i8mf4x6(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i8mf4x7(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i8mf4x8(int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i8mf2x2(int8_t *rs1, vuint8mf2_t vs2,
                                   vint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i8mf2x3(int8_t *rs1, vuint8mf2_t vs2,
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                                    vint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i8mf2x4(int8_t *rs1, vuint8mf2_t vs2,
                                    vint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i8mf2x5(int8_t *rs1, vuint8mf2_t vs2,
                                    vint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i8mf2x6(int8_t *rs1, vuint8mf2_t vs2,
                                    vint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i8mf2x7(int8_t *rs1, vuint8mf2_t vs2,
                                    vint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i8mf2x8(int8_t *rs1, vuint8mf2_t vs2,
                                    vint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i8m1x2(int8_t *rs1, vuint8m1_t vs2, vint8m1x2_t vs3,
                                  size_t vl);
void __riscv_vsuxseg3ei8_v_i8m1x3(int8_t *rs1, vuint8m1_t vs2, vint8m1x3_t vs3,
                                  size_t vl);
void __riscv_vsuxseg4ei8_v_i8m1x4(int8_t *rs1, vuint8m1_t vs2, vint8m1x4_t vs3,
                                  size_t vl);
void __riscv_vsuxseg5ei8_v_i8m1x5(int8_t *rs1, vuint8m1_t vs2, vint8m1x5_t vs3,
                                  size_t vl);
void __riscv_vsuxseg6ei8_v_i8m1x6(int8_t *rs1, vuint8m1_t vs2, vint8m1x6_t vs3,
                                  size_t vl);
void __riscv_vsuxseg7ei8_v_i8m1x7(int8_t *rs1, vuint8m1_t vs2, vint8m1x7_t vs3,
                                  size_t vl);
void __riscv_vsuxseg8ei8_v_i8m1x8(int8_t *rs1, vuint8m1_t vs2, vint8m1x8_t vs3,
                                  size_t vl);
void __riscv_vsuxseg2ei8_v_i8m2x2(int8_t *rs1, vuint8m2_t vs2, vint8m2x2_t vs3,
                                  size_t vl);
void __riscv_vsuxseg3ei8_v_i8m2x3(int8_t *rs1, vuint8m2_t vs2, vint8m2x3_t vs3,
                                  size_t vl);
void __riscv_vsuxseg4ei8_v_i8m2x4(int8_t *rs1, vuint8m2_t vs2, vint8m2x4_t vs3,
                                  size_t vl);
void __riscv_vsuxseg2ei8_v_i8m4x2(int8_t *rs1, vuint8m4_t vs2, vint8m4x2_t vs3,
                                  size_t vl);
void __riscv_vsuxseg2ei16_v_i8mf8x2(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i8mf8x3(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i8mf8x4(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_i8mf8x5(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_i8mf8x6(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_i8mf8x7(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_i8mf8x8(int8_t *rs1, vuint16mf4_t vs2,
                                    vint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i8mf4x2(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i8mf4x3(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i8mf4x4(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_i8mf4x5(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_i8mf4x6(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_i8mf4x7(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_i8mf4x8(int8_t *rs1, vuint16mf2_t vs2,
                                    vint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i8mf2x2(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i8mf2x3(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i8mf2x4(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x4_t vs3, size_t vl);
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void __riscv_vsuxseg5ei16_v_i8mf2x5(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_i8mf2x6(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_i8mf2x7(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_i8mf2x8(int8_t *rs1, vuint16m1_t vs2,
                                    vint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i8m1x2(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i8m1x3(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i8m1x4(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_i8m1x5(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_i8m1x6(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_i8m1x7(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_i8m1x8(int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i8m2x2(int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i8m2x3(int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i8m2x4(int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i8m4x2(int8_t *rs1, vuint16m8_t vs2,
                                   vint8m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i8mf8x2(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i8mf8x3(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i8mf8x4(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_i8mf8x5(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_i8mf8x6(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_i8mf8x7(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_i8mf8x8(int8_t *rs1, vuint32mf2_t vs2,
                                    vint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i8mf4x2(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i8mf4x3(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i8mf4x4(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_i8mf4x5(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_i8mf4x6(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_i8mf4x7(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_i8mf4x8(int8_t *rs1, vuint32m1_t vs2,
                                    vint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i8mf2x2(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i8mf2x3(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i8mf2x4(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_i8mf2x5(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_i8mf2x6(int8_t *rs1, vuint32m2_t vs2,
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                                    vint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_i8mf2x7(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_i8mf2x8(int8_t *rs1, vuint32m2_t vs2,
                                    vint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i8m1x2(int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i8m1x3(int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i8m1x4(int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_i8m1x5(int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_i8m1x6(int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_i8m1x7(int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_i8m1x8(int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i8m2x2(int8_t *rs1, vuint32m8_t vs2,
                                   vint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i8m2x3(int8_t *rs1, vuint32m8_t vs2,
                                   vint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i8m2x4(int8_t *rs1, vuint32m8_t vs2,
                                   vint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i8mf8x2(int8_t *rs1, vuint64m1_t vs2,
                                    vint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i8mf8x3(int8_t *rs1, vuint64m1_t vs2,
                                    vint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i8mf8x4(int8_t *rs1, vuint64m1_t vs2,
                                    vint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_i8mf8x5(int8_t *rs1, vuint64m1_t vs2,
                                    vint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_i8mf8x6(int8_t *rs1, vuint64m1_t vs2,
                                    vint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_i8mf8x7(int8_t *rs1, vuint64m1_t vs2,
                                    vint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_i8mf8x8(int8_t *rs1, vuint64m1_t vs2,
                                    vint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i8mf4x2(int8_t *rs1, vuint64m2_t vs2,
                                    vint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i8mf4x3(int8_t *rs1, vuint64m2_t vs2,
                                    vint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i8mf4x4(int8_t *rs1, vuint64m2_t vs2,
                                    vint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_i8mf4x5(int8_t *rs1, vuint64m2_t vs2,
                                    vint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_i8mf4x6(int8_t *rs1, vuint64m2_t vs2,
                                    vint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_i8mf4x7(int8_t *rs1, vuint64m2_t vs2,
                                    vint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_i8mf4x8(int8_t *rs1, vuint64m2_t vs2,
                                    vint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i8mf2x2(int8_t *rs1, vuint64m4_t vs2,
                                    vint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i8mf2x3(int8_t *rs1, vuint64m4_t vs2,
                                    vint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i8mf2x4(int8_t *rs1, vuint64m4_t vs2,
                                    vint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_i8mf2x5(int8_t *rs1, vuint64m4_t vs2,
                                    vint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_i8mf2x6(int8_t *rs1, vuint64m4_t vs2,
                                    vint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_i8mf2x7(int8_t *rs1, vuint64m4_t vs2,
                                    vint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_i8mf2x8(int8_t *rs1, vuint64m4_t vs2,
                                    vint8mf2x8_t vs3, size_t vl);
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void __riscv_vsuxseg2ei64_v_i8m1x2(int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i8m1x3(int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i8m1x4(int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_i8m1x5(int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_i8m1x6(int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_i8m1x7(int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_i8m1x8(int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i16mf4x2(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i16mf4x3(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i16mf4x4(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i16mf4x5(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i16mf4x6(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i16mf4x7(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i16mf4x8(int16_t *rs1, vuint8mf8_t vs2,
                                    vint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i16mf2x2(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i16mf2x3(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i16mf2x4(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i16mf2x5(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i16mf2x6(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i16mf2x7(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i16mf2x8(int16_t *rs1, vuint8mf4_t vs2,
                                    vint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i16m1x2(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i16m1x3(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i16m1x4(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i16m1x5(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i16m1x6(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i16m1x7(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i16m1x8(int16_t *rs1, vuint8mf2_t vs2,
                                   vint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i16m2x2(int16_t *rs1, vuint8m1_t vs2,
                                   vint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i16m2x3(int16_t *rs1, vuint8m1_t vs2,
                                   vint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i16m2x4(int16_t *rs1, vuint8m1_t vs2,
                                   vint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i16m4x2(int16_t *rs1, vuint8m2_t vs2,
                                   vint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i16mf4x2(int16_t *rs1, vuint16mf4_t vs2,
                                     vint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i16mf4x3(int16_t *rs1, vuint16mf4_t vs2,
```

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                                    vint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i16mf4x4(int16_t *rs1, vuint16mf4_t vs2,
                                    vint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_i16mf4x5(int16_t *rs1, vuint16mf4_t vs2,
                                    vint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_i16mf4x6(int16_t *rs1, vuint16mf4_t vs2,
                                    vint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_i16mf4x7(int16_t *rs1, vuint16mf4_t vs2,
                                    vint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_i16mf4x8(int16_t *rs1, vuint16mf4_t vs2,
                                    vint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i16mf2x2(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i16mf2x3(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i16mf2x4(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_i16mf2x5(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_i16mf2x6(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_i16mf2x7(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_i16mf2x8(int16_t *rs1, vuint16mf2_t vs2,
                                    vint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i16m1x2(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i16m1x3(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i16m1x4(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_i16m1x5(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_i16m1x6(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_i16m1x7(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_i16m1x8(int16_t *rs1, vuint16m1_t vs2,
                                   vint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i16m2x2(int16_t *rs1, vuint16m2_t vs2,
                                   vint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i16m2x3(int16_t *rs1, vuint16m2_t vs2,
                                   vint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i16m2x4(int16_t *rs1, vuint16m2_t vs2,
                                   vint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i16m4x2(int16_t *rs1, vuint16m4_t vs2,
                                   vint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i16mf4x2(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i16mf4x3(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i16mf4x4(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_i16mf4x5(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_i16mf4x6(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_i16mf4x7(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_i16mf4x8(int16_t *rs1, vuint32mf2_t vs2,
                                    vint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i16mf2x2(int16_t *rs1, vuint32m1_t vs2,
                                    vint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i16mf2x3(int16_t *rs1, vuint32m1_t vs2,
                                    vint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i16mf2x4(int16_t *rs1, vuint32m1_t vs2,
                                    vint16mf2x4_t vs3, size_t vl);
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void __riscv_vsuxseg5ei32_v_i16mf2x5(int16_t *rs1, vuint32m1_t vs2,
                                     vint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_i16mf2x6(int16_t *rs1, vuint32m1_t vs2,
                                     vint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_i16mf2x7(int16_t *rs1, vuint32m1_t vs2,
                                     vint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_i16mf2x8(int16_t *rs1, vuint32m1_t vs2,
                                     vint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i16m1x2(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i16m1x3(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i16m1x4(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_i16m1x5(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_i16m1x6(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_i16m1x7(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_i16m1x8(int16_t *rs1, vuint32m2_t vs2,
                                    vint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i16m2x2(int16_t *rs1, vuint32m4_t vs2,
                                    vint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i16m2x3(int16_t *rs1, vuint32m4_t vs2,
                                    vint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i16m2x4(int16_t *rs1, vuint32m4_t vs2,
                                    vint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i16m4x2(int16_t *rs1, vuint32m8_t vs2,
                                    vint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i16mf4x2(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i16mf4x3(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i16mf4x4(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_i16mf4x5(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_i16mf4x6(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_i16mf4x7(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_i16mf4x8(int16_t *rs1, vuint64m1_t vs2,
                                     vint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i16mf2x2(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i16mf2x3(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i16mf2x4(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_i16mf2x5(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_i16mf2x6(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_i16mf2x7(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_i16mf2x8(int16_t *rs1, vuint64m2_t vs2,
                                     vint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i16m1x2(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i16m1x3(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i16m1x4(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_i16m1x5(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_i16m1x6(int16_t *rs1, vuint64m4_t vs2,
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                                    vint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_i16m1x7(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_i16m1x8(int16_t *rs1, vuint64m4_t vs2,
                                    vint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i16m2x2(int16_t *rs1, vuint64m8_t vs2,
                                    vint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i16m2x3(int16_t *rs1, vuint64m8_t vs2,
                                    vint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i16m2x4(int16_t *rs1, vuint64m8_t vs2,
                                    vint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i32mf2x2(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i32mf2x3(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i32mf2x4(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i32mf2x5(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i32mf2x6(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i32mf2x7(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i32mf2x8(int32_t *rs1, vuint8mf8_t vs2,
                                    vint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i32m1x2(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i32m1x3(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i32m1x4(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i32m1x5(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i32m1x6(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i32m1x7(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i32m1x8(int32_t *rs1, vuint8mf4_t vs2,
                                   vint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i32m2x2(int32_t *rs1, vuint8mf2_t vs2,
                                   vint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i32m2x3(int32_t *rs1, vuint8mf2_t vs2,
                                   vint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i32m2x4(int32_t *rs1, vuint8mf2_t vs2,
                                   vint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i32m4x2(int32_t *rs1, vuint8m1_t vs2,
                                   vint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i32mf2x2(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i32mf2x3(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i32mf2x4(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_i32mf2x5(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_i32mf2x6(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_i32mf2x7(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_i32mf2x8(int32_t *rs1, vuint16mf4_t vs2,
                                     vint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i32m1x2(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i32m1x3(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i32m1x4(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x4_t vs3, size_t vl);
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void __riscv_vsuxseg5ei16_v_i32m1x5(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_i32m1x6(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_i32m1x7(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_i32m1x8(int32_t *rs1, vuint16mf2_t vs2,
                                    vint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i32m2x2(int32_t *rs1, vuint16m1_t vs2,
                                    vint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i32m2x3(int32_t *rs1, vuint16m1_t vs2,
                                    vint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i32m2x4(int32_t *rs1, vuint16m1_t vs2,
                                    vint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i32m4x2(int32_t *rs1, vuint16m2_t vs2,
                                    vint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i32mf2x2(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i32mf2x3(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i32mf2x4(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_i32mf2x5(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_i32mf2x6(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_i32mf2x7(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_i32mf2x8(int32_t *rs1, vuint32mf2_t vs2,
                                     vint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i32m1x2(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i32m1x3(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i32m1x4(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_i32m1x5(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_i32m1x6(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_i32m1x7(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_i32m1x8(int32_t *rs1, vuint32m1_t vs2,
                                    vint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i32m2x2(int32_t *rs1, vuint32m2_t vs2,
                                    vint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i32m2x3(int32_t *rs1, vuint32m2_t vs2,
                                    vint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i32m2x4(int32_t *rs1, vuint32m2_t vs2,
                                    vint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i32m4x2(int32_t *rs1, vuint32m4_t vs2,
                                    vint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i32mf2x2(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i32mf2x3(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i32mf2x4(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_i32mf2x5(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_i32mf2x6(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_i32mf2x7(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_i32mf2x8(int32_t *rs1, vuint64m1_t vs2,
                                     vint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i32m1x2(int32_t *rs1, vuint64m2_t vs2,
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                                    vint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i32m1x3(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i32m1x4(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_i32m1x5(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_i32m1x6(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_i32m1x7(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_i32m1x8(int32_t *rs1, vuint64m2_t vs2,
                                    vint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i32m2x2(int32_t *rs1, vuint64m4_t vs2,
                                    vint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i32m2x3(int32_t *rs1, vuint64m4_t vs2,
                                    vint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i32m2x4(int32_t *rs1, vuint64m4_t vs2,
                                    vint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i32m4x2(int32_t *rs1, vuint64m8_t vs2,
                                    vint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i64m1x2(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i64m1x3(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i64m1x4(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i64m1x5(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i64m1x6(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i64m1x7(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i64m1x8(int64_t *rs1, vuint8mf8_t vs2,
                                   vint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i64m2x2(int64_t *rs1, vuint8mf4_t vs2,
                                   vint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i64m2x3(int64_t *rs1, vuint8mf4_t vs2,
                                   vint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i64m2x4(int64_t *rs1, vuint8mf4_t vs2,
                                   vint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i64m4x2(int64_t *rs1, vuint8mf2_t vs2,
                                   vint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i64m1x2(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i64m1x3(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i64m1x4(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_i64m1x5(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_i64m1x6(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_i64m1x7(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_i64m1x8(int64_t *rs1, vuint16mf4_t vs2,
                                    vint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i64m2x2(int64_t *rs1, vuint16mf2_t vs2,
                                    vint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i64m2x3(int64_t *rs1, vuint16mf2_t vs2,
                                    vint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i64m2x4(int64_t *rs1, vuint16mf2_t vs2,
                                    vint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i64m4x2(int64_t *rs1, vuint16m1_t vs2,
                                    vint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i64m1x2(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x2_t vs3, size_t vl);
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void __riscv_vsuxseg3ei32_v_i64m1x3(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i64m1x4(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_i64m1x5(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_i64m1x6(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_i64m1x7(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_i64m1x8(int64_t *rs1, vuint32mf2_t vs2,
                                    vint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i64m2x2(int64_t *rs1, vuint32m1_t vs2,
                                    vint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i64m2x3(int64_t *rs1, vuint32m1_t vs2,
                                    vint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i64m2x4(int64_t *rs1, vuint32m1_t vs2,
                                    vint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i64m4x2(int64_t *rs1, vuint32m2_t vs2,
                                    vint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i64m1x2(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i64m1x3(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i64m1x4(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_i64m1x5(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_i64m1x6(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_i64m1x7(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_i64m1x8(int64_t *rs1, vuint64m1_t vs2,
                                    vint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i64m2x2(int64_t *rs1, vuint64m2_t vs2,
                                    vint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i64m2x3(int64_t *rs1, vuint64m2_t vs2,
                                    vint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i64m2x4(int64_t *rs1, vuint64m2_t vs2,
                                    vint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i64m4x2(int64_t *rs1, vuint64m4_t vs2,
                                    vint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u8mf8x2(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u8mf8x3(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u8mf8x4(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_u8mf8x5(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_u8mf8x6(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_u8mf8x7(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_u8mf8x8(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u8mf4x2(uint8_t *rs1, vuint8mf4_t vs2,
                                   vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u8mf4x3(uint8_t *rs1, vuint8mf4_t vs2,
                                   vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u8mf4x4(uint8_t *rs1, vuint8mf4_t vs2,
                                   vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_u8mf4x5(uint8_t *rs1, vuint8mf4_t vs2,
                                   vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_u8mf4x6(uint8_t *rs1, vuint8mf4_t vs2,
                                   vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_u8mf4x7(uint8_t *rs1, vuint8mf4_t vs2,
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                                    vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_u8mf4x8(uint8_t *rs1, vuint8mf4_t vs2,
                                    vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u8mf2x2(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u8mf2x3(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u8mf2x4(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_u8mf2x5(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_u8mf2x6(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_u8mf2x7(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_u8mf2x8(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u8m1x2(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u8m1x3(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u8m1x4(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_u8m1x5(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_u8m1x6(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_u8m1x7(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_u8m1x8(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u8m2x2(uint8_t *rs1, vuint8m2_t vs2,
                                   vuint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u8m2x3(uint8_t *rs1, vuint8m2_t vs2,
                                   vuint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u8m2x4(uint8_t *rs1, vuint8m2_t vs2,
                                   vuint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u8m4x2(uint8_t *rs1, vuint8m4_t vs2,
                                   vuint8m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u8mf8x2(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u8mf8x3(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u8mf8x4(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_u8mf8x5(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_u8mf8x6(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_u8mf8x7(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_u8mf8x8(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u8mf4x2(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u8mf4x3(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u8mf4x4(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_u8mf4x5(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_u8mf4x6(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_u8mf4x7(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_u8mf4x8(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x8_t vs3, size_t vl);
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void __riscv_vsoxseg2ei16_v_u8mf2x2(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u8mf2x3(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u8mf2x4(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_u8mf2x5(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_u8mf2x6(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_u8mf2x7(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_u8mf2x8(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u8m1x2(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u8m1x3(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u8m1x4(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_u8m1x5(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_u8m1x6(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_u8m1x7(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_u8m1x8(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u8m2x2(uint8_t *rs1, vuint16m4_t vs2,
                                   vuint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u8m2x3(uint8_t *rs1, vuint16m4_t vs2,
                                   vuint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u8m2x4(uint8_t *rs1, vuint16m4_t vs2,
                                   vuint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u8m4x2(uint8_t *rs1, vuint16m8_t vs2,
                                   vuint8m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u8mf8x2(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u8mf8x3(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u8mf8x4(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_u8mf8x5(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_u8mf8x6(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_u8mf8x7(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_u8mf8x8(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u8mf4x2(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u8mf4x3(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u8mf4x4(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_u8mf4x5(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_u8mf4x6(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_u8mf4x7(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_u8mf4x8(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u8mf2x2(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u8mf2x3(uint8_t *rs1, vuint32m2_t vs2,
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                                    vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u8mf2x4(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_u8mf2x5(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_u8mf2x6(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_u8mf2x7(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_u8mf2x8(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u8m1x2(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u8m1x3(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u8m1x4(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_u8m1x5(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_u8m1x6(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_u8m1x7(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_u8m1x8(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u8m2x2(uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u8m2x3(uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u8m2x4(uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u8mf8x2(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u8mf8x3(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u8mf8x4(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_u8mf8x5(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_u8mf8x6(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_u8mf8x7(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_u8mf8x8(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u8mf4x2(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u8mf4x3(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u8mf4x4(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_u8mf4x5(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_u8mf4x6(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_u8mf4x7(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_u8mf4x8(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u8mf2x2(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u8mf2x3(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u8mf2x4(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_u8mf2x5(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x5_t vs3, size_t vl);
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void __riscv_vsoxseg6ei64_v_u8mf2x6(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_u8mf2x7(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_u8mf2x8(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u8m1x2(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u8m1x3(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u8m1x4(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_u8m1x5(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_u8m1x6(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_u8m1x7(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_u8m1x8(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u16mf4x2(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u16mf4x3(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u16mf4x4(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_u16mf4x5(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_u16mf4x6(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_u16mf4x7(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_u16mf4x8(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u16mf2x2(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u16mf2x3(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u16mf2x4(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_u16mf2x5(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_u16mf2x6(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_u16mf2x7(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_u16mf2x8(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u16m1x2(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u16m1x3(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u16m1x4(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_u16m1x5(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_u16m1x6(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_u16m1x7(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_u16m1x8(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u16m2x2(uint16_t *rs1, vuint8m1_t vs2,
                                   vuint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u16m2x3(uint16_t *rs1, vuint8m1_t vs2,
                                   vuint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u16m2x4(uint16_t *rs1, vuint8m1_t vs2,
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                                    vuint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u16m4x2(uint16_t *rs1, vuint8m2_t vs2,
                                   vuint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u16mf4x2(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u16mf4x3(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u16mf4x4(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_u16mf4x5(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_u16mf4x6(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_u16mf4x7(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_u16mf4x8(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u16mf2x2(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u16mf2x3(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u16mf2x4(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_u16mf2x5(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_u16mf2x6(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_u16mf2x7(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_u16mf2x8(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u16m1x2(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u16m1x3(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u16m1x4(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_u16m1x5(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_u16m1x6(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_u16m1x7(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_u16m1x8(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u16m2x2(uint16_t *rs1, vuint16m2_t vs2,
                                    vuint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u16m2x3(uint16_t *rs1, vuint16m2_t vs2,
                                    vuint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u16m2x4(uint16_t *rs1, vuint16m2_t vs2,
                                    vuint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u16m4x2(uint16_t *rs1, vuint16m4_t vs2,
                                    vuint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u16mf4x2(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u16mf4x3(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u16mf4x4(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_u16mf4x5(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_u16mf4x6(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_u16mf4x7(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_u16mf4x8(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x8_t vs3, size_t vl);
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void __riscv_vsoxseg2ei32_v_u16mf2x2(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u16mf2x3(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u16mf2x4(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_u16mf2x5(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_u16mf2x6(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_u16mf2x7(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_u16mf2x8(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u16m1x2(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u16m1x3(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u16m1x4(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_u16m1x5(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_u16m1x6(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_u16m1x7(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_u16m1x8(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u16m2x2(uint16_t *rs1, vuint32m4_t vs2,
                                    vuint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u16m2x3(uint16_t *rs1, vuint32m4_t vs2,
                                    vuint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u16m2x4(uint16_t *rs1, vuint32m4_t vs2,
                                    vuint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u16m4x2(uint16_t *rs1, vuint32m8_t vs2,
                                    vuint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u16mf4x2(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u16mf4x3(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u16mf4x4(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_u16mf4x5(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_u16mf4x6(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_u16mf4x7(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_u16mf4x8(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u16mf2x2(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u16mf2x3(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u16mf2x4(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_u16mf2x5(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_u16mf2x6(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_u16mf2x7(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_u16mf2x8(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u16m1x2(uint16_t *rs1, vuint64m4_t vs2,
                                    vuint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u16m1x3(uint16_t *rs1, vuint64m4_t vs2,
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                                    vuint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u16m1x4(uint16_t *rs1, vuint64m4_t vs2,
                                    vuint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_u16m1x5(uint16_t *rs1, vuint64m4_t vs2,
                                    vuint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_u16m1x6(uint16_t *rs1, vuint64m4_t vs2,
                                    vuint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_u16m1x7(uint16_t *rs1, vuint64m4_t vs2,
                                    vuint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_u16m1x8(uint16_t *rs1, vuint64m4_t vs2,
                                    vuint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u16m2x2(uint16_t *rs1, vuint64m8_t vs2,
                                    vuint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u16m2x3(uint16_t *rs1, vuint64m8_t vs2,
                                    vuint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u16m2x4(uint16_t *rs1, vuint64m8_t vs2,
                                    vuint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u32mf2x2(uint32_t *rs1, vuint8mf8_t vs2,
                                    vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u32mf2x3(uint32_t *rs1, vuint8mf8_t vs2,
                                    vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u32mf2x4(uint32_t *rs1, vuint8mf8_t vs2,
                                    vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_u32mf2x5(uint32_t *rs1, vuint8mf8_t vs2,
                                    vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_u32mf2x6(uint32_t *rs1, vuint8mf8_t vs2,
                                    vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_u32mf2x7(uint32_t *rs1, vuint8mf8_t vs2,
                                    vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_u32mf2x8(uint32_t *rs1, vuint8mf8_t vs2,
                                    vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u32m1x2(uint32_t *rs1, vuint8mf4_t vs2,
                                   vuint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u32m1x3(uint32_t *rs1, vuint8mf4_t vs2,
                                   vuint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u32m1x4(uint32_t *rs1, vuint8mf4_t vs2,
                                   vuint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_u32m1x5(uint32_t *rs1, vuint8mf4_t vs2,
                                   vuint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_u32m1x6(uint32_t *rs1, vuint8mf4_t vs2,
                                   vuint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_u32m1x7(uint32_t *rs1, vuint8mf4_t vs2,
                                   vuint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_u32m1x8(uint32_t *rs1, vuint8mf4_t vs2,
                                   vuint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u32m2x2(uint32_t *rs1, vuint8mf2_t vs2,
                                   vuint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u32m2x3(uint32_t *rs1, vuint8mf2_t vs2,
                                   vuint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u32m2x4(uint32_t *rs1, vuint8mf2_t vs2,
                                   vuint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u32m4x2(uint32_t *rs1, vuint8m1_t vs2,
                                   vuint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u32mf2x2(uint32_t *rs1, vuint16mf4_t vs2,
                                     vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u32mf2x3(uint32_t *rs1, vuint16mf4_t vs2,
                                     vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u32mf2x4(uint32_t *rs1, vuint16mf4_t vs2,
                                     vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_u32mf2x5(uint32_t *rs1, vuint16mf4_t vs2,
                                     vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_u32mf2x6(uint32_t *rs1, vuint16mf4_t vs2,
                                     vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_u32mf2x7(uint32_t *rs1, vuint16mf4_t vs2,
                                     vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_u32mf2x8(uint32_t *rs1, vuint16mf4_t vs2,
                                     vuint32mf2x8_t vs3, size_t vl);
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void __riscv_vsoxseg2ei16_v_u32m1x2(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u32m1x3(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u32m1x4(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_u32m1x5(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_u32m1x6(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_u32m1x7(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_u32m1x8(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u32m2x2(uint32_t *rs1, vuint16m1_t vs2,
                                    vuint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u32m2x3(uint32_t *rs1, vuint16m1_t vs2,
                                    vuint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u32m2x4(uint32_t *rs1, vuint16m1_t vs2,
                                    vuint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u32m4x2(uint32_t *rs1, vuint16m2_t vs2,
                                    vuint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u32mf2x2(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u32mf2x3(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u32mf2x4(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_u32mf2x5(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_u32mf2x6(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_u32mf2x7(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_u32mf2x8(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u32m1x2(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u32m1x3(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u32m1x4(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_u32m1x5(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_u32m1x6(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_u32m1x7(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_u32m1x8(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u32m2x2(uint32_t *rs1, vuint32m2_t vs2,
                                    vuint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u32m2x3(uint32_t *rs1, vuint32m2_t vs2,
                                    vuint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u32m2x4(uint32_t *rs1, vuint32m2_t vs2,
                                    vuint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u32m4x2(uint32_t *rs1, vuint32m4_t vs2,
                                    vuint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u32mf2x2(uint32_t *rs1, vuint64m1_t vs2,
                                     vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u32mf2x3(uint32_t *rs1, vuint64m1_t vs2,
                                     vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u32mf2x4(uint32_t *rs1, vuint64m1_t vs2,
                                     vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_u32mf2x5(uint32_t *rs1, vuint64m1_t vs2,
                                     vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_u32mf2x6(uint32_t *rs1, vuint64m1_t vs2,
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                                     vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_u32mf2x7(uint32_t *rs1, vuint64m1_t vs2,
                                     vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_u32mf2x8(uint32_t *rs1, vuint64m1_t vs2,
                                     vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u32m1x2(uint32_t *rs1, vuint64m2_t vs2,
                                    vuint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u32m1x3(uint32_t *rs1, vuint64m2_t vs2,
                                    vuint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u32m1x4(uint32_t *rs1, vuint64m2_t vs2,
                                    vuint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_u32m1x5(uint32_t *rs1, vuint64m2_t vs2,
                                    vuint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_u32m1x6(uint32_t *rs1, vuint64m2_t vs2,
                                    vuint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_u32m1x7(uint32_t *rs1, vuint64m2_t vs2,
                                    vuint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_u32m1x8(uint32_t *rs1, vuint64m2_t vs2,
                                    vuint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u32m2x2(uint32_t *rs1, vuint64m4_t vs2,
                                    vuint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u32m2x3(uint32_t *rs1, vuint64m4_t vs2,
                                    vuint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u32m2x4(uint32_t *rs1, vuint64m4_t vs2,
                                    vuint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u32m4x2(uint32_t *rs1, vuint64m8_t vs2,
                                    vuint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u64m1x2(uint64_t *rs1, vuint8mf8_t vs2,
                                   vuint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u64m1x3(uint64_t *rs1, vuint8mf8_t vs2,
                                   vuint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u64m1x4(uint64_t *rs1, vuint8mf8_t vs2,
                                   vuint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_u64m1x5(uint64_t *rs1, vuint8mf8_t vs2,
                                   vuint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_u64m1x6(uint64_t *rs1, vuint8mf8_t vs2,
                                   vuint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_u64m1x7(uint64_t *rs1, vuint8mf8_t vs2,
                                   vuint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_u64m1x8(uint64_t *rs1, vuint8mf8_t vs2,
                                   vuint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u64m2x2(uint64_t *rs1, vuint8mf4_t vs2,
                                   vuint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u64m2x3(uint64_t *rs1, vuint8mf4_t vs2,
                                   vuint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u64m2x4(uint64_t *rs1, vuint8mf4_t vs2,
                                   vuint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u64m4x2(uint64_t *rs1, vuint8mf2_t vs2,
                                   vuint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u64m1x2(uint64_t *rs1, vuint16mf4_t vs2,
                                    vuint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u64m1x3(uint64_t *rs1, vuint16mf4_t vs2,
                                    vuint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u64m1x4(uint64_t *rs1, vuint16mf4_t vs2,
                                    vuint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_u64m1x5(uint64_t *rs1, vuint16mf4_t vs2,
                                    vuint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_u64m1x6(uint64_t *rs1, vuint16mf4_t vs2,
                                    vuint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_u64m1x7(uint64_t *rs1, vuint16mf4_t vs2,
                                    vuint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_u64m1x8(uint64_t *rs1, vuint16mf4_t vs2,
                                    vuint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u64m2x2(uint64_t *rs1, vuint16mf2_t vs2,
                                    vuint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u64m2x3(uint64_t *rs1, vuint16mf2_t vs2,
                                    vuint64m2x3_t vs3, size_t vl);
```

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void __riscv_vsoxseg4ei16_v_u64m2x4(uint64_t *rs1, vuint16mf2_t vs2,
                                    vuint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u64m4x2(uint64_t *rs1, vuint16m1_t vs2,
                                    vuint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u64m1x2(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u64m1x3(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u64m1x4(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_u64m1x5(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_u64m1x6(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_u64m1x7(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_u64m1x8(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u64m2x2(uint64_t *rs1, vuint32m1_t vs2,
                                    vuint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u64m2x3(uint64_t *rs1, vuint32m1_t vs2,
                                    vuint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u64m2x4(uint64_t *rs1, vuint32m1_t vs2,
                                    vuint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u64m4x2(uint64_t *rs1, vuint32m2_t vs2,
                                    vuint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u64m1x2(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u64m1x3(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u64m1x4(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_u64m1x5(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_u64m1x6(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_u64m1x7(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_u64m1x8(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u64m2x2(uint64_t *rs1, vuint64m2_t vs2,
                                    vuint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u64m2x3(uint64_t *rs1, vuint64m2_t vs2,
                                    vuint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u64m2x4(uint64_t *rs1, vuint64m2_t vs2,
                                    vuint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u64m4x2(uint64_t *rs1, vuint64m4_t vs2,
                                    vuint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u8mf8x2(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u8mf8x3(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u8mf8x4(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_u8mf8x5(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_u8mf8x6(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_u8mf8x7(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_u8mf8x8(uint8_t *rs1, vuint8mf8_t vs2,
                                   vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u8mf4x2(uint8_t *rs1, vuint8mf4_t vs2,
                                   vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u8mf4x3(uint8_t *rs1, vuint8mf4_t vs2,
                                   vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u8mf4x4(uint8_t *rs1, vuint8mf4_t vs2,
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                                    vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_u8mf4x5(uint8_t *rs1, vuint8mf4_t vs2,
                                    vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_u8mf4x6(uint8_t *rs1, vuint8mf4_t vs2,
                                    vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_u8mf4x7(uint8_t *rs1, vuint8mf4_t vs2,
                                    vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_u8mf4x8(uint8_t *rs1, vuint8mf4_t vs2,
                                    vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u8mf2x2(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u8mf2x3(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u8mf2x4(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_u8mf2x5(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_u8mf2x6(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_u8mf2x7(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_u8mf2x8(uint8_t *rs1, vuint8mf2_t vs2,
                                    vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u8m1x2(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u8m1x3(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u8m1x4(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_u8m1x5(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_u8m1x6(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_u8m1x7(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_u8m1x8(uint8_t *rs1, vuint8m1_t vs2,
                                   vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u8m2x2(uint8_t *rs1, vuint8m2_t vs2,
                                   vuint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u8m2x3(uint8_t *rs1, vuint8m2_t vs2,
                                   vuint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u8m2x4(uint8_t *rs1, vuint8m2_t vs2,
                                   vuint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u8m4x2(uint8_t *rs1, vuint8m4_t vs2,
                                   vuint8m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u8mf8x2(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u8mf8x3(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u8mf8x4(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_u8mf8x5(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_u8mf8x6(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_u8mf8x7(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_u8mf8x8(uint8_t *rs1, vuint16mf4_t vs2,
                                    vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u8mf4x2(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u8mf4x3(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u8mf4x4(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_u8mf4x5(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x5_t vs3, size_t vl);
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void __riscv_vsuxseg6ei16_v_u8mf4x6(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_u8mf4x7(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_u8mf4x8(uint8_t *rs1, vuint16mf2_t vs2,
                                    vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u8mf2x2(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u8mf2x3(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u8mf2x4(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_u8mf2x5(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_u8mf2x6(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_u8mf2x7(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_u8mf2x8(uint8_t *rs1, vuint16m1_t vs2,
                                    vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u8m1x2(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u8m1x3(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u8m1x4(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_u8m1x5(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_u8m1x6(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_u8m1x7(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_u8m1x8(uint8_t *rs1, vuint16m2_t vs2,
                                   vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u8m2x2(uint8_t *rs1, vuint16m4_t vs2,
                                   vuint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u8m2x3(uint8_t *rs1, vuint16m4_t vs2,
                                   vuint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u8m2x4(uint8_t *rs1, vuint16m4_t vs2,
                                   vuint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u8m4x2(uint8_t *rs1, vuint16m8_t vs2,
                                   vuint8m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u8mf8x2(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u8mf8x3(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u8mf8x4(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_u8mf8x5(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_u8mf8x6(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_u8mf8x7(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_u8mf8x8(uint8_t *rs1, vuint32mf2_t vs2,
                                    vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u8mf4x2(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u8mf4x3(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u8mf4x4(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_u8mf4x5(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_u8mf4x6(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_u8mf4x7(uint8_t *rs1, vuint32m1_t vs2,
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                                    vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_u8mf4x8(uint8_t *rs1, vuint32m1_t vs2,
                                    vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u8mf2x2(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u8mf2x3(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u8mf2x4(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_u8mf2x5(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_u8mf2x6(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_u8mf2x7(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_u8mf2x8(uint8_t *rs1, vuint32m2_t vs2,
                                    vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u8m1x2(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u8m1x3(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u8m1x4(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_u8m1x5(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_u8m1x6(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_u8m1x7(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_u8m1x8(uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u8m2x2(uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u8m2x3(uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u8m2x4(uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u8mf8x2(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u8mf8x3(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u8mf8x4(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_u8mf8x5(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_u8mf8x6(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_u8mf8x7(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_u8mf8x8(uint8_t *rs1, vuint64m1_t vs2,
                                    vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u8mf4x2(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u8mf4x3(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u8mf4x4(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_u8mf4x5(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_u8mf4x6(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_u8mf4x7(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_u8mf4x8(uint8_t *rs1, vuint64m2_t vs2,
                                    vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u8mf2x2(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x2_t vs3, size_t vl);
```

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void __riscv_vsuxseg3ei64_v_u8mf2x3(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u8mf2x4(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_u8mf2x5(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_u8mf2x6(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_u8mf2x7(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_u8mf2x8(uint8_t *rs1, vuint64m4_t vs2,
                                    vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u8m1x2(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u8m1x3(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u8m1x4(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_u8m1x5(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_u8m1x6(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_u8m1x7(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_u8m1x8(uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u16mf4x2(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u16mf4x3(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u16mf4x4(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_u16mf4x5(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_u16mf4x6(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_u16mf4x7(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_u16mf4x8(uint16_t *rs1, vuint8mf8_t vs2,
                                    vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u16mf2x2(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u16mf2x3(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u16mf2x4(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_u16mf2x5(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_u16mf2x6(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_u16mf2x7(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_u16mf2x8(uint16_t *rs1, vuint8mf4_t vs2,
                                    vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u16m1x2(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u16m1x3(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u16m1x4(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_u16m1x5(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_u16m1x6(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_u16m1x7(uint16_t *rs1, vuint8mf2_t vs2,
                                   vuint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_u16m1x8(uint16_t *rs1, vuint8mf2_t vs2,
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                                    vuint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u16m2x2(uint16_t *rs1, vuint8m1_t vs2,
                                    vuint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u16m2x3(uint16_t *rs1, vuint8m1_t vs2,
                                    vuint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u16m2x4(uint16_t *rs1, vuint8m1_t vs2,
                                    vuint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u16m4x2(uint16_t *rs1, vuint8m2_t vs2,
                                    vuint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u16mf4x2(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u16mf4x3(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u16mf4x4(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_u16mf4x5(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_u16mf4x6(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_u16mf4x7(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_u16mf4x8(uint16_t *rs1, vuint16mf4_t vs2,
                                     vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u16mf2x2(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u16mf2x3(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u16mf2x4(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_u16mf2x5(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_u16mf2x6(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_u16mf2x7(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_u16mf2x8(uint16_t *rs1, vuint16mf2_t vs2,
                                     vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u16m1x2(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u16m1x3(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u16m1x4(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_u16m1x5(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_u16m1x6(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_u16m1x7(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_u16m1x8(uint16_t *rs1, vuint16m1_t vs2,
                                    vuint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u16m2x2(uint16_t *rs1, vuint16m2_t vs2,
                                    vuint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u16m2x3(uint16_t *rs1, vuint16m2_t vs2,
                                    vuint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u16m2x4(uint16_t *rs1, vuint16m2_t vs2,
                                    vuint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u16m4x2(uint16_t *rs1, vuint16m4_t vs2,
                                    vuint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u16mf4x2(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u16mf4x3(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u16mf4x4(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_u16mf4x5(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x5_t vs3, size_t vl);
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void __riscv_vsuxseg6ei32_v_u16mf4x6(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_u16mf4x7(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_u16mf4x8(uint16_t *rs1, vuint32mf2_t vs2,
                                     vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u16mf2x2(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u16mf2x3(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u16mf2x4(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_u16mf2x5(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_u16mf2x6(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_u16mf2x7(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_u16mf2x8(uint16_t *rs1, vuint32m1_t vs2,
                                     vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u16m1x2(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u16m1x3(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u16m1x4(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_u16m1x5(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_u16m1x6(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_u16m1x7(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_u16m1x8(uint16_t *rs1, vuint32m2_t vs2,
                                    vuint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u16m2x2(uint16_t *rs1, vuint32m4_t vs2,
                                    vuint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u16m2x3(uint16_t *rs1, vuint32m4_t vs2,
                                    vuint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u16m2x4(uint16_t *rs1, vuint32m4_t vs2,
                                    vuint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u16m4x2(uint16_t *rs1, vuint32m8_t vs2,
                                    vuint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u16mf4x2(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u16mf4x3(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u16mf4x4(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_u16mf4x5(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_u16mf4x6(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_u16mf4x7(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_u16mf4x8(uint16_t *rs1, vuint64m1_t vs2,
                                     vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u16mf2x2(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u16mf2x3(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u16mf2x4(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_u16mf2x5(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_u16mf2x6(uint16_t *rs1, vuint64m2_t vs2,
                                     vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_u16mf2x7(uint16_t *rs1, vuint64m2_t vs2,
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                                    vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_u16mf2x8(uint16_t *rs1, vuint64m2_t vs2,
                                    vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u16m1x2(uint16_t *rs1, vuint64m4_t vs2,
                                   vuint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u16m1x3(uint16_t *rs1, vuint64m4_t vs2,
                                   vuint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u16m1x4(uint16_t *rs1, vuint64m4_t vs2,
                                   vuint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_u16m1x5(uint16_t *rs1, vuint64m4_t vs2,
                                   vuint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_u16m1x6(uint16_t *rs1, vuint64m4_t vs2,
                                   vuint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_u16m1x7(uint16_t *rs1, vuint64m4_t vs2,
                                   vuint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_u16m1x8(uint16_t *rs1, vuint64m4_t vs2,
                                   vuint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u16m2x2(uint16_t *rs1, vuint64m8_t vs2,
                                   vuint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u16m2x3(uint16_t *rs1, vuint64m8_t vs2,
                                   vuint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u16m2x4(uint16_t *rs1, vuint64m8_t vs2,
                                   vuint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u32mf2x2(uint32_t *rs1, vuint8mf8_t vs2,
                                   vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u32mf2x3(uint32_t *rs1, vuint8mf8_t vs2,
                                   vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u32mf2x4(uint32_t *rs1, vuint8mf8_t vs2,
                                   vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_u32mf2x5(uint32_t *rs1, vuint8mf8_t vs2,
                                   vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_u32mf2x6(uint32_t *rs1, vuint8mf8_t vs2,
                                   vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_u32mf2x7(uint32_t *rs1, vuint8mf8_t vs2,
                                   vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_u32mf2x8(uint32_t *rs1, vuint8mf8_t vs2,
                                   vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u32m1x2(uint32_t *rs1, vuint8mf4_t vs2,
                                  vuint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u32m1x3(uint32_t *rs1, vuint8mf4_t vs2,
                                  vuint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u32m1x4(uint32_t *rs1, vuint8mf4_t vs2,
                                  vuint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_u32m1x5(uint32_t *rs1, vuint8mf4_t vs2,
                                  vuint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_u32m1x6(uint32_t *rs1, vuint8mf4_t vs2,
                                  vuint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_u32m1x7(uint32_t *rs1, vuint8mf4_t vs2,
                                  vuint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_u32m1x8(uint32_t *rs1, vuint8mf4_t vs2,
                                  vuint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u32m2x2(uint32_t *rs1, vuint8mf2_t vs2,
                                  vuint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u32m2x3(uint32_t *rs1, vuint8mf2_t vs2,
                                  vuint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u32m2x4(uint32_t *rs1, vuint8mf2_t vs2,
                                  vuint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u32m4x2(uint32_t *rs1, vuint8m1_t vs2,
                                  vuint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u32mf2x2(uint32_t *rs1, vuint16mf4_t vs2,
                                    vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u32mf2x3(uint32_t *rs1, vuint16mf4_t vs2,
                                    vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u32mf2x4(uint32_t *rs1, vuint16mf4_t vs2,
                                    vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_u32mf2x5(uint32_t *rs1, vuint16mf4_t vs2,
                                    vuint32mf2x5_t vs3, size_t vl);
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void __riscv_vsuxseg6ei16_v_u32mf2x6(uint32_t *rs1, vuint16mf4_t vs2,
                                     vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_u32mf2x7(uint32_t *rs1, vuint16mf4_t vs2,
                                     vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_u32mf2x8(uint32_t *rs1, vuint16mf4_t vs2,
                                     vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u32m1x2(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u32m1x3(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u32m1x4(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_u32m1x5(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_u32m1x6(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_u32m1x7(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_u32m1x8(uint32_t *rs1, vuint16mf2_t vs2,
                                    vuint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u32m2x2(uint32_t *rs1, vuint16m1_t vs2,
                                    vuint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u32m2x3(uint32_t *rs1, vuint16m1_t vs2,
                                    vuint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u32m2x4(uint32_t *rs1, vuint16m1_t vs2,
                                    vuint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u32m4x2(uint32_t *rs1, vuint16m2_t vs2,
                                    vuint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u32mf2x2(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u32mf2x3(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u32mf2x4(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_u32mf2x5(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_u32mf2x6(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_u32mf2x7(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_u32mf2x8(uint32_t *rs1, vuint32mf2_t vs2,
                                     vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u32m1x2(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u32m1x3(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u32m1x4(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_u32m1x5(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_u32m1x6(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_u32m1x7(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_u32m1x8(uint32_t *rs1, vuint32m1_t vs2,
                                    vuint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u32m2x2(uint32_t *rs1, vuint32m2_t vs2,
                                    vuint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u32m2x3(uint32_t *rs1, vuint32m2_t vs2,
                                    vuint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u32m2x4(uint32_t *rs1, vuint32m2_t vs2,
                                    vuint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u32m4x2(uint32_t *rs1, vuint32m4_t vs2,
                                    vuint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u32mf2x2(uint32_t *rs1, vuint64m1_t vs2,
                                     vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u32mf2x3(uint32_t *rs1, vuint64m1_t vs2,
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                                    vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u32mf2x4(uint32_t *rs1, vuint64m1_t vs2,
                                    vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_u32mf2x5(uint32_t *rs1, vuint64m1_t vs2,
                                    vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_u32mf2x6(uint32_t *rs1, vuint64m1_t vs2,
                                    vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_u32mf2x7(uint32_t *rs1, vuint64m1_t vs2,
                                    vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_u32mf2x8(uint32_t *rs1, vuint64m1_t vs2,
                                    vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u32m1x2(uint32_t *rs1, vuint64m2_t vs2,
                                   vuint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u32m1x3(uint32_t *rs1, vuint64m2_t vs2,
                                   vuint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u32m1x4(uint32_t *rs1, vuint64m2_t vs2,
                                   vuint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_u32m1x5(uint32_t *rs1, vuint64m2_t vs2,
                                   vuint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_u32m1x6(uint32_t *rs1, vuint64m2_t vs2,
                                   vuint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_u32m1x7(uint32_t *rs1, vuint64m2_t vs2,
                                   vuint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_u32m1x8(uint32_t *rs1, vuint64m2_t vs2,
                                   vuint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u32m2x2(uint32_t *rs1, vuint64m4_t vs2,
                                   vuint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u32m2x3(uint32_t *rs1, vuint64m4_t vs2,
                                   vuint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u32m2x4(uint32_t *rs1, vuint64m4_t vs2,
                                   vuint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u32m4x2(uint32_t *rs1, vuint64m8_t vs2,
                                   vuint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u64m1x2(uint64_t *rs1, vuint8mf8_t vs2,
                                  vuint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u64m1x3(uint64_t *rs1, vuint8mf8_t vs2,
                                  vuint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u64m1x4(uint64_t *rs1, vuint8mf8_t vs2,
                                  vuint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_u64m1x5(uint64_t *rs1, vuint8mf8_t vs2,
                                  vuint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_u64m1x6(uint64_t *rs1, vuint8mf8_t vs2,
                                  vuint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_u64m1x7(uint64_t *rs1, vuint8mf8_t vs2,
                                  vuint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_u64m1x8(uint64_t *rs1, vuint8mf8_t vs2,
                                  vuint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u64m2x2(uint64_t *rs1, vuint8mf4_t vs2,
                                  vuint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u64m2x3(uint64_t *rs1, vuint8mf4_t vs2,
                                  vuint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u64m2x4(uint64_t *rs1, vuint8mf4_t vs2,
                                  vuint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u64m4x2(uint64_t *rs1, vuint8mf2_t vs2,
                                  vuint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u64m1x2(uint64_t *rs1, vuint16mf4_t vs2,
                                   vuint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u64m1x3(uint64_t *rs1, vuint16mf4_t vs2,
                                   vuint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u64m1x4(uint64_t *rs1, vuint16mf4_t vs2,
                                   vuint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_u64m1x5(uint64_t *rs1, vuint16mf4_t vs2,
                                   vuint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_u64m1x6(uint64_t *rs1, vuint16mf4_t vs2,
                                   vuint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_u64m1x7(uint64_t *rs1, vuint16mf4_t vs2,
                                   vuint64m1x7_t vs3, size_t vl);
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void __riscv_vsuxseg8ei16_v_u64m1x8(uint64_t *rs1, vuint16mf4_t vs2,
                                    vuint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u64m2x2(uint64_t *rs1, vuint16mf2_t vs2,
                                    vuint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u64m2x3(uint64_t *rs1, vuint16mf2_t vs2,
                                    vuint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u64m2x4(uint64_t *rs1, vuint16mf2_t vs2,
                                    vuint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u64m4x2(uint64_t *rs1, vuint16m1_t vs2,
                                    vuint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u64m1x2(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u64m1x3(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u64m1x4(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_u64m1x5(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_u64m1x6(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_u64m1x7(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_u64m1x8(uint64_t *rs1, vuint32mf2_t vs2,
                                    vuint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u64m2x2(uint64_t *rs1, vuint32m1_t vs2,
                                    vuint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u64m2x3(uint64_t *rs1, vuint32m1_t vs2,
                                    vuint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u64m2x4(uint64_t *rs1, vuint32m1_t vs2,
                                    vuint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u64m4x2(uint64_t *rs1, vuint32m2_t vs2,
                                    vuint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u64m1x2(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u64m1x3(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u64m1x4(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_u64m1x5(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_u64m1x6(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_u64m1x7(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_u64m1x8(uint64_t *rs1, vuint64m1_t vs2,
                                    vuint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u64m2x2(uint64_t *rs1, vuint64m2_t vs2,
                                    vuint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u64m2x3(uint64_t *rs1, vuint64m2_t vs2,
                                    vuint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u64m2x4(uint64_t *rs1, vuint64m2_t vs2,
                                    vuint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u64m4x2(uint64_t *rs1, vuint64m4_t vs2,
                                    vuint64m4x2_t vs3, size_t vl);
// masked functions
void __riscv_vsoxseg2ei8_v_f16mf4x2_m(vbool64_t vm, _Float16 *rs1,
                                      vuint8mf8_t vs2, vfloat16mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei8_v_f16mf4x3_m(vbool64_t vm, _Float16 *rs1,
                                      vuint8mf8_t vs2, vfloat16mf4x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei8_v_f16mf4x4_m(vbool64_t vm, _Float16 *rs1,
                                      vuint8mf8_t vs2, vfloat16mf4x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei8_v_f16mf4x5_m(vbool64_t vm, _Float16 *rs1,
                                      vuint8mf8_t vs2, vfloat16mf4x5_t vs3,
                                      size_t vl);
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void __riscv_vsoxseg6ei8_v_f16mf4x6_m(vbool64_t vm, _Float16 *rs1,
                                      vuint8mf8_t vs2, vfloat16mf4x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei8_v_f16mf4x7_m(vbool64_t vm, _Float16 *rs1,
                                      vuint8mf8_t vs2, vfloat16mf4x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei8_v_f16mf4x8_m(vbool64_t vm, _Float16 *rs1,
                                      vuint8mf8_t vs2, vfloat16mf4x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei8_v_f16mf2x2_m(vbool32_t vm, _Float16 *rs1,
                                      vuint8mf4_t vs2, vfloat16mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei8_v_f16mf2x3_m(vbool32_t vm, _Float16 *rs1,
                                      vuint8mf4_t vs2, vfloat16mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei8_v_f16mf2x4_m(vbool32_t vm, _Float16 *rs1,
                                      vuint8mf4_t vs2, vfloat16mf2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei8_v_f16mf2x5_m(vbool32_t vm, _Float16 *rs1,
                                      vuint8mf4_t vs2, vfloat16mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei8_v_f16mf2x6_m(vbool32_t vm, _Float16 *rs1,
                                      vuint8mf4_t vs2, vfloat16mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei8_v_f16mf2x7_m(vbool32_t vm, _Float16 *rs1,
                                      vuint8mf4_t vs2, vfloat16mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei8_v_f16mf2x8_m(vbool32_t vm, _Float16 *rs1,
                                      vuint8mf4_t vs2, vfloat16mf2x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei8_v_f16m1x2_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei8_v_f16m1x3_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei8_v_f16m1x4_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei8_v_f16m1x5_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei8_v_f16m1x6_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei8_v_f16m1x7_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei8_v_f16m1x8_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei8_v_f16m2x2_m(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                                     vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f16m2x3_m(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                                     vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f16m2x4_m(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                                     vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f16m4x2_m(vbool4_t vm, _Float16 *rs1, vuint8m2_t vs2,
                                     vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f16mf4x2_m(vbool64_t vm, _Float16 *rs1,
                                       vuint16mf4_t vs2, vfloat16mf4x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei16_v_f16mf4x3_m(vbool64_t vm, _Float16 *rs1,
                                       vuint16mf4_t vs2, vfloat16mf4x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei16_v_f16mf4x4_m(vbool64_t vm, _Float16 *rs1,
                                       vuint16mf4_t vs2, vfloat16mf4x4_t vs3,
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                                    size_t vl);
void __riscv_vsoxseg5ei16_v_f16mf4x5_m(vbool64_t vm, _Float16 *rs1,
                                    vuint16mf4_t vs2, vfloat16mf4x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei16_v_f16mf4x6_m(vbool64_t vm, _Float16 *rs1,
                                    vuint16mf4_t vs2, vfloat16mf4x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei16_v_f16mf4x7_m(vbool64_t vm, _Float16 *rs1,
                                    vuint16mf4_t vs2, vfloat16mf4x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei16_v_f16mf4x8_m(vbool64_t vm, _Float16 *rs1,
                                    vuint16mf4_t vs2, vfloat16mf4x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei16_v_f16mf2x2_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei16_v_f16mf2x3_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei16_v_f16mf2x4_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei16_v_f16mf2x5_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei16_v_f16mf2x6_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei16_v_f16mf2x7_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei16_v_f16mf2x8_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei16_v_f16m1x2_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei16_v_f16m1x3_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei16_v_f16m1x4_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg5ei16_v_f16m1x5_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x5_t vs3,
                                   size_t vl);
void __riscv_vsoxseg6ei16_v_f16m1x6_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x6_t vs3,
                                   size_t vl);
void __riscv_vsoxseg7ei16_v_f16m1x7_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x7_t vs3,
                                   size_t vl);
void __riscv_vsoxseg8ei16_v_f16m1x8_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x8_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei16_v_f16m2x2_m(vbool8_t vm, _Float16 *rs1,
                                   vuint16m2_t vs2, vfloat16m2x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei16_v_f16m2x3_m(vbool8_t vm, _Float16 *rs1,
                                   vuint16m2_t vs2, vfloat16m2x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei16_v_f16m2x4_m(vbool8_t vm, _Float16 *rs1,
                                   vuint16m2_t vs2, vfloat16m2x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei16_v_f16m4x2_m(vbool4_t vm, _Float16 *rs1,
                                   vuint16m4_t vs2, vfloat16m4x2_t vs3,
                                   size_t vl);
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void __riscv_vsoxseg2ei32_v_f16mf4x2_m(vbool64_t vm, _Float16 *rs1,
                                       vuint32mf2_t vs2, vfloat16mf4x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei32_v_f16mf4x3_m(vbool64_t vm, _Float16 *rs1,
                                       vuint32mf2_t vs2, vfloat16mf4x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei32_v_f16mf4x4_m(vbool64_t vm, _Float16 *rs1,
                                       vuint32mf2_t vs2, vfloat16mf4x4_t vs3,
                                       size_t vl);
void __riscv_vsoxseg5ei32_v_f16mf4x5_m(vbool64_t vm, _Float16 *rs1,
                                       vuint32mf2_t vs2, vfloat16mf4x5_t vs3,
                                       size_t vl);
void __riscv_vsoxseg6ei32_v_f16mf4x6_m(vbool64_t vm, _Float16 *rs1,
                                       vuint32mf2_t vs2, vfloat16mf4x6_t vs3,
                                       size_t vl);
void __riscv_vsoxseg7ei32_v_f16mf4x7_m(vbool64_t vm, _Float16 *rs1,
                                       vuint32mf2_t vs2, vfloat16mf4x7_t vs3,
                                       size_t vl);
void __riscv_vsoxseg8ei32_v_f16mf4x8_m(vbool64_t vm, _Float16 *rs1,
                                       vuint32mf2_t vs2, vfloat16mf4x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei32_v_f16mf2x2_m(vbool32_t vm, _Float16 *rs1,
                                       vuint32m1_t vs2, vfloat16mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei32_v_f16mf2x3_m(vbool32_t vm, _Float16 *rs1,
                                       vuint32m1_t vs2, vfloat16mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei32_v_f16mf2x4_m(vbool32_t vm, _Float16 *rs1,
                                       vuint32m1_t vs2, vfloat16mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsoxseg5ei32_v_f16mf2x5_m(vbool32_t vm, _Float16 *rs1,
                                       vuint32m1_t vs2, vfloat16mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsoxseg6ei32_v_f16mf2x6_m(vbool32_t vm, _Float16 *rs1,
                                       vuint32m1_t vs2, vfloat16mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsoxseg7ei32_v_f16mf2x7_m(vbool32_t vm, _Float16 *rs1,
                                       vuint32m1_t vs2, vfloat16mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsoxseg8ei32_v_f16mf2x8_m(vbool32_t vm, _Float16 *rs1,
                                       vuint32m1_t vs2, vfloat16mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei32_v_f16m1x2_m(vbool16_t vm, _Float16 *rs1,
                                      vuint32m2_t vs2, vfloat16m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_f16m1x3_m(vbool16_t vm, _Float16 *rs1,
                                      vuint32m2_t vs2, vfloat16m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_f16m1x4_m(vbool16_t vm, _Float16 *rs1,
                                      vuint32m2_t vs2, vfloat16m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei32_v_f16m1x5_m(vbool16_t vm, _Float16 *rs1,
                                      vuint32m2_t vs2, vfloat16m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei32_v_f16m1x6_m(vbool16_t vm, _Float16 *rs1,
                                      vuint32m2_t vs2, vfloat16m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei32_v_f16m1x7_m(vbool16_t vm, _Float16 *rs1,
                                      vuint32m2_t vs2, vfloat16m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei32_v_f16m1x8_m(vbool16_t vm, _Float16 *rs1,
                                      vuint32m2_t vs2, vfloat16m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_f16m2x2_m(vbool8_t vm, _Float16 *rs1,
                                      vuint32m4_t vs2, vfloat16m2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_f16m2x3_m(vbool8_t vm, _Float16 *rs1,
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                                    vuint32m4_t vs2, vfloat16m2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei32_v_f16m2x4_m(vbool8_t vm, _Float16 *rs1,
                                    vuint32m4_t vs2, vfloat16m2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei32_v_f16m4x2_m(vbool4_t vm, _Float16 *rs1,
                                    vuint32m8_t vs2, vfloat16m4x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_f16mf4x2_m(vbool64_t vm, _Float16 *rs1,
                                     vuint64m1_t vs2, vfloat16mf4x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei64_v_f16mf4x3_m(vbool64_t vm, _Float16 *rs1,
                                     vuint64m1_t vs2, vfloat16mf4x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei64_v_f16mf4x4_m(vbool64_t vm, _Float16 *rs1,
                                     vuint64m1_t vs2, vfloat16mf4x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei64_v_f16mf4x5_m(vbool64_t vm, _Float16 *rs1,
                                     vuint64m1_t vs2, vfloat16mf4x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei64_v_f16mf4x6_m(vbool64_t vm, _Float16 *rs1,
                                     vuint64m1_t vs2, vfloat16mf4x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei64_v_f16mf4x7_m(vbool64_t vm, _Float16 *rs1,
                                     vuint64m1_t vs2, vfloat16mf4x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei64_v_f16mf4x8_m(vbool64_t vm, _Float16 *rs1,
                                     vuint64m1_t vs2, vfloat16mf4x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei64_v_f16mf2x2_m(vbool32_t vm, _Float16 *rs1,
                                     vuint64m2_t vs2, vfloat16mf2x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei64_v_f16mf2x3_m(vbool32_t vm, _Float16 *rs1,
                                     vuint64m2_t vs2, vfloat16mf2x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei64_v_f16mf2x4_m(vbool32_t vm, _Float16 *rs1,
                                     vuint64m2_t vs2, vfloat16mf2x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei64_v_f16mf2x5_m(vbool32_t vm, _Float16 *rs1,
                                     vuint64m2_t vs2, vfloat16mf2x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei64_v_f16mf2x6_m(vbool32_t vm, _Float16 *rs1,
                                     vuint64m2_t vs2, vfloat16mf2x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei64_v_f16mf2x7_m(vbool32_t vm, _Float16 *rs1,
                                     vuint64m2_t vs2, vfloat16mf2x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei64_v_f16mf2x8_m(vbool32_t vm, _Float16 *rs1,
                                     vuint64m2_t vs2, vfloat16mf2x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei64_v_f16m1x2_m(vbool16_t vm, _Float16 *rs1,
                                    vuint64m4_t vs2, vfloat16m1x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_f16m1x3_m(vbool16_t vm, _Float16 *rs1,
                                    vuint64m4_t vs2, vfloat16m1x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_f16m1x4_m(vbool16_t vm, _Float16 *rs1,
                                    vuint64m4_t vs2, vfloat16m1x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei64_v_f16m1x5_m(vbool16_t vm, _Float16 *rs1,
                                    vuint64m4_t vs2, vfloat16m1x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei64_v_f16m1x6_m(vbool16_t vm, _Float16 *rs1,
                                    vuint64m4_t vs2, vfloat16m1x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei64_v_f16m1x7_m(vbool16_t vm, _Float16 *rs1,
                                    vuint64m4_t vs2, vfloat16m1x7_t vs3,
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                                    size_t vl);
void __riscv_vsoxseg8ei64_v_f16m1x8_m(vbool16_t vm, _Float16 *rs1,
                                    vuint64m4_t vs2, vfloat16m1x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_f16m2x2_m(vbool8_t vm, _Float16 *rs1,
                                    vuint64m8_t vs2, vfloat16m2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_f16m2x3_m(vbool8_t vm, _Float16 *rs1,
                                    vuint64m8_t vs2, vfloat16m2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_f16m2x4_m(vbool8_t vm, _Float16 *rs1,
                                    vuint64m8_t vs2, vfloat16m2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei8_v_f32mf2x2_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f32mf2x3_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f32mf2x4_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_f32mf2x5_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_f32mf2x6_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_f32mf2x7_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_f32mf2x8_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                    vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f32m1x2_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f32m1x3_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f32m1x4_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_f32m1x5_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_f32m1x6_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_f32m1x7_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_f32m1x8_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                   vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f32m2x2_m(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                                   vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f32m2x3_m(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                                   vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f32m2x4_m(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                                   vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f32m4x2_m(vbool8_t vm, float *rs1, vuint8m1_t vs2,
                                   vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f32mf2x2_m(vbool64_t vm, float *rs1,
                                    vuint16mf4_t vs2, vfloat32mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei16_v_f32mf2x3_m(vbool64_t vm, float *rs1,
                                    vuint16mf4_t vs2, vfloat32mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei16_v_f32mf2x4_m(vbool64_t vm, float *rs1,
                                    vuint16mf4_t vs2, vfloat32mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei16_v_f32mf2x5_m(vbool64_t vm, float *rs1,
                                    vuint16mf4_t vs2, vfloat32mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei16_v_f32mf2x6_m(vbool64_t vm, float *rs1,
                                    vuint16mf4_t vs2, vfloat32mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei16_v_f32mf2x7_m(vbool64_t vm, float *rs1,
                                    vuint16mf4_t vs2, vfloat32mf2x7_t vs3,
                                    size_t vl);
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void __riscv_vsoxseg8ei16_v_f32mf2x8_m(vbool64_t vm, float *rs1,
                                       vuint16mf4_t vs2, vfloat32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei16_v_f32m1x2_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_f32m1x3_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_f32m1x4_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei16_v_f32m1x5_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei16_v_f32m1x6_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei16_v_f32m1x7_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei16_v_f32m1x8_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_f32m2x2_m(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                                      vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_f32m2x3_m(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                                      vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_f32m2x4_m(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                                      vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f32m4x2_m(vbool8_t vm, float *rs1, vuint16m2_t vs2,
                                      vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f32mf2x2_m(vbool64_t vm, float *rs1,
                                       vuint32mf2_t vs2, vfloat32mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei32_v_f32mf2x3_m(vbool64_t vm, float *rs1,
                                       vuint32mf2_t vs2, vfloat32mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei32_v_f32mf2x4_m(vbool64_t vm, float *rs1,
                                       vuint32mf2_t vs2, vfloat32mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsoxseg5ei32_v_f32mf2x5_m(vbool64_t vm, float *rs1,
                                       vuint32mf2_t vs2, vfloat32mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsoxseg6ei32_v_f32mf2x6_m(vbool64_t vm, float *rs1,
                                       vuint32mf2_t vs2, vfloat32mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsoxseg7ei32_v_f32mf2x7_m(vbool64_t vm, float *rs1,
                                       vuint32mf2_t vs2, vfloat32mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsoxseg8ei32_v_f32mf2x8_m(vbool64_t vm, float *rs1,
                                       vuint32mf2_t vs2, vfloat32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei32_v_f32m1x2_m(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                                      vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_f32m1x3_m(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                                      vfloat32m1x3_t vs3, size_t vl);
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                                      vfloat32m1x4_t vs3, size_t vl);
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                                      vfloat32m1x5_t vs3, size_t vl);
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                                      vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_f32m1x7_m(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                                      vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_f32m1x8_m(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                                      vfloat32m1x8_t vs3, size_t vl);
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void __riscv_vsoxseg2ei32_v_f32m2x2_m(vbool16_t vm, float *rs1, vuint32m2_t vs2,
                                      vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_f32m2x3_m(vbool16_t vm, float *rs1, vuint32m2_t vs2,
                                      vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_f32m2x4_m(vbool16_t vm, float *rs1, vuint32m2_t vs2,
                                      vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_f32m4x2_m(vbool8_t vm, float *rs1, vuint32m4_t vs2,
                                      vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f32mf2x2_m(vbool64_t vm, float *rs1,
                                       vuint64m1_t vs2, vfloat32mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei64_v_f32mf2x3_m(vbool64_t vm, float *rs1,
                                       vuint64m1_t vs2, vfloat32mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei64_v_f32mf2x4_m(vbool64_t vm, float *rs1,
                                       vuint64m1_t vs2, vfloat32mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsoxseg5ei64_v_f32mf2x5_m(vbool64_t vm, float *rs1,
                                       vuint64m1_t vs2, vfloat32mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsoxseg6ei64_v_f32mf2x6_m(vbool64_t vm, float *rs1,
                                       vuint64m1_t vs2, vfloat32mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsoxseg7ei64_v_f32mf2x7_m(vbool64_t vm, float *rs1,
                                       vuint64m1_t vs2, vfloat32mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsoxseg8ei64_v_f32mf2x8_m(vbool64_t vm, float *rs1,
                                       vuint64m1_t vs2, vfloat32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei64_v_f32m1x2_m(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                                      vfloat32m1x2_t vs3, size_t vl);
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                                      vfloat32m1x3_t vs3, size_t vl);
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                                      vfloat32m1x4_t vs3, size_t vl);
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                                      vfloat32m1x5_t vs3, size_t vl);
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                                      vfloat32m1x6_t vs3, size_t vl);
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                                      vfloat32m1x7_t vs3, size_t vl);
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                                      vfloat32m2x2_t vs3, size_t vl);
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                                      vfloat32m2x3_t vs3, size_t vl);
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                                      vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_f32m4x2_m(vbool8_t vm, float *rs1, vuint64m8_t vs2,
                                      vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f64m1x2_m(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                                     vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_f64m1x3_m(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                                     vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f64m1x4_m(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                                     vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_f64m1x5_m(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                                     vfloat64m1x5_t vs3, size_t vl);
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                                     vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f64m2x2_m(vbool32_t vm, double *rs1, vuint8mf4_t vs2,
                                     vfloat64m2x2_t vs3, size_t vl);
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void __riscv_vsoxseg3ei8_v_f64m2x3_m(vbool32_t vm, double *rs1, vuint8mf4_t vs2,
                                     vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_f64m2x4_m(vbool32_t vm, double *rs1, vuint8mf4_t vs2,
                                     vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_f64m4x2_m(vbool16_t vm, double *rs1, vuint8mf2_t vs2,
                                     vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_f64m1x2_m(vbool64_t vm, double *rs1,
                                      vuint16mf4_t vs2, vfloat64m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_f64m1x3_m(vbool64_t vm, double *rs1,
                                      vuint16mf4_t vs2, vfloat64m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_f64m1x4_m(vbool64_t vm, double *rs1,
                                      vuint16mf4_t vs2, vfloat64m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei16_v_f64m1x5_m(vbool64_t vm, double *rs1,
                                      vuint16mf4_t vs2, vfloat64m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei16_v_f64m1x6_m(vbool64_t vm, double *rs1,
                                      vuint16mf4_t vs2, vfloat64m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei16_v_f64m1x7_m(vbool64_t vm, double *rs1,
                                      vuint16mf4_t vs2, vfloat64m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei16_v_f64m1x8_m(vbool64_t vm, double *rs1,
                                      vuint16mf4_t vs2, vfloat64m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_f64m2x2_m(vbool32_t vm, double *rs1,
                                      vuint16mf2_t vs2, vfloat64m2x2_t vs3,
                                      size_t vl);
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                                      vuint16mf2_t vs2, vfloat64m2x3_t vs3,
                                      size_t vl);
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                                      vuint16mf2_t vs2, vfloat64m2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_f64m4x2_m(vbool16_t vm, double *rs1,
                                      vuint16m1_t vs2, vfloat64m4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_f64m1x2_m(vbool64_t vm, double *rs1,
                                      vuint32mf2_t vs2, vfloat64m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_f64m1x3_m(vbool64_t vm, double *rs1,
                                      vuint32mf2_t vs2, vfloat64m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_f64m1x4_m(vbool64_t vm, double *rs1,
                                      vuint32mf2_t vs2, vfloat64m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei32_v_f64m1x5_m(vbool64_t vm, double *rs1,
                                      vuint32mf2_t vs2, vfloat64m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei32_v_f64m1x6_m(vbool64_t vm, double *rs1,
                                      vuint32mf2_t vs2, vfloat64m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei32_v_f64m1x7_m(vbool64_t vm, double *rs1,
                                      vuint32mf2_t vs2, vfloat64m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei32_v_f64m1x8_m(vbool64_t vm, double *rs1,
                                      vuint32mf2_t vs2, vfloat64m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_f64m2x2_m(vbool32_t vm, double *rs1,
                                      vuint32m1_t vs2, vfloat64m2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_f64m2x3_m(vbool32_t vm, double *rs1,
                                      vuint32m1_t vs2, vfloat64m2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_f64m2x4_m(vbool32_t vm, double *rs1,
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                                    vuint32m1_t vs2, vfloat64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei32_v_f64m4x2_m(vbool16_t vm, double *rs1,
                                    vuint32m2_t vs2, vfloat64m4x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_f64m1x2_m(vbool64_t vm, double *rs1,
                                    vuint64m1_t vs2, vfloat64m1x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_f64m1x3_m(vbool64_t vm, double *rs1,
                                    vuint64m1_t vs2, vfloat64m1x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_f64m1x4_m(vbool64_t vm, double *rs1,
                                    vuint64m1_t vs2, vfloat64m1x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei64_v_f64m1x5_m(vbool64_t vm, double *rs1,
                                    vuint64m1_t vs2, vfloat64m1x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei64_v_f64m1x6_m(vbool64_t vm, double *rs1,
                                    vuint64m1_t vs2, vfloat64m1x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei64_v_f64m1x7_m(vbool64_t vm, double *rs1,
                                    vuint64m1_t vs2, vfloat64m1x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei64_v_f64m1x8_m(vbool64_t vm, double *rs1,
                                    vuint64m1_t vs2, vfloat64m1x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_f64m2x2_m(vbool32_t vm, double *rs1,
                                    vuint64m2_t vs2, vfloat64m2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_f64m2x3_m(vbool32_t vm, double *rs1,
                                    vuint64m2_t vs2, vfloat64m2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_f64m2x4_m(vbool32_t vm, double *rs1,
                                    vuint64m2_t vs2, vfloat64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_f64m4x2_m(vbool16_t vm, double *rs1,
                                    vuint64m4_t vs2, vfloat64m4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei8_v_f16mf4x2_m(vbool64_t vm, _Float16 *rs1,
                                    vuint8mf8_t vs2, vfloat16mf4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei8_v_f16mf4x3_m(vbool64_t vm, _Float16 *rs1,
                                    vuint8mf8_t vs2, vfloat16mf4x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei8_v_f16mf4x4_m(vbool64_t vm, _Float16 *rs1,
                                    vuint8mf8_t vs2, vfloat16mf4x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei8_v_f16mf4x5_m(vbool64_t vm, _Float16 *rs1,
                                    vuint8mf8_t vs2, vfloat16mf4x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei8_v_f16mf4x6_m(vbool64_t vm, _Float16 *rs1,
                                    vuint8mf8_t vs2, vfloat16mf4x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei8_v_f16mf4x7_m(vbool64_t vm, _Float16 *rs1,
                                    vuint8mf8_t vs2, vfloat16mf4x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei8_v_f16mf4x8_m(vbool64_t vm, _Float16 *rs1,
                                    vuint8mf8_t vs2, vfloat16mf4x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei8_v_f16mf2x2_m(vbool32_t vm, _Float16 *rs1,
                                    vuint8mf4_t vs2, vfloat16mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei8_v_f16mf2x3_m(vbool32_t vm, _Float16 *rs1,
                                    vuint8mf4_t vs2, vfloat16mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei8_v_f16mf2x4_m(vbool32_t vm, _Float16 *rs1,
                                    vuint8mf4_t vs2, vfloat16mf2x4_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg5ei8_v_f16mf2x5_m(vbool32_t vm, _Float16 *rs1,
                                      vuint8mf4_t vs2, vfloat16mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei8_v_f16mf2x6_m(vbool32_t vm, _Float16 *rs1,
                                      vuint8mf4_t vs2, vfloat16mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei8_v_f16mf2x7_m(vbool32_t vm, _Float16 *rs1,
                                      vuint8mf4_t vs2, vfloat16mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei8_v_f16mf2x8_m(vbool32_t vm, _Float16 *rs1,
                                      vuint8mf4_t vs2, vfloat16mf2x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei8_v_f16m1x2_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei8_v_f16m1x3_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei8_v_f16m1x4_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei8_v_f16m1x5_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei8_v_f16m1x6_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei8_v_f16m1x7_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei8_v_f16m1x8_m(vbool16_t vm, _Float16 *rs1,
                                     vuint8mf2_t vs2, vfloat16m1x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei8_v_f16m2x2_m(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                                     vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f16m2x3_m(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                                     vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f16m2x4_m(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                                     vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f16m4x2_m(vbool4_t vm, _Float16 *rs1, vuint8m2_t vs2,
                                     vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f16mf4x2_m(vbool64_t vm, _Float16 *rs1,
                                       vuint16mf4_t vs2, vfloat16mf4x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei16_v_f16mf4x3_m(vbool64_t vm, _Float16 *rs1,
                                       vuint16mf4_t vs2, vfloat16mf4x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei16_v_f16mf4x4_m(vbool64_t vm, _Float16 *rs1,
                                       vuint16mf4_t vs2, vfloat16mf4x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei16_v_f16mf4x5_m(vbool64_t vm, _Float16 *rs1,
                                       vuint16mf4_t vs2, vfloat16mf4x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei16_v_f16mf4x6_m(vbool64_t vm, _Float16 *rs1,
                                       vuint16mf4_t vs2, vfloat16mf4x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei16_v_f16mf4x7_m(vbool64_t vm, _Float16 *rs1,
                                       vuint16mf4_t vs2, vfloat16mf4x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei16_v_f16mf4x8_m(vbool64_t vm, _Float16 *rs1,
                                       vuint16mf4_t vs2, vfloat16mf4x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei16_v_f16mf2x2_m(vbool32_t vm, _Float16 *rs1,
                                       vuint16mf2_t vs2, vfloat16mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei16_v_f16mf2x3_m(vbool32_t vm, _Float16 *rs1,
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                                    vuint16mf2_t vs2, vfloat16mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei16_v_f16mf2x4_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei16_v_f16mf2x5_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei16_v_f16mf2x6_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei16_v_f16mf2x7_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei16_v_f16mf2x8_m(vbool32_t vm, _Float16 *rs1,
                                    vuint16mf2_t vs2, vfloat16mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei16_v_f16m1x2_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x2_t vs3,
                                   size_t vl);
void __riscv_vsuxseg3ei16_v_f16m1x3_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x3_t vs3,
                                   size_t vl);
void __riscv_vsuxseg4ei16_v_f16m1x4_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x4_t vs3,
                                   size_t vl);
void __riscv_vsuxseg5ei16_v_f16m1x5_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x5_t vs3,
                                   size_t vl);
void __riscv_vsuxseg6ei16_v_f16m1x6_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x6_t vs3,
                                   size_t vl);
void __riscv_vsuxseg7ei16_v_f16m1x7_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x7_t vs3,
                                   size_t vl);
void __riscv_vsuxseg8ei16_v_f16m1x8_m(vbool16_t vm, _Float16 *rs1,
                                   vuint16m1_t vs2, vfloat16m1x8_t vs3,
                                   size_t vl);
void __riscv_vsuxseg2ei16_v_f16m2x2_m(vbool8_t vm, _Float16 *rs1,
                                   vuint16m2_t vs2, vfloat16m2x2_t vs3,
                                   size_t vl);
void __riscv_vsuxseg3ei16_v_f16m2x3_m(vbool8_t vm, _Float16 *rs1,
                                   vuint16m2_t vs2, vfloat16m2x3_t vs3,
                                   size_t vl);
void __riscv_vsuxseg4ei16_v_f16m2x4_m(vbool8_t vm, _Float16 *rs1,
                                   vuint16m2_t vs2, vfloat16m2x4_t vs3,
                                   size_t vl);
void __riscv_vsuxseg2ei16_v_f16m4x2_m(vbool4_t vm, _Float16 *rs1,
                                   vuint16m4_t vs2, vfloat16m4x2_t vs3,
                                   size_t vl);
void __riscv_vsuxseg2ei32_v_f16mf4x2_m(vbool64_t vm, _Float16 *rs1,
                                    vuint32mf2_t vs2, vfloat16mf4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei32_v_f16mf4x3_m(vbool64_t vm, _Float16 *rs1,
                                    vuint32mf2_t vs2, vfloat16mf4x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei32_v_f16mf4x4_m(vbool64_t vm, _Float16 *rs1,
                                    vuint32mf2_t vs2, vfloat16mf4x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei32_v_f16mf4x5_m(vbool64_t vm, _Float16 *rs1,
                                    vuint32mf2_t vs2, vfloat16mf4x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei32_v_f16mf4x6_m(vbool64_t vm, _Float16 *rs1,
                                    vuint32mf2_t vs2, vfloat16mf4x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei32_v_f16mf4x7_m(vbool64_t vm, _Float16 *rs1,
                                    vuint32mf2_t vs2, vfloat16mf4x7_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg8ei32_v_f16mf4x8_m(vbool64_t vm, _Float16 *rs1,
                                    vuint32mf2_t vs2, vfloat16mf4x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei32_v_f16mf2x2_m(vbool32_t vm, _Float16 *rs1,
                                    vuint32m1_t vs2, vfloat16mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei32_v_f16mf2x3_m(vbool32_t vm, _Float16 *rs1,
                                    vuint32m1_t vs2, vfloat16mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei32_v_f16mf2x4_m(vbool32_t vm, _Float16 *rs1,
                                    vuint32m1_t vs2, vfloat16mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei32_v_f16mf2x5_m(vbool32_t vm, _Float16 *rs1,
                                    vuint32m1_t vs2, vfloat16mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei32_v_f16mf2x6_m(vbool32_t vm, _Float16 *rs1,
                                    vuint32m1_t vs2, vfloat16mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei32_v_f16mf2x7_m(vbool32_t vm, _Float16 *rs1,
                                    vuint32m1_t vs2, vfloat16mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei32_v_f16mf2x8_m(vbool32_t vm, _Float16 *rs1,
                                    vuint32m1_t vs2, vfloat16mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei32_v_f16m1x2_m(vbool16_t vm, _Float16 *rs1,
                                   vuint32m2_t vs2, vfloat16m1x2_t vs3,
                                   size_t vl);
void __riscv_vsuxseg3ei32_v_f16m1x3_m(vbool16_t vm, _Float16 *rs1,
                                   vuint32m2_t vs2, vfloat16m1x3_t vs3,
                                   size_t vl);
void __riscv_vsuxseg4ei32_v_f16m1x4_m(vbool16_t vm, _Float16 *rs1,
                                   vuint32m2_t vs2, vfloat16m1x4_t vs3,
                                   size_t vl);
void __riscv_vsuxseg5ei32_v_f16m1x5_m(vbool16_t vm, _Float16 *rs1,
                                   vuint32m2_t vs2, vfloat16m1x5_t vs3,
                                   size_t vl);
void __riscv_vsuxseg6ei32_v_f16m1x6_m(vbool16_t vm, _Float16 *rs1,
                                   vuint32m2_t vs2, vfloat16m1x6_t vs3,
                                   size_t vl);
void __riscv_vsuxseg7ei32_v_f16m1x7_m(vbool16_t vm, _Float16 *rs1,
                                   vuint32m2_t vs2, vfloat16m1x7_t vs3,
                                   size_t vl);
void __riscv_vsuxseg8ei32_v_f16m1x8_m(vbool16_t vm, _Float16 *rs1,
                                   vuint32m2_t vs2, vfloat16m1x8_t vs3,
                                   size_t vl);
void __riscv_vsuxseg2ei32_v_f16m2x2_m(vbool8_t vm, _Float16 *rs1,
                                   vuint32m4_t vs2, vfloat16m2x2_t vs3,
                                   size_t vl);
void __riscv_vsuxseg3ei32_v_f16m2x3_m(vbool8_t vm, _Float16 *rs1,
                                   vuint32m4_t vs2, vfloat16m2x3_t vs3,
                                   size_t vl);
void __riscv_vsuxseg4ei32_v_f16m2x4_m(vbool8_t vm, _Float16 *rs1,
                                   vuint32m4_t vs2, vfloat16m2x4_t vs3,
                                   size_t vl);
void __riscv_vsuxseg2ei32_v_f16m4x2_m(vbool4_t vm, _Float16 *rs1,
                                   vuint32m8_t vs2, vfloat16m4x2_t vs3,
                                   size_t vl);
void __riscv_vsuxseg2ei64_v_f16mf4x2_m(vbool64_t vm, _Float16 *rs1,
                                    vuint64m1_t vs2, vfloat16mf4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei64_v_f16mf4x3_m(vbool64_t vm, _Float16 *rs1,
                                    vuint64m1_t vs2, vfloat16mf4x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei64_v_f16mf4x4_m(vbool64_t vm, _Float16 *rs1,
                                    vuint64m1_t vs2, vfloat16mf4x4_t vs3,
                                    size_t vl);
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void __riscv_vsuxseg5ei64_v_f16mf4x5_m(vbool64_t vm, _Float16 *rs1,
                                       vuint64m1_t vs2, vfloat16mf4x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei64_v_f16mf4x6_m(vbool64_t vm, _Float16 *rs1,
                                       vuint64m1_t vs2, vfloat16mf4x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei64_v_f16mf4x7_m(vbool64_t vm, _Float16 *rs1,
                                       vuint64m1_t vs2, vfloat16mf4x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei64_v_f16mf4x8_m(vbool64_t vm, _Float16 *rs1,
                                       vuint64m1_t vs2, vfloat16mf4x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei64_v_f16mf2x2_m(vbool32_t vm, _Float16 *rs1,
                                       vuint64m2_t vs2, vfloat16mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei64_v_f16mf2x3_m(vbool32_t vm, _Float16 *rs1,
                                       vuint64m2_t vs2, vfloat16mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei64_v_f16mf2x4_m(vbool32_t vm, _Float16 *rs1,
                                       vuint64m2_t vs2, vfloat16mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei64_v_f16mf2x5_m(vbool32_t vm, _Float16 *rs1,
                                       vuint64m2_t vs2, vfloat16mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei64_v_f16mf2x6_m(vbool32_t vm, _Float16 *rs1,
                                       vuint64m2_t vs2, vfloat16mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei64_v_f16mf2x7_m(vbool32_t vm, _Float16 *rs1,
                                       vuint64m2_t vs2, vfloat16mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei64_v_f16mf2x8_m(vbool32_t vm, _Float16 *rs1,
                                       vuint64m2_t vs2, vfloat16mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei64_v_f16m1x2_m(vbool16_t vm, _Float16 *rs1,
                                      vuint64m4_t vs2, vfloat16m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei64_v_f16m1x3_m(vbool16_t vm, _Float16 *rs1,
                                      vuint64m4_t vs2, vfloat16m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei64_v_f16m1x4_m(vbool16_t vm, _Float16 *rs1,
                                      vuint64m4_t vs2, vfloat16m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei64_v_f16m1x5_m(vbool16_t vm, _Float16 *rs1,
                                      vuint64m4_t vs2, vfloat16m1x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei64_v_f16m1x6_m(vbool16_t vm, _Float16 *rs1,
                                      vuint64m4_t vs2, vfloat16m1x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei64_v_f16m1x7_m(vbool16_t vm, _Float16 *rs1,
                                      vuint64m4_t vs2, vfloat16m1x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei64_v_f16m1x8_m(vbool16_t vm, _Float16 *rs1,
                                      vuint64m4_t vs2, vfloat16m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei64_v_f16m2x2_m(vbool8_t vm, _Float16 *rs1,
                                      vuint64m8_t vs2, vfloat16m2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei64_v_f16m2x3_m(vbool8_t vm, _Float16 *rs1,
                                      vuint64m8_t vs2, vfloat16m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei64_v_f16m2x4_m(vbool8_t vm, _Float16 *rs1,
                                      vuint64m8_t vs2, vfloat16m2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei8_v_f32mf2x2_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                      vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f32mf2x3_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                      vfloat32mf2x3_t vs3, size_t vl);
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void __riscv_vsuxseg4ei8_v_f32mf2x4_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                      vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_f32mf2x5_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                      vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_f32mf2x6_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                      vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_f32mf2x7_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                      vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_f32mf2x8_m(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                                      vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f32m1x2_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                     vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f32m1x3_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                     vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f32m1x4_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                     vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_f32m1x5_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                     vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_f32m1x6_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                     vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_f32m1x7_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                     vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_f32m1x8_m(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                                     vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f32m2x2_m(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                                     vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f32m2x3_m(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                                     vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f32m2x4_m(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                                     vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f32m4x2_m(vbool8_t vm, float *rs1, vuint8m1_t vs2,
                                     vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f32mf2x2_m(vbool64_t vm, float *rs1,
                                       vuint16mf4_t vs2, vfloat32mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei16_v_f32mf2x3_m(vbool64_t vm, float *rs1,
                                       vuint16mf4_t vs2, vfloat32mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei16_v_f32mf2x4_m(vbool64_t vm, float *rs1,
                                       vuint16mf4_t vs2, vfloat32mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei16_v_f32mf2x5_m(vbool64_t vm, float *rs1,
                                       vuint16mf4_t vs2, vfloat32mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei16_v_f32mf2x6_m(vbool64_t vm, float *rs1,
                                       vuint16mf4_t vs2, vfloat32mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei16_v_f32mf2x7_m(vbool64_t vm, float *rs1,
                                       vuint16mf4_t vs2, vfloat32mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei16_v_f32mf2x8_m(vbool64_t vm, float *rs1,
                                       vuint16mf4_t vs2, vfloat32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei16_v_f32m1x2_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_f32m1x3_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_f32m1x4_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei16_v_f32m1x5_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei16_v_f32m1x6_m(vbool32_t vm, float *rs1,
                                      vuint16mf2_t vs2, vfloat32m1x6_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg7ei16_v_f32m1x7_m(vbool32_t vm, float *rs1,
                                    vuint16mf2_t vs2, vfloat32m1x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei16_v_f32m1x8_m(vbool32_t vm, float *rs1,
                                    vuint16mf2_t vs2, vfloat32m1x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei16_v_f32m2x2_m(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                                    vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_f32m2x3_m(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                                    vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_f32m2x4_m(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                                    vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f32m4x2_m(vbool8_t vm, float *rs1, vuint16m2_t vs2,
                                    vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f32mf2x2_m(vbool64_t vm, float *rs1,
                                     vuint32mf2_t vs2, vfloat32mf2x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei32_v_f32mf2x3_m(vbool64_t vm, float *rs1,
                                     vuint32mf2_t vs2, vfloat32mf2x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei32_v_f32mf2x4_m(vbool64_t vm, float *rs1,
                                     vuint32mf2_t vs2, vfloat32mf2x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei32_v_f32mf2x5_m(vbool64_t vm, float *rs1,
                                     vuint32mf2_t vs2, vfloat32mf2x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei32_v_f32mf2x6_m(vbool64_t vm, float *rs1,
                                     vuint32mf2_t vs2, vfloat32mf2x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei32_v_f32mf2x7_m(vbool64_t vm, float *rs1,
                                     vuint32mf2_t vs2, vfloat32mf2x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei32_v_f32mf2x8_m(vbool64_t vm, float *rs1,
                                     vuint32mf2_t vs2, vfloat32mf2x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei32_v_f32m1x2_m(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_f32m1x3_m(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_f32m1x4_m(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                                    vfloat32m1x4_t vs3, size_t vl);
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                                    vfloat32m1x5_t vs3, size_t vl);
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                                    vfloat32m1x6_t vs3, size_t vl);
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                                    vfloat32m1x7_t vs3, size_t vl);
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                                    vfloat32m1x8_t vs3, size_t vl);
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                                    vfloat32m2x2_t vs3, size_t vl);
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                                    vfloat32m2x3_t vs3, size_t vl);
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                                    vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_f32m4x2_m(vbool8_t vm, float *rs1, vuint32m4_t vs2,
                                    vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f32mf2x2_m(vbool64_t vm, float *rs1,
                                     vuint64m1_t vs2, vfloat32mf2x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei64_v_f32mf2x3_m(vbool64_t vm, float *rs1,
                                     vuint64m1_t vs2, vfloat32mf2x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei64_v_f32mf2x4_m(vbool64_t vm, float *rs1,
                                     vuint64m1_t vs2, vfloat32mf2x4_t vs3,
                                     size_t vl);
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void __riscv_vsuxseg5ei64_v_f32mf2x5_m(vbool64_t vm, float *rs1,
                                       vuint64m1_t vs2, vfloat32mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei64_v_f32mf2x6_m(vbool64_t vm, float *rs1,
                                       vuint64m1_t vs2, vfloat32mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei64_v_f32mf2x7_m(vbool64_t vm, float *rs1,
                                       vuint64m1_t vs2, vfloat32mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei64_v_f32mf2x8_m(vbool64_t vm, float *rs1,
                                       vuint64m1_t vs2, vfloat32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei64_v_f32m1x2_m(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                                      vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_f32m1x3_m(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                                      vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_f32m1x4_m(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                                      vfloat32m1x4_t vs3, size_t vl);
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                                      vfloat32m1x5_t vs3, size_t vl);
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                                      vfloat32m1x6_t vs3, size_t vl);
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                                      vfloat32m1x7_t vs3, size_t vl);
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                                      vfloat32m1x8_t vs3, size_t vl);
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                                      vfloat32m2x2_t vs3, size_t vl);
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                                      vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_f32m2x4_m(vbool16_t vm, float *rs1, vuint64m4_t vs2,
                                      vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_f32m4x2_m(vbool8_t vm, float *rs1, vuint64m8_t vs2,
                                      vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_f64m1x2_m(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                                     vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_f64m1x3_m(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                                     vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_f64m1x4_m(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                                     vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_f64m1x5_m(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                                     vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_f64m1x6_m(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                                     vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_f64m1x7_m(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                                     vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_f64m1x8_m(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                                     vfloat64m1x8_t vs3, size_t vl);
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                                     vfloat64m2x2_t vs3, size_t vl);
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                                     vfloat64m2x3_t vs3, size_t vl);
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                                     vfloat64m2x4_t vs3, size_t vl);
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                                     vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_f64m1x2_m(vbool64_t vm, double *rs1,
                                      vuint16mf4_t vs2, vfloat64m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_f64m1x3_m(vbool64_t vm, double *rs1,
                                      vuint16mf4_t vs2, vfloat64m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_f64m1x4_m(vbool64_t vm, double *rs1,
                                      vuint16mf4_t vs2, vfloat64m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei16_v_f64m1x5_m(vbool64_t vm, double *rs1,
                                      vuint16mf4_t vs2, vfloat64m1x5_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg6ei16_v_f64m1x6_m(vbool64_t vm, double *rs1,
                                    vuint16mf4_t vs2, vfloat64m1x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei16_v_f64m1x7_m(vbool64_t vm, double *rs1,
                                    vuint16mf4_t vs2, vfloat64m1x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei16_v_f64m1x8_m(vbool64_t vm, double *rs1,
                                    vuint16mf4_t vs2, vfloat64m1x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei16_v_f64m2x2_m(vbool32_t vm, double *rs1,
                                    vuint16mf2_t vs2, vfloat64m2x2_t vs3,
                                    size_t vl);
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                                    vuint16mf2_t vs2, vfloat64m2x3_t vs3,
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                                    vuint16mf2_t vs2, vfloat64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei16_v_f64m4x2_m(vbool16_t vm, double *rs1,
                                    vuint16m1_t vs2, vfloat64m4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei32_v_f64m1x2_m(vbool64_t vm, double *rs1,
                                    vuint32mf2_t vs2, vfloat64m1x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei32_v_f64m1x3_m(vbool64_t vm, double *rs1,
                                    vuint32mf2_t vs2, vfloat64m1x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei32_v_f64m1x4_m(vbool64_t vm, double *rs1,
                                    vuint32mf2_t vs2, vfloat64m1x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei32_v_f64m1x5_m(vbool64_t vm, double *rs1,
                                    vuint32mf2_t vs2, vfloat64m1x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei32_v_f64m1x6_m(vbool64_t vm, double *rs1,
                                    vuint32mf2_t vs2, vfloat64m1x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei32_v_f64m1x7_m(vbool64_t vm, double *rs1,
                                    vuint32mf2_t vs2, vfloat64m1x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei32_v_f64m1x8_m(vbool64_t vm, double *rs1,
                                    vuint32mf2_t vs2, vfloat64m1x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei32_v_f64m2x2_m(vbool32_t vm, double *rs1,
                                    vuint32m1_t vs2, vfloat64m2x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei32_v_f64m2x3_m(vbool32_t vm, double *rs1,
                                    vuint32m1_t vs2, vfloat64m2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei32_v_f64m2x4_m(vbool32_t vm, double *rs1,
                                    vuint32m1_t vs2, vfloat64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei32_v_f64m4x2_m(vbool16_t vm, double *rs1,
                                    vuint32m2_t vs2, vfloat64m4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_f64m1x2_m(vbool64_t vm, double *rs1,
                                    vuint64m1_t vs2, vfloat64m1x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei64_v_f64m1x3_m(vbool64_t vm, double *rs1,
                                    vuint64m1_t vs2, vfloat64m1x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei64_v_f64m1x4_m(vbool64_t vm, double *rs1,
                                    vuint64m1_t vs2, vfloat64m1x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei64_v_f64m1x5_m(vbool64_t vm, double *rs1,
                                    vuint64m1_t vs2, vfloat64m1x5_t vs3,
                                    size_t vl);
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void __riscv_vsuxseg6ei64_v_f64m1x6_m(vbool64_t vm, double *rs1,
                                      vuint64m1_t vs2, vfloat64m1x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei64_v_f64m1x7_m(vbool64_t vm, double *rs1,
                                      vuint64m1_t vs2, vfloat64m1x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei64_v_f64m1x8_m(vbool64_t vm, double *rs1,
                                      vuint64m1_t vs2, vfloat64m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei64_v_f64m2x2_m(vbool32_t vm, double *rs1,
                                      vuint64m2_t vs2, vfloat64m2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei64_v_f64m2x3_m(vbool32_t vm, double *rs1,
                                      vuint64m2_t vs2, vfloat64m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei64_v_f64m2x4_m(vbool32_t vm, double *rs1,
                                      vuint64m2_t vs2, vfloat64m2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei64_v_f64m4x2_m(vbool16_t vm, double *rs1,
                                      vuint64m4_t vs2, vfloat64m4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei8_v_i8mf8x2_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                     vint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i8mf8x3_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                     vint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i8mf8x4_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                     vint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i8mf8x5_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                     vint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i8mf8x6_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                     vint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i8mf8x7_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                     vint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i8mf8x8_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                     vint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i8mf4x2_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                     vint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i8mf4x3_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                     vint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i8mf4x4_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                     vint8mf4x4_t vs3, size_t vl);
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                                     vint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i8mf4x6_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                     vint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i8mf4x7_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                     vint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i8mf4x8_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                     vint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i8mf2x2_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                     vint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i8mf2x3_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                     vint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i8mf2x4_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                     vint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i8mf2x5_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                     vint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i8mf2x6_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                     vint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i8mf2x7_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                     vint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i8mf2x8_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                     vint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i8m1x2_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                    vint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i8m1x3_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                    vint8m1x3_t vs3, size_t vl);
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void __riscv_vsoxseg4ei8_v_i8m1x4_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                    vint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_i8m1x5_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                    vint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_i8m1x6_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                    vint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_i8m1x7_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                    vint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_i8m1x8_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                    vint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i8m2x2_m(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
                                    vint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i8m2x3_m(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
                                    vint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i8m2x4_m(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
                                    vint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i8m4x2_m(vbool2_t vm, int8_t *rs1, vuint8m4_t vs2,
                                    vint8m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i8mf8x2_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_i8mf8x3_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_i8mf8x4_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei16_v_i8mf8x5_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei16_v_i8mf8x6_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei16_v_i8mf8x7_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei16_v_i8mf8x8_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_i8mf4x2_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_i8mf4x3_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_i8mf4x4_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei16_v_i8mf4x5_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei16_v_i8mf4x6_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei16_v_i8mf4x7_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei16_v_i8mf4x8_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_i8mf2x2_m(vbool16_t vm, int8_t *rs1,
                                      vuint16m1_t vs2, vint8mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_i8mf2x3_m(vbool16_t vm, int8_t *rs1,
                                      vuint16m1_t vs2, vint8mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_i8mf2x4_m(vbool16_t vm, int8_t *rs1,
```

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                                    vuint16m1_t vs2, vint8mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei16_v_i8mf2x5_m(vbool16_t vm, int8_t *rs1,
                                    vuint16m1_t vs2, vint8mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei16_v_i8mf2x6_m(vbool16_t vm, int8_t *rs1,
                                    vuint16m1_t vs2, vint8mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei16_v_i8mf2x7_m(vbool16_t vm, int8_t *rs1,
                                    vuint16m1_t vs2, vint8mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei16_v_i8mf2x8_m(vbool16_t vm, int8_t *rs1,
                                    vuint16m1_t vs2, vint8mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei16_v_i8m1x2_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i8m1x3_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i8m1x4_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_i8m1x5_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_i8m1x6_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16_v_i8m1x7_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_i8m1x8_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i8m2x2_m(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_i8m2x3_m(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_i8m2x4_m(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i8m4x2_m(vbool2_t vm, int8_t *rs1, vuint16m8_t vs2,
                                   vint8m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i8mf8x2_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei32_v_i8mf8x3_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei32_v_i8mf8x4_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei32_v_i8mf8x5_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei32_v_i8mf8x6_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei32_v_i8mf8x7_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei32_v_i8mf8x8_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei32_v_i8mf4x2_m(vbool32_t vm, int8_t *rs1,
                                    vuint32m1_t vs2, vint8mf4x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei32_v_i8mf4x3_m(vbool32_t vm, int8_t *rs1,
                                    vuint32m1_t vs2, vint8mf4x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei32_v_i8mf4x4_m(vbool32_t vm, int8_t *rs1,
                                    vuint32m1_t vs2, vint8mf4x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei32_v_i8mf4x5_m(vbool32_t vm, int8_t *rs1,
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                                    vuint32m1_t vs2, vint8mf4x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei32_v_i8mf4x6_m(vbool32_t vm, int8_t *rs1,
                                    vuint32m1_t vs2, vint8mf4x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei32_v_i8mf4x7_m(vbool32_t vm, int8_t *rs1,
                                    vuint32m1_t vs2, vint8mf4x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei32_v_i8mf4x8_m(vbool32_t vm, int8_t *rs1,
                                    vuint32m1_t vs2, vint8mf4x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei32_v_i8mf2x2_m(vbool16_t vm, int8_t *rs1,
                                    vuint32m2_t vs2, vint8mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei32_v_i8mf2x3_m(vbool16_t vm, int8_t *rs1,
                                    vuint32m2_t vs2, vint8mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei32_v_i8mf2x4_m(vbool16_t vm, int8_t *rs1,
                                    vuint32m2_t vs2, vint8mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei32_v_i8mf2x5_m(vbool16_t vm, int8_t *rs1,
                                    vuint32m2_t vs2, vint8mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei32_v_i8mf2x6_m(vbool16_t vm, int8_t *rs1,
                                    vuint32m2_t vs2, vint8mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei32_v_i8mf2x7_m(vbool16_t vm, int8_t *rs1,
                                    vuint32m2_t vs2, vint8mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei32_v_i8mf2x8_m(vbool16_t vm, int8_t *rs1,
                                    vuint32m2_t vs2, vint8mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei32_v_i8m1x2_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i8m1x3_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i8m1x4_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_i8m1x5_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_i8m1x6_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_i8m1x7_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_i8m1x8_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                   vint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_i8m2x2_m(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
                                   vint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_i8m2x3_m(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
                                   vint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_i8m2x4_m(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
                                   vint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_i8mf8x2_m(vbool64_t vm, int8_t *rs1,
                                    vuint64m1_t vs2, vint8mf8x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_i8mf8x3_m(vbool64_t vm, int8_t *rs1,
                                    vuint64m1_t vs2, vint8mf8x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_i8mf8x4_m(vbool64_t vm, int8_t *rs1,
                                    vuint64m1_t vs2, vint8mf8x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei64_v_i8mf8x5_m(vbool64_t vm, int8_t *rs1,
                                    vuint64m1_t vs2, vint8mf8x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei64_v_i8mf8x6_m(vbool64_t vm, int8_t *rs1,
                                    vuint64m1_t vs2, vint8mf8x6_t vs3,
                                    size_t vl);
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void __riscv_vsoxseg7ei64_v_i8mf8x7_m(vbool64_t vm, int8_t *rs1,
                                      vuint64m1_t vs2, vint8mf8x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei64_v_i8mf8x8_m(vbool64_t vm, int8_t *rs1,
                                      vuint64m1_t vs2, vint8mf8x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_i8mf4x2_m(vbool32_t vm, int8_t *rs1,
                                      vuint64m2_t vs2, vint8mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei64_v_i8mf4x3_m(vbool32_t vm, int8_t *rs1,
                                      vuint64m2_t vs2, vint8mf4x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei64_v_i8mf4x4_m(vbool32_t vm, int8_t *rs1,
                                      vuint64m2_t vs2, vint8mf4x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei64_v_i8mf4x5_m(vbool32_t vm, int8_t *rs1,
                                      vuint64m2_t vs2, vint8mf4x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei64_v_i8mf4x6_m(vbool32_t vm, int8_t *rs1,
                                      vuint64m2_t vs2, vint8mf4x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei64_v_i8mf4x7_m(vbool32_t vm, int8_t *rs1,
                                      vuint64m2_t vs2, vint8mf4x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei64_v_i8mf4x8_m(vbool32_t vm, int8_t *rs1,
                                      vuint64m2_t vs2, vint8mf4x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_i8mf2x2_m(vbool16_t vm, int8_t *rs1,
                                      vuint64m4_t vs2, vint8mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei64_v_i8mf2x3_m(vbool16_t vm, int8_t *rs1,
                                      vuint64m4_t vs2, vint8mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei64_v_i8mf2x4_m(vbool16_t vm, int8_t *rs1,
                                      vuint64m4_t vs2, vint8mf2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei64_v_i8mf2x5_m(vbool16_t vm, int8_t *rs1,
                                      vuint64m4_t vs2, vint8mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei64_v_i8mf2x6_m(vbool16_t vm, int8_t *rs1,
                                      vuint64m4_t vs2, vint8mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei64_v_i8mf2x7_m(vbool16_t vm, int8_t *rs1,
                                      vuint64m4_t vs2, vint8mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei64_v_i8mf2x8_m(vbool16_t vm, int8_t *rs1,
                                      vuint64m4_t vs2, vint8mf2x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_i8m1x2_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                     vint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_i8m1x3_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                     vint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_i8m1x4_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                     vint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_i8m1x5_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                     vint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_i8m1x6_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                     vint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_i8m1x7_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                     vint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_i8m1x8_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                     vint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i16mf4x2_m(vbool64_t vm, int16_t *rs1,
                                      vuint8mf8_t vs2, vint16mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei8_v_i16mf4x3_m(vbool64_t vm, int16_t *rs1,
                                      vuint8mf8_t vs2, vint16mf4x3_t vs3,
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                                    size_t vl);
void __riscv_vsoxseg4ei8_v_i16mf4x4_m(vbool64_t vm, int16_t *rs1,
                                    vuint8mf8_t vs2, vint16mf4x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei8_v_i16mf4x5_m(vbool64_t vm, int16_t *rs1,
                                    vuint8mf8_t vs2, vint16mf4x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei8_v_i16mf4x6_m(vbool64_t vm, int16_t *rs1,
                                    vuint8mf8_t vs2, vint16mf4x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei8_v_i16mf4x7_m(vbool64_t vm, int16_t *rs1,
                                    vuint8mf8_t vs2, vint16mf4x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei8_v_i16mf4x8_m(vbool64_t vm, int16_t *rs1,
                                    vuint8mf8_t vs2, vint16mf4x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei8_v_i16mf2x2_m(vbool32_t vm, int16_t *rs1,
                                    vuint8mf4_t vs2, vint16mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei8_v_i16mf2x3_m(vbool32_t vm, int16_t *rs1,
                                    vuint8mf4_t vs2, vint16mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei8_v_i16mf2x4_m(vbool32_t vm, int16_t *rs1,
                                    vuint8mf4_t vs2, vint16mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei8_v_i16mf2x5_m(vbool32_t vm, int16_t *rs1,
                                    vuint8mf4_t vs2, vint16mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei8_v_i16mf2x6_m(vbool32_t vm, int16_t *rs1,
                                    vuint8mf4_t vs2, vint16mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei8_v_i16mf2x7_m(vbool32_t vm, int16_t *rs1,
                                    vuint8mf4_t vs2, vint16mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei8_v_i16mf2x8_m(vbool32_t vm, int16_t *rs1,
                                    vuint8mf4_t vs2, vint16mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei8_v_i16m1x2_m(vbool16_t vm, int16_t *rs1,
                                   vuint8mf2_t vs2, vint16m1x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei8_v_i16m1x3_m(vbool16_t vm, int16_t *rs1,
                                   vuint8mf2_t vs2, vint16m1x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei8_v_i16m1x4_m(vbool16_t vm, int16_t *rs1,
                                   vuint8mf2_t vs2, vint16m1x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg5ei8_v_i16m1x5_m(vbool16_t vm, int16_t *rs1,
                                   vuint8mf2_t vs2, vint16m1x5_t vs3,
                                   size_t vl);
void __riscv_vsoxseg6ei8_v_i16m1x6_m(vbool16_t vm, int16_t *rs1,
                                   vuint8mf2_t vs2, vint16m1x6_t vs3,
                                   size_t vl);
void __riscv_vsoxseg7ei8_v_i16m1x7_m(vbool16_t vm, int16_t *rs1,
                                   vuint8mf2_t vs2, vint16m1x7_t vs3,
                                   size_t vl);
void __riscv_vsoxseg8ei8_v_i16m1x8_m(vbool16_t vm, int16_t *rs1,
                                   vuint8mf2_t vs2, vint16m1x8_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei8_v_i16m2x2_m(vbool8_t vm, int16_t *rs1, vuint8m1_t vs2,
                                   vint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_i16m2x3_m(vbool8_t vm, int16_t *rs1, vuint8m1_t vs2,
                                   vint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_i16m2x4_m(vbool8_t vm, int16_t *rs1, vuint8m1_t vs2,
                                   vint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_i16m4x2_m(vbool4_t vm, int16_t *rs1, vuint8m2_t vs2,
                                   vint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i16mf4x2_m(vbool64_t vm, int16_t *rs1,
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                                    vuint16mf4_t vs2, vint16mf4x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei16_v_i16mf4x3_m(vbool64_t vm, int16_t *rs1,
                                    vuint16mf4_t vs2, vint16mf4x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei16_v_i16mf4x4_m(vbool64_t vm, int16_t *rs1,
                                    vuint16mf4_t vs2, vint16mf4x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei16_v_i16mf4x5_m(vbool64_t vm, int16_t *rs1,
                                    vuint16mf4_t vs2, vint16mf4x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei16_v_i16mf4x6_m(vbool64_t vm, int16_t *rs1,
                                    vuint16mf4_t vs2, vint16mf4x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei16_v_i16mf4x7_m(vbool64_t vm, int16_t *rs1,
                                    vuint16mf4_t vs2, vint16mf4x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei16_v_i16mf4x8_m(vbool64_t vm, int16_t *rs1,
                                    vuint16mf4_t vs2, vint16mf4x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei16_v_i16mf2x2_m(vbool32_t vm, int16_t *rs1,
                                    vuint16mf2_t vs2, vint16mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei16_v_i16mf2x3_m(vbool32_t vm, int16_t *rs1,
                                    vuint16mf2_t vs2, vint16mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei16_v_i16mf2x4_m(vbool32_t vm, int16_t *rs1,
                                    vuint16mf2_t vs2, vint16mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei16_v_i16mf2x5_m(vbool32_t vm, int16_t *rs1,
                                    vuint16mf2_t vs2, vint16mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei16_v_i16mf2x6_m(vbool32_t vm, int16_t *rs1,
                                    vuint16mf2_t vs2, vint16mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei16_v_i16mf2x7_m(vbool32_t vm, int16_t *rs1,
                                    vuint16mf2_t vs2, vint16mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei16_v_i16mf2x8_m(vbool32_t vm, int16_t *rs1,
                                    vuint16mf2_t vs2, vint16mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei16_v_i16m1x2_m(vbool16_t vm, int16_t *rs1,
                                   vuint16m1_t vs2, vint16m1x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei16_v_i16m1x3_m(vbool16_t vm, int16_t *rs1,
                                   vuint16m1_t vs2, vint16m1x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei16_v_i16m1x4_m(vbool16_t vm, int16_t *rs1,
                                   vuint16m1_t vs2, vint16m1x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg5ei16_v_i16m1x5_m(vbool16_t vm, int16_t *rs1,
                                   vuint16m1_t vs2, vint16m1x5_t vs3,
                                   size_t vl);
void __riscv_vsoxseg6ei16_v_i16m1x6_m(vbool16_t vm, int16_t *rs1,
                                   vuint16m1_t vs2, vint16m1x6_t vs3,
                                   size_t vl);
void __riscv_vsoxseg7ei16_v_i16m1x7_m(vbool16_t vm, int16_t *rs1,
                                   vuint16m1_t vs2, vint16m1x7_t vs3,
                                   size_t vl);
void __riscv_vsoxseg8ei16_v_i16m1x8_m(vbool16_t vm, int16_t *rs1,
                                   vuint16m1_t vs2, vint16m1x8_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei16_v_i16m2x2_m(vbool8_t vm, int16_t *rs1,
                                   vuint16m2_t vs2, vint16m2x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei16_v_i16m2x3_m(vbool8_t vm, int16_t *rs1,
                                   vuint16m2_t vs2, vint16m2x3_t vs3,
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                                    size_t vl);
void __riscv_vsoxseg4ei16_v_i16m2x4_m(vbool8_t vm, int16_t *rs1,
                                    vuint16m2_t vs2, vint16m2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei16_v_i16m4x2_m(vbool4_t vm, int16_t *rs1,
                                    vuint16m4_t vs2, vint16m4x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei32_v_i16mf4x2_m(vbool64_t vm, int16_t *rs1,
                                     vuint32mf2_t vs2, vint16mf4x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei32_v_i16mf4x3_m(vbool64_t vm, int16_t *rs1,
                                     vuint32mf2_t vs2, vint16mf4x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei32_v_i16mf4x4_m(vbool64_t vm, int16_t *rs1,
                                     vuint32mf2_t vs2, vint16mf4x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei32_v_i16mf4x5_m(vbool64_t vm, int16_t *rs1,
                                     vuint32mf2_t vs2, vint16mf4x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei32_v_i16mf4x6_m(vbool64_t vm, int16_t *rs1,
                                     vuint32mf2_t vs2, vint16mf4x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei32_v_i16mf4x7_m(vbool64_t vm, int16_t *rs1,
                                     vuint32mf2_t vs2, vint16mf4x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei32_v_i16mf4x8_m(vbool64_t vm, int16_t *rs1,
                                     vuint32mf2_t vs2, vint16mf4x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei32_v_i16mf2x2_m(vbool32_t vm, int16_t *rs1,
                                     vuint32m1_t vs2, vint16mf2x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei32_v_i16mf2x3_m(vbool32_t vm, int16_t *rs1,
                                     vuint32m1_t vs2, vint16mf2x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei32_v_i16mf2x4_m(vbool32_t vm, int16_t *rs1,
                                     vuint32m1_t vs2, vint16mf2x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei32_v_i16mf2x5_m(vbool32_t vm, int16_t *rs1,
                                     vuint32m1_t vs2, vint16mf2x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei32_v_i16mf2x6_m(vbool32_t vm, int16_t *rs1,
                                     vuint32m1_t vs2, vint16mf2x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei32_v_i16mf2x7_m(vbool32_t vm, int16_t *rs1,
                                     vuint32m1_t vs2, vint16mf2x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei32_v_i16mf2x8_m(vbool32_t vm, int16_t *rs1,
                                     vuint32m1_t vs2, vint16mf2x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei32_v_i16m1x2_m(vbool16_t vm, int16_t *rs1,
                                    vuint32m2_t vs2, vint16m1x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei32_v_i16m1x3_m(vbool16_t vm, int16_t *rs1,
                                    vuint32m2_t vs2, vint16m1x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei32_v_i16m1x4_m(vbool16_t vm, int16_t *rs1,
                                    vuint32m2_t vs2, vint16m1x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei32_v_i16m1x5_m(vbool16_t vm, int16_t *rs1,
                                    vuint32m2_t vs2, vint16m1x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei32_v_i16m1x6_m(vbool16_t vm, int16_t *rs1,
                                    vuint32m2_t vs2, vint16m1x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei32_v_i16m1x7_m(vbool16_t vm, int16_t *rs1,
                                    vuint32m2_t vs2, vint16m1x7_t vs3,
                                    size_t vl);
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void __riscv_vsoxseg8ei32_v_i16m1x8_m(vbool16_t vm, int16_t *rs1,
                                      vuint32m2_t vs2, vint16m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_i16m2x2_m(vbool8_t vm, int16_t *rs1,
                                      vuint32m4_t vs2, vint16m2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_i16m2x3_m(vbool8_t vm, int16_t *rs1,
                                      vuint32m4_t vs2, vint16m2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_i16m2x4_m(vbool8_t vm, int16_t *rs1,
                                      vuint32m4_t vs2, vint16m2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_i16m4x2_m(vbool4_t vm, int16_t *rs1,
                                      vuint32m8_t vs2, vint16m4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_i16mf4x2_m(vbool64_t vm, int16_t *rs1,
                                       vuint64m1_t vs2, vint16mf4x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei64_v_i16mf4x3_m(vbool64_t vm, int16_t *rs1,
                                       vuint64m1_t vs2, vint16mf4x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei64_v_i16mf4x4_m(vbool64_t vm, int16_t *rs1,
                                       vuint64m1_t vs2, vint16mf4x4_t vs3,
                                       size_t vl);
void __riscv_vsoxseg5ei64_v_i16mf4x5_m(vbool64_t vm, int16_t *rs1,
                                       vuint64m1_t vs2, vint16mf4x5_t vs3,
                                       size_t vl);
void __riscv_vsoxseg6ei64_v_i16mf4x6_m(vbool64_t vm, int16_t *rs1,
                                       vuint64m1_t vs2, vint16mf4x6_t vs3,
                                       size_t vl);
void __riscv_vsoxseg7ei64_v_i16mf4x7_m(vbool64_t vm, int16_t *rs1,
                                       vuint64m1_t vs2, vint16mf4x7_t vs3,
                                       size_t vl);
void __riscv_vsoxseg8ei64_v_i16mf4x8_m(vbool64_t vm, int16_t *rs1,
                                       vuint64m1_t vs2, vint16mf4x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei64_v_i16mf2x2_m(vbool32_t vm, int16_t *rs1,
                                       vuint64m2_t vs2, vint16mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei64_v_i16mf2x3_m(vbool32_t vm, int16_t *rs1,
                                       vuint64m2_t vs2, vint16mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei64_v_i16mf2x4_m(vbool32_t vm, int16_t *rs1,
                                       vuint64m2_t vs2, vint16mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsoxseg5ei64_v_i16mf2x5_m(vbool32_t vm, int16_t *rs1,
                                       vuint64m2_t vs2, vint16mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsoxseg6ei64_v_i16mf2x6_m(vbool32_t vm, int16_t *rs1,
                                       vuint64m2_t vs2, vint16mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsoxseg7ei64_v_i16mf2x7_m(vbool32_t vm, int16_t *rs1,
                                       vuint64m2_t vs2, vint16mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsoxseg8ei64_v_i16mf2x8_m(vbool32_t vm, int16_t *rs1,
                                       vuint64m2_t vs2, vint16mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei64_v_i16m1x2_m(vbool16_t vm, int16_t *rs1,
                                      vuint64m4_t vs2, vint16m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei64_v_i16m1x3_m(vbool16_t vm, int16_t *rs1,
                                      vuint64m4_t vs2, vint16m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei64_v_i16m1x4_m(vbool16_t vm, int16_t *rs1,
                                      vuint64m4_t vs2, vint16m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei64_v_i16m1x5_m(vbool16_t vm, int16_t *rs1,
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                                    vuint64m4_t vs2, vint16m1x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei64_v_i16m1x6_m(vbool16_t vm, int16_t *rs1,
                                    vuint64m4_t vs2, vint16m1x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei64_v_i16m1x7_m(vbool16_t vm, int16_t *rs1,
                                    vuint64m4_t vs2, vint16m1x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei64_v_i16m1x8_m(vbool16_t vm, int16_t *rs1,
                                    vuint64m4_t vs2, vint16m1x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_i16m2x2_m(vbool8_t vm, int16_t *rs1,
                                    vuint64m8_t vs2, vint16m2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_i16m2x3_m(vbool8_t vm, int16_t *rs1,
                                    vuint64m8_t vs2, vint16m2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_i16m2x4_m(vbool8_t vm, int16_t *rs1,
                                    vuint64m8_t vs2, vint16m2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei8_v_i32mf2x2_m(vbool64_t vm, int32_t *rs1,
                                    vuint8mf8_t vs2, vint32mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei8_v_i32mf2x3_m(vbool64_t vm, int32_t *rs1,
                                    vuint8mf8_t vs2, vint32mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei8_v_i32mf2x4_m(vbool64_t vm, int32_t *rs1,
                                    vuint8mf8_t vs2, vint32mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei8_v_i32mf2x5_m(vbool64_t vm, int32_t *rs1,
                                    vuint8mf8_t vs2, vint32mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei8_v_i32mf2x6_m(vbool64_t vm, int32_t *rs1,
                                    vuint8mf8_t vs2, vint32mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei8_v_i32mf2x7_m(vbool64_t vm, int32_t *rs1,
                                    vuint8mf8_t vs2, vint32mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei8_v_i32mf2x8_m(vbool64_t vm, int32_t *rs1,
                                    vuint8mf8_t vs2, vint32mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei8_v_i32m1x2_m(vbool32_t vm, int32_t *rs1,
                                   vuint8mf4_t vs2, vint32m1x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei8_v_i32m1x3_m(vbool32_t vm, int32_t *rs1,
                                   vuint8mf4_t vs2, vint32m1x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei8_v_i32m1x4_m(vbool32_t vm, int32_t *rs1,
                                   vuint8mf4_t vs2, vint32m1x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg5ei8_v_i32m1x5_m(vbool32_t vm, int32_t *rs1,
                                   vuint8mf4_t vs2, vint32m1x5_t vs3,
                                   size_t vl);
void __riscv_vsoxseg6ei8_v_i32m1x6_m(vbool32_t vm, int32_t *rs1,
                                   vuint8mf4_t vs2, vint32m1x6_t vs3,
                                   size_t vl);
void __riscv_vsoxseg7ei8_v_i32m1x7_m(vbool32_t vm, int32_t *rs1,
                                   vuint8mf4_t vs2, vint32m1x7_t vs3,
                                   size_t vl);
void __riscv_vsoxseg8ei8_v_i32m1x8_m(vbool32_t vm, int32_t *rs1,
                                   vuint8mf4_t vs2, vint32m1x8_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei8_v_i32m2x2_m(vbool16_t vm, int32_t *rs1,
                                   vuint8mf2_t vs2, vint32m2x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei8_v_i32m2x3_m(vbool16_t vm, int32_t *rs1,
                                   vuint8mf2_t vs2, vint32m2x3_t vs3,
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                                    size_t vl);
void __riscv_vsoxseg4ei8_v_i32m2x4_m(vbool16_t vm, int32_t *rs1,
                                    vuint8mf2_t vs2, vint32m2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei8_v_i32m4x2_m(vbool8_t vm, int32_t *rs1, vuint8m1_t vs2,
                                    vint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_i32mf2x2_m(vbool64_t vm, int32_t *rs1,
                                      vuint16mf4_t vs2, vint32mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_i32mf2x3_m(vbool64_t vm, int32_t *rs1,
                                      vuint16mf4_t vs2, vint32mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_i32mf2x4_m(vbool64_t vm, int32_t *rs1,
                                      vuint16mf4_t vs2, vint32mf2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei16_v_i32mf2x5_m(vbool64_t vm, int32_t *rs1,
                                      vuint16mf4_t vs2, vint32mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei16_v_i32mf2x6_m(vbool64_t vm, int32_t *rs1,
                                      vuint16mf4_t vs2, vint32mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei16_v_i32mf2x7_m(vbool64_t vm, int32_t *rs1,
                                      vuint16mf4_t vs2, vint32mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei16_v_i32mf2x8_m(vbool64_t vm, int32_t *rs1,
                                      vuint16mf4_t vs2, vint32mf2x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_i32m1x2_m(vbool32_t vm, int32_t *rs1,
                                     vuint16mf2_t vs2, vint32m1x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei16_v_i32m1x3_m(vbool32_t vm, int32_t *rs1,
                                     vuint16mf2_t vs2, vint32m1x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei16_v_i32m1x4_m(vbool32_t vm, int32_t *rs1,
                                     vuint16mf2_t vs2, vint32m1x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei16_v_i32m1x5_m(vbool32_t vm, int32_t *rs1,
                                     vuint16mf2_t vs2, vint32m1x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei16_v_i32m1x6_m(vbool32_t vm, int32_t *rs1,
                                     vuint16mf2_t vs2, vint32m1x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei16_v_i32m1x7_m(vbool32_t vm, int32_t *rs1,
                                     vuint16mf2_t vs2, vint32m1x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei16_v_i32m1x8_m(vbool32_t vm, int32_t *rs1,
                                     vuint16mf2_t vs2, vint32m1x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei16_v_i32m2x2_m(vbool16_t vm, int32_t *rs1,
                                     vuint16m1_t vs2, vint32m2x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei16_v_i32m2x3_m(vbool16_t vm, int32_t *rs1,
                                     vuint16m1_t vs2, vint32m2x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei16_v_i32m2x4_m(vbool16_t vm, int32_t *rs1,
                                     vuint16m1_t vs2, vint32m2x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei16_v_i32m4x2_m(vbool8_t vm, int32_t *rs1,
                                     vuint16m2_t vs2, vint32m4x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei32_v_i32mf2x2_m(vbool64_t vm, int32_t *rs1,
                                      vuint32mf2_t vs2, vint32mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_i32mf2x3_m(vbool64_t vm, int32_t *rs1,
                                      vuint32mf2_t vs2, vint32mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_i32mf2x4_m(vbool64_t vm, int32_t *rs1,
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                                    vuint32mf2_t vs2, vint32mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei32_v_i32mf2x5_m(vbool64_t vm, int32_t *rs1,
                                    vuint32mf2_t vs2, vint32mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei32_v_i32mf2x6_m(vbool64_t vm, int32_t *rs1,
                                    vuint32mf2_t vs2, vint32mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei32_v_i32mf2x7_m(vbool64_t vm, int32_t *rs1,
                                    vuint32mf2_t vs2, vint32mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei32_v_i32mf2x8_m(vbool64_t vm, int32_t *rs1,
                                    vuint32mf2_t vs2, vint32mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei32_v_i32m1x2_m(vbool32_t vm, int32_t *rs1,
                                   vuint32m1_t vs2, vint32m1x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei32_v_i32m1x3_m(vbool32_t vm, int32_t *rs1,
                                   vuint32m1_t vs2, vint32m1x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei32_v_i32m1x4_m(vbool32_t vm, int32_t *rs1,
                                   vuint32m1_t vs2, vint32m1x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg5ei32_v_i32m1x5_m(vbool32_t vm, int32_t *rs1,
                                   vuint32m1_t vs2, vint32m1x5_t vs3,
                                   size_t vl);
void __riscv_vsoxseg6ei32_v_i32m1x6_m(vbool32_t vm, int32_t *rs1,
                                   vuint32m1_t vs2, vint32m1x6_t vs3,
                                   size_t vl);
void __riscv_vsoxseg7ei32_v_i32m1x7_m(vbool32_t vm, int32_t *rs1,
                                   vuint32m1_t vs2, vint32m1x7_t vs3,
                                   size_t vl);
void __riscv_vsoxseg8ei32_v_i32m1x8_m(vbool32_t vm, int32_t *rs1,
                                   vuint32m1_t vs2, vint32m1x8_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei32_v_i32m2x2_m(vbool16_t vm, int32_t *rs1,
                                   vuint32m2_t vs2, vint32m2x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei32_v_i32m2x3_m(vbool16_t vm, int32_t *rs1,
                                   vuint32m2_t vs2, vint32m2x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei32_v_i32m2x4_m(vbool16_t vm, int32_t *rs1,
                                   vuint32m2_t vs2, vint32m2x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei32_v_i32m4x2_m(vbool8_t vm, int32_t *rs1,
                                   vuint32m4_t vs2, vint32m4x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei64_v_i32mf2x2_m(vbool64_t vm, int32_t *rs1,
                                    vuint64m1_t vs2, vint32mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_i32mf2x3_m(vbool64_t vm, int32_t *rs1,
                                    vuint64m1_t vs2, vint32mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_i32mf2x4_m(vbool64_t vm, int32_t *rs1,
                                    vuint64m1_t vs2, vint32mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei64_v_i32mf2x5_m(vbool64_t vm, int32_t *rs1,
                                    vuint64m1_t vs2, vint32mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei64_v_i32mf2x6_m(vbool64_t vm, int32_t *rs1,
                                    vuint64m1_t vs2, vint32mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei64_v_i32mf2x7_m(vbool64_t vm, int32_t *rs1,
                                    vuint64m1_t vs2, vint32mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei64_v_i32mf2x8_m(vbool64_t vm, int32_t *rs1,
                                    vuint64m1_t vs2, vint32mf2x8_t vs3,
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                                     size_t vl);
void __riscv_vsoxseg2ei64_v_i32m1x2_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei64_v_i32m1x3_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei64_v_i32m1x4_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei64_v_i32m1x5_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei64_v_i32m1x6_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei64_v_i32m1x7_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei64_v_i32m1x8_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_i32m2x2_m(vbool16_t vm, int32_t *rs1,
                                      vuint64m4_t vs2, vint32m2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei64_v_i32m2x3_m(vbool16_t vm, int32_t *rs1,
                                      vuint64m4_t vs2, vint32m2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei64_v_i32m2x4_m(vbool16_t vm, int32_t *rs1,
                                      vuint64m4_t vs2, vint32m2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_i32m4x2_m(vbool8_t vm, int32_t *rs1,
                                      vuint64m8_t vs2, vint32m4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei8_v_i64m1x2_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei8_v_i64m1x3_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei8_v_i64m1x4_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei8_v_i64m1x5_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei8_v_i64m1x6_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei8_v_i64m1x7_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei8_v_i64m1x8_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei8_v_i64m2x2_m(vbool32_t vm, int64_t *rs1,
                                     vuint8mf4_t vs2, vint64m2x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei8_v_i64m2x3_m(vbool32_t vm, int64_t *rs1,
                                     vuint8mf4_t vs2, vint64m2x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei8_v_i64m2x4_m(vbool32_t vm, int64_t *rs1,
                                     vuint8mf4_t vs2, vint64m2x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei8_v_i64m4x2_m(vbool16_t vm, int64_t *rs1,
                                     vuint8mf2_t vs2, vint64m4x2_t vs3,
                                     size_t vl);
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void __riscv_vsoxseg2ei16_v_i64m1x2_m(vbool64_t vm, int64_t *rs1,
                                      vuint16mf4_t vs2, vint64m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_i64m1x3_m(vbool64_t vm, int64_t *rs1,
                                      vuint16mf4_t vs2, vint64m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_i64m1x4_m(vbool64_t vm, int64_t *rs1,
                                      vuint16mf4_t vs2, vint64m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei16_v_i64m1x5_m(vbool64_t vm, int64_t *rs1,
                                      vuint16mf4_t vs2, vint64m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei16_v_i64m1x6_m(vbool64_t vm, int64_t *rs1,
                                      vuint16mf4_t vs2, vint64m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei16_v_i64m1x7_m(vbool64_t vm, int64_t *rs1,
                                      vuint16mf4_t vs2, vint64m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei16_v_i64m1x8_m(vbool64_t vm, int64_t *rs1,
                                      vuint16mf4_t vs2, vint64m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_i64m2x2_m(vbool32_t vm, int64_t *rs1,
                                      vuint16mf2_t vs2, vint64m2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_i64m2x3_m(vbool32_t vm, int64_t *rs1,
                                      vuint16mf2_t vs2, vint64m2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_i64m2x4_m(vbool32_t vm, int64_t *rs1,
                                      vuint16mf2_t vs2, vint64m2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_i64m4x2_m(vbool16_t vm, int64_t *rs1,
                                      vuint16m1_t vs2, vint64m4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_i64m1x2_m(vbool64_t vm, int64_t *rs1,
                                      vuint32mf2_t vs2, vint64m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_i64m1x3_m(vbool64_t vm, int64_t *rs1,
                                      vuint32mf2_t vs2, vint64m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_i64m1x4_m(vbool64_t vm, int64_t *rs1,
                                      vuint32mf2_t vs2, vint64m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei32_v_i64m1x5_m(vbool64_t vm, int64_t *rs1,
                                      vuint32mf2_t vs2, vint64m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei32_v_i64m1x6_m(vbool64_t vm, int64_t *rs1,
                                      vuint32mf2_t vs2, vint64m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei32_v_i64m1x7_m(vbool64_t vm, int64_t *rs1,
                                      vuint32mf2_t vs2, vint64m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei32_v_i64m1x8_m(vbool64_t vm, int64_t *rs1,
                                      vuint32mf2_t vs2, vint64m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_i64m2x2_m(vbool32_t vm, int64_t *rs1,
                                      vuint32m1_t vs2, vint64m2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_i64m2x3_m(vbool32_t vm, int64_t *rs1,
                                      vuint32m1_t vs2, vint64m2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_i64m2x4_m(vbool32_t vm, int64_t *rs1,
                                      vuint32m1_t vs2, vint64m2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_i64m4x2_m(vbool16_t vm, int64_t *rs1,
                                      vuint32m2_t vs2, vint64m4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_i64m1x2_m(vbool64_t vm, int64_t *rs1,
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                                    vuint64m1_t vs2, vint64m1x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_i64m1x3_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_i64m1x4_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei64_v_i64m1x5_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei64_v_i64m1x6_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei64_v_i64m1x7_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei64_v_i64m1x8_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_i64m2x2_m(vbool32_t vm, int64_t *rs1,
                                    vuint64m2_t vs2, vint64m2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_i64m2x3_m(vbool32_t vm, int64_t *rs1,
                                    vuint64m2_t vs2, vint64m2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_i64m2x4_m(vbool32_t vm, int64_t *rs1,
                                    vuint64m2_t vs2, vint64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_i64m4x2_m(vbool16_t vm, int64_t *rs1,
                                    vuint64m4_t vs2, vint64m4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei8_v_i8mf8x2_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i8mf8x3_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i8mf8x4_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i8mf8x5_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i8mf8x6_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i8mf8x7_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i8mf8x8_m(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                                   vint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i8mf4x2_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i8mf4x3_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i8mf4x4_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i8mf4x5_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i8mf4x6_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i8mf4x7_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i8mf4x8_m(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                                   vint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i8mf2x2_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                   vint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i8mf2x3_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                   vint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i8mf2x4_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                   vint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i8mf2x5_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
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                                    vint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i8mf2x6_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                    vint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i8mf2x7_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                    vint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i8mf2x8_m(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                                    vint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i8m1x2_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                   vint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i8m1x3_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                   vint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i8m1x4_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                   vint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_i8m1x5_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                   vint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_i8m1x6_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                   vint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_i8m1x7_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                   vint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_i8m1x8_m(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                                   vint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i8m2x2_m(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
                                   vint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_i8m2x3_m(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
                                   vint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_i8m2x4_m(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
                                   vint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i8m4x2_m(vbool2_t vm, int8_t *rs1, vuint8m4_t vs2,
                                   vint8m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i8mf8x2_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_i8mf8x3_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_i8mf8x4_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei16_v_i8mf8x5_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei16_v_i8mf8x6_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei16_v_i8mf8x7_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei16_v_i8mf8x8_m(vbool64_t vm, int8_t *rs1,
                                      vuint16mf4_t vs2, vint8mf8x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_i8mf4x2_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_i8mf4x3_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_i8mf4x4_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei16_v_i8mf4x5_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei16_v_i8mf4x6_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei16_v_i8mf4x7_m(vbool32_t vm, int8_t *rs1,
                                      vuint16mf2_t vs2, vint8mf4x7_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg8ei16_v_i8mf4x8_m(vbool32_t vm, int8_t *rs1,
                                    vuint16mf2_t vs2, vint8mf4x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei16_v_i8mf2x2_m(vbool16_t vm, int8_t *rs1,
                                    vuint16m1_t vs2, vint8mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei16_v_i8mf2x3_m(vbool16_t vm, int8_t *rs1,
                                    vuint16m1_t vs2, vint8mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei16_v_i8mf2x4_m(vbool16_t vm, int8_t *rs1,
                                    vuint16m1_t vs2, vint8mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei16_v_i8mf2x5_m(vbool16_t vm, int8_t *rs1,
                                    vuint16m1_t vs2, vint8mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei16_v_i8mf2x6_m(vbool16_t vm, int8_t *rs1,
                                    vuint16m1_t vs2, vint8mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei16_v_i8mf2x7_m(vbool16_t vm, int8_t *rs1,
                                    vuint16m1_t vs2, vint8mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei16_v_i8mf2x8_m(vbool16_t vm, int8_t *rs1,
                                    vuint16m1_t vs2, vint8mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei16_v_i8m1x2_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i8m1x3_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i8m1x4_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_i8m1x5_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_i8m1x6_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_i8m1x7_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_i8m1x8_m(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                                   vint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i8m2x2_m(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_i8m2x3_m(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_i8m2x4_m(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                                   vint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i8m4x2_m(vbool2_t vm, int8_t *rs1, vuint16m8_t vs2,
                                   vint8m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i8mf8x2_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei32_v_i8mf8x3_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei32_v_i8mf8x4_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei32_v_i8mf8x5_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei32_v_i8mf8x6_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei32_v_i8mf8x7_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei32_v_i8mf8x8_m(vbool64_t vm, int8_t *rs1,
                                    vuint32mf2_t vs2, vint8mf8x8_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg2ei32_v_i8mf4x2_m(vbool32_t vm, int8_t *rs1,
                                      vuint32m1_t vs2, vint8mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei32_v_i8mf4x3_m(vbool32_t vm, int8_t *rs1,
                                      vuint32m1_t vs2, vint8mf4x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei32_v_i8mf4x4_m(vbool32_t vm, int8_t *rs1,
                                      vuint32m1_t vs2, vint8mf4x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei32_v_i8mf4x5_m(vbool32_t vm, int8_t *rs1,
                                      vuint32m1_t vs2, vint8mf4x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei32_v_i8mf4x6_m(vbool32_t vm, int8_t *rs1,
                                      vuint32m1_t vs2, vint8mf4x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei32_v_i8mf4x7_m(vbool32_t vm, int8_t *rs1,
                                      vuint32m1_t vs2, vint8mf4x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei32_v_i8mf4x8_m(vbool32_t vm, int8_t *rs1,
                                      vuint32m1_t vs2, vint8mf4x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei32_v_i8mf2x2_m(vbool16_t vm, int8_t *rs1,
                                      vuint32m2_t vs2, vint8mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei32_v_i8mf2x3_m(vbool16_t vm, int8_t *rs1,
                                      vuint32m2_t vs2, vint8mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei32_v_i8mf2x4_m(vbool16_t vm, int8_t *rs1,
                                      vuint32m2_t vs2, vint8mf2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei32_v_i8mf2x5_m(vbool16_t vm, int8_t *rs1,
                                      vuint32m2_t vs2, vint8mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei32_v_i8mf2x6_m(vbool16_t vm, int8_t *rs1,
                                      vuint32m2_t vs2, vint8mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei32_v_i8mf2x7_m(vbool16_t vm, int8_t *rs1,
                                      vuint32m2_t vs2, vint8mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei32_v_i8mf2x8_m(vbool16_t vm, int8_t *rs1,
                                      vuint32m2_t vs2, vint8mf2x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei32_v_i8m1x2_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                     vint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i8m1x3_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                     vint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i8m1x4_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                     vint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_i8m1x5_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                     vint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_i8m1x6_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                     vint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_i8m1x7_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                     vint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_i8m1x8_m(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                                     vint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_i8m2x2_m(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
                                     vint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_i8m2x3_m(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
                                     vint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_i8m2x4_m(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
                                     vint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_i8mf8x2_m(vbool64_t vm, int8_t *rs1,
                                      vuint64m1_t vs2, vint8mf8x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei64_v_i8mf8x3_m(vbool64_t vm, int8_t *rs1,
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                                    vuint64m1_t vs2, vint8mf8x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei64_v_i8mf8x4_m(vbool64_t vm, int8_t *rs1,
                                    vuint64m1_t vs2, vint8mf8x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei64_v_i8mf8x5_m(vbool64_t vm, int8_t *rs1,
                                    vuint64m1_t vs2, vint8mf8x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei64_v_i8mf8x6_m(vbool64_t vm, int8_t *rs1,
                                    vuint64m1_t vs2, vint8mf8x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei64_v_i8mf8x7_m(vbool64_t vm, int8_t *rs1,
                                    vuint64m1_t vs2, vint8mf8x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei64_v_i8mf8x8_m(vbool64_t vm, int8_t *rs1,
                                    vuint64m1_t vs2, vint8mf8x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_i8mf4x2_m(vbool32_t vm, int8_t *rs1,
                                    vuint64m2_t vs2, vint8mf4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei64_v_i8mf4x3_m(vbool32_t vm, int8_t *rs1,
                                    vuint64m2_t vs2, vint8mf4x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei64_v_i8mf4x4_m(vbool32_t vm, int8_t *rs1,
                                    vuint64m2_t vs2, vint8mf4x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei64_v_i8mf4x5_m(vbool32_t vm, int8_t *rs1,
                                    vuint64m2_t vs2, vint8mf4x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei64_v_i8mf4x6_m(vbool32_t vm, int8_t *rs1,
                                    vuint64m2_t vs2, vint8mf4x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei64_v_i8mf4x7_m(vbool32_t vm, int8_t *rs1,
                                    vuint64m2_t vs2, vint8mf4x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei64_v_i8mf4x8_m(vbool32_t vm, int8_t *rs1,
                                    vuint64m2_t vs2, vint8mf4x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_i8mf2x2_m(vbool16_t vm, int8_t *rs1,
                                    vuint64m4_t vs2, vint8mf2x2_t vs3,
                                    size_t vl);
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                                    vuint64m4_t vs2, vint8mf2x3_t vs3,
                                    size_t vl);
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                                    vuint64m4_t vs2, vint8mf2x4_t vs3,
                                    size_t vl);
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                                    vuint64m4_t vs2, vint8mf2x5_t vs3,
                                    size_t vl);
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                                    vuint64m4_t vs2, vint8mf2x6_t vs3,
                                    size_t vl);
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                                    vuint64m4_t vs2, vint8mf2x7_t vs3,
                                    size_t vl);
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                                    vuint64m4_t vs2, vint8mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_i8m1x2_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_i8m1x3_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_i8m1x4_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                   vint8m1x4_t vs3, size_t vl);
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                                   vint8m1x5_t vs3, size_t vl);
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void __riscv_vsuxseg6ei64_v_i8m1x6_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                     vint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_i8m1x7_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                     vint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_i8m1x8_m(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                                     vint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i16mf4x2_m(vbool64_t vm, int16_t *rs1,
                                      vuint8mf8_t vs2, vint16mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei8_v_i16mf4x3_m(vbool64_t vm, int16_t *rs1,
                                      vuint8mf8_t vs2, vint16mf4x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei8_v_i16mf4x4_m(vbool64_t vm, int16_t *rs1,
                                      vuint8mf8_t vs2, vint16mf4x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei8_v_i16mf4x5_m(vbool64_t vm, int16_t *rs1,
                                      vuint8mf8_t vs2, vint16mf4x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei8_v_i16mf4x6_m(vbool64_t vm, int16_t *rs1,
                                      vuint8mf8_t vs2, vint16mf4x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei8_v_i16mf4x7_m(vbool64_t vm, int16_t *rs1,
                                      vuint8mf8_t vs2, vint16mf4x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei8_v_i16mf4x8_m(vbool64_t vm, int16_t *rs1,
                                      vuint8mf8_t vs2, vint16mf4x8_t vs3,
                                      size_t vl);
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                                      vuint8mf4_t vs2, vint16mf2x2_t vs3,
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                                      size_t vl);
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                                      vuint8mf4_t vs2, vint16mf2x4_t vs3,
                                      size_t vl);
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                                      vuint8mf4_t vs2, vint16mf2x5_t vs3,
                                      size_t vl);
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                                      vuint8mf4_t vs2, vint16mf2x6_t vs3,
                                      size_t vl);
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                                      vuint8mf4_t vs2, vint16mf2x7_t vs3,
                                      size_t vl);
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                                      vuint8mf4_t vs2, vint16mf2x8_t vs3,
                                      size_t vl);
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                                     vuint8mf2_t vs2, vint16m1x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei8_v_i16m1x3_m(vbool16_t vm, int16_t *rs1,
                                     vuint8mf2_t vs2, vint16m1x3_t vs3,
                                     size_t vl);
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                                     vuint8mf2_t vs2, vint16m1x4_t vs3,
                                     size_t vl);
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                                     vuint8mf2_t vs2, vint16m1x5_t vs3,
                                     size_t vl);
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                                     vuint8mf2_t vs2, vint16m1x6_t vs3,
                                     size_t vl);
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                                     vuint8mf2_t vs2, vint16m1x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei8_v_i16m1x8_m(vbool16_t vm, int16_t *rs1,
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                                    vuint8mf2_t vs2, vint16m1x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei8_v_i16m2x2_m(vbool8_t vm, int16_t *rs1, vuint8m1_t vs2,
                                    vint16m2x2_t vs3, size_t vl);
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                                    vint16m2x3_t vs3, size_t vl);
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                                    vint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_i16m4x2_m(vbool4_t vm, int16_t *rs1, vuint8m2_t vs2,
                                    vint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i16mf4x2_m(vbool64_t vm, int16_t *rs1,
                                      vuint16mf4_t vs2, vint16mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_i16mf4x3_m(vbool64_t vm, int16_t *rs1,
                                      vuint16mf4_t vs2, vint16mf4x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_i16mf4x4_m(vbool64_t vm, int16_t *rs1,
                                      vuint16mf4_t vs2, vint16mf4x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei16_v_i16mf4x5_m(vbool64_t vm, int16_t *rs1,
                                      vuint16mf4_t vs2, vint16mf4x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei16_v_i16mf4x6_m(vbool64_t vm, int16_t *rs1,
                                      vuint16mf4_t vs2, vint16mf4x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei16_v_i16mf4x7_m(vbool64_t vm, int16_t *rs1,
                                      vuint16mf4_t vs2, vint16mf4x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei16_v_i16mf4x8_m(vbool64_t vm, int16_t *rs1,
                                      vuint16mf4_t vs2, vint16mf4x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_i16mf2x2_m(vbool32_t vm, int16_t *rs1,
                                      vuint16mf2_t vs2, vint16mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_i16mf2x3_m(vbool32_t vm, int16_t *rs1,
                                      vuint16mf2_t vs2, vint16mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_i16mf2x4_m(vbool32_t vm, int16_t *rs1,
                                      vuint16mf2_t vs2, vint16mf2x4_t vs3,
                                      size_t vl);
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                                      vuint16mf2_t vs2, vint16mf2x5_t vs3,
                                      size_t vl);
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                                      vuint16mf2_t vs2, vint16mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei16_v_i16mf2x7_m(vbool32_t vm, int16_t *rs1,
                                      vuint16mf2_t vs2, vint16mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei16_v_i16mf2x8_m(vbool32_t vm, int16_t *rs1,
                                      vuint16mf2_t vs2, vint16mf2x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_i16m1x2_m(vbool16_t vm, int16_t *rs1,
                                     vuint16m1_t vs2, vint16m1x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei16_v_i16m1x3_m(vbool16_t vm, int16_t *rs1,
                                     vuint16m1_t vs2, vint16m1x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei16_v_i16m1x4_m(vbool16_t vm, int16_t *rs1,
                                     vuint16m1_t vs2, vint16m1x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei16_v_i16m1x5_m(vbool16_t vm, int16_t *rs1,
                                     vuint16m1_t vs2, vint16m1x5_t vs3,
                                     size_t vl);
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                                     vuint16m1_t vs2, vint16m1x6_t vs3,
                                     size_t vl);
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void __riscv_vsuxseg7ei16_v_i16m1x7_m(vbool16_t vm, int16_t *rs1,
                                      vuint16m1_t vs2, vint16m1x7_t vs3,
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                                      vuint16m1_t vs2, vint16m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_i16m2x2_m(vbool8_t vm, int16_t *rs1,
                                      vuint16m2_t vs2, vint16m2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_i16m2x3_m(vbool8_t vm, int16_t *rs1,
                                      vuint16m2_t vs2, vint16m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_i16m2x4_m(vbool8_t vm, int16_t *rs1,
                                      vuint16m2_t vs2, vint16m2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_i16m4x2_m(vbool4_t vm, int16_t *rs1,
                                      vuint16m4_t vs2, vint16m4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei32_v_i16mf4x2_m(vbool64_t vm, int16_t *rs1,
                                       vuint32mf2_t vs2, vint16mf4x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei32_v_i16mf4x3_m(vbool64_t vm, int16_t *rs1,
                                       vuint32mf2_t vs2, vint16mf4x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei32_v_i16mf4x4_m(vbool64_t vm, int16_t *rs1,
                                       vuint32mf2_t vs2, vint16mf4x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei32_v_i16mf4x5_m(vbool64_t vm, int16_t *rs1,
                                       vuint32mf2_t vs2, vint16mf4x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei32_v_i16mf4x6_m(vbool64_t vm, int16_t *rs1,
                                       vuint32mf2_t vs2, vint16mf4x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei32_v_i16mf4x7_m(vbool64_t vm, int16_t *rs1,
                                       vuint32mf2_t vs2, vint16mf4x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei32_v_i16mf4x8_m(vbool64_t vm, int16_t *rs1,
                                       vuint32mf2_t vs2, vint16mf4x8_t vs3,
                                       size_t vl);
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                                       vuint32m1_t vs2, vint16mf2x2_t vs3,
                                       size_t vl);
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                                       vuint32m1_t vs2, vint16mf2x3_t vs3,
                                       size_t vl);
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                                       vuint32m1_t vs2, vint16mf2x4_t vs3,
                                       size_t vl);
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                                       vuint32m1_t vs2, vint16mf2x5_t vs3,
                                       size_t vl);
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                                       vuint32m1_t vs2, vint16mf2x6_t vs3,
                                       size_t vl);
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                                       vuint32m1_t vs2, vint16mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei32_v_i16mf2x8_m(vbool32_t vm, int16_t *rs1,
                                       vuint32m1_t vs2, vint16mf2x8_t vs3,
                                       size_t vl);
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                                      vuint32m2_t vs2, vint16m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei32_v_i16m1x3_m(vbool16_t vm, int16_t *rs1,
                                      vuint32m2_t vs2, vint16m1x3_t vs3,
                                      size_t vl);
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                                    vuint32m2_t vs2, vint16m1x4_t vs3,
                                    size_t vl);
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                                    vuint32m2_t vs2, vint16m1x7_t vs3,
                                    size_t vl);
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                                    vuint32m2_t vs2, vint16m1x8_t vs3,
                                    size_t vl);
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                                    vuint32m4_t vs2, vint16m2x2_t vs3,
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                                    vuint32m8_t vs2, vint16m4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_i16mf4x2_m(vbool64_t vm, int16_t *rs1,
                                     vuint64m1_t vs2, vint16mf4x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei64_v_i16mf4x3_m(vbool64_t vm, int16_t *rs1,
                                     vuint64m1_t vs2, vint16mf4x3_t vs3,
                                     size_t vl);
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                                     vuint64m1_t vs2, vint16mf4x4_t vs3,
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                                     vuint64m1_t vs2, vint16mf4x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei64_v_i16mf4x6_m(vbool64_t vm, int16_t *rs1,
                                     vuint64m1_t vs2, vint16mf4x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei64_v_i16mf4x7_m(vbool64_t vm, int16_t *rs1,
                                     vuint64m1_t vs2, vint16mf4x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei64_v_i16mf4x8_m(vbool64_t vm, int16_t *rs1,
                                     vuint64m1_t vs2, vint16mf4x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei64_v_i16mf2x2_m(vbool32_t vm, int16_t *rs1,
                                     vuint64m2_t vs2, vint16mf2x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei64_v_i16mf2x3_m(vbool32_t vm, int16_t *rs1,
                                     vuint64m2_t vs2, vint16mf2x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei64_v_i16mf2x4_m(vbool32_t vm, int16_t *rs1,
                                     vuint64m2_t vs2, vint16mf2x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei64_v_i16mf2x5_m(vbool32_t vm, int16_t *rs1,
                                     vuint64m2_t vs2, vint16mf2x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei64_v_i16mf2x6_m(vbool32_t vm, int16_t *rs1,
                                     vuint64m2_t vs2, vint16mf2x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei64_v_i16mf2x7_m(vbool32_t vm, int16_t *rs1,
                                     vuint64m2_t vs2, vint16mf2x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei64_v_i16mf2x8_m(vbool32_t vm, int16_t *rs1,
                                     vuint64m2_t vs2, vint16mf2x8_t vs3,
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                                     size_t vl);
void __riscv_vsuxseg2ei64_v_i16m1x2_m(vbool16_t vm, int16_t *rs1,
                                      vuint64m4_t vs2, vint16m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei64_v_i16m1x3_m(vbool16_t vm, int16_t *rs1,
                                      vuint64m4_t vs2, vint16m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei64_v_i16m1x4_m(vbool16_t vm, int16_t *rs1,
                                      vuint64m4_t vs2, vint16m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei64_v_i16m1x5_m(vbool16_t vm, int16_t *rs1,
                                      vuint64m4_t vs2, vint16m1x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei64_v_i16m1x6_m(vbool16_t vm, int16_t *rs1,
                                      vuint64m4_t vs2, vint16m1x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei64_v_i16m1x7_m(vbool16_t vm, int16_t *rs1,
                                      vuint64m4_t vs2, vint16m1x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei64_v_i16m1x8_m(vbool16_t vm, int16_t *rs1,
                                      vuint64m4_t vs2, vint16m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei64_v_i16m2x2_m(vbool8_t vm, int16_t *rs1,
                                      vuint64m8_t vs2, vint16m2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei64_v_i16m2x3_m(vbool8_t vm, int16_t *rs1,
                                      vuint64m8_t vs2, vint16m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei64_v_i16m2x4_m(vbool8_t vm, int16_t *rs1,
                                      vuint64m8_t vs2, vint16m2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei8_v_i32mf2x2_m(vbool64_t vm, int32_t *rs1,
                                      vuint8mf8_t vs2, vint32mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei8_v_i32mf2x3_m(vbool64_t vm, int32_t *rs1,
                                      vuint8mf8_t vs2, vint32mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei8_v_i32mf2x4_m(vbool64_t vm, int32_t *rs1,
                                      vuint8mf8_t vs2, vint32mf2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei8_v_i32mf2x5_m(vbool64_t vm, int32_t *rs1,
                                      vuint8mf8_t vs2, vint32mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei8_v_i32mf2x6_m(vbool64_t vm, int32_t *rs1,
                                      vuint8mf8_t vs2, vint32mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei8_v_i32mf2x7_m(vbool64_t vm, int32_t *rs1,
                                      vuint8mf8_t vs2, vint32mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei8_v_i32mf2x8_m(vbool64_t vm, int32_t *rs1,
                                      vuint8mf8_t vs2, vint32mf2x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei8_v_i32m1x2_m(vbool32_t vm, int32_t *rs1,
                                     vuint8mf4_t vs2, vint32m1x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei8_v_i32m1x3_m(vbool32_t vm, int32_t *rs1,
                                     vuint8mf4_t vs2, vint32m1x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei8_v_i32m1x4_m(vbool32_t vm, int32_t *rs1,
                                     vuint8mf4_t vs2, vint32m1x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei8_v_i32m1x5_m(vbool32_t vm, int32_t *rs1,
                                     vuint8mf4_t vs2, vint32m1x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei8_v_i32m1x6_m(vbool32_t vm, int32_t *rs1,
                                     vuint8mf4_t vs2, vint32m1x6_t vs3,
                                     size_t vl);
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void __riscv_vsuxseg7ei8_v_i32m1x7_m(vbool32_t vm, int32_t *rs1,
                                     vuint8mf4_t vs2, vint32m1x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei8_v_i32m1x8_m(vbool32_t vm, int32_t *rs1,
                                     vuint8mf4_t vs2, vint32m1x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei8_v_i32m2x2_m(vbool16_t vm, int32_t *rs1,
                                     vuint8mf2_t vs2, vint32m2x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei8_v_i32m2x3_m(vbool16_t vm, int32_t *rs1,
                                     vuint8mf2_t vs2, vint32m2x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei8_v_i32m2x4_m(vbool16_t vm, int32_t *rs1,
                                     vuint8mf2_t vs2, vint32m2x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei8_v_i32m4x2_m(vbool8_t vm, int32_t *rs1, vuint8m1_t vs2,
                                     vint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_i32mf2x2_m(vbool64_t vm, int32_t *rs1,
                                       vuint16mf4_t vs2, vint32mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei16_v_i32mf2x3_m(vbool64_t vm, int32_t *rs1,
                                       vuint16mf4_t vs2, vint32mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei16_v_i32mf2x4_m(vbool64_t vm, int32_t *rs1,
                                       vuint16mf4_t vs2, vint32mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei16_v_i32mf2x5_m(vbool64_t vm, int32_t *rs1,
                                       vuint16mf4_t vs2, vint32mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei16_v_i32mf2x6_m(vbool64_t vm, int32_t *rs1,
                                       vuint16mf4_t vs2, vint32mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei16_v_i32mf2x7_m(vbool64_t vm, int32_t *rs1,
                                       vuint16mf4_t vs2, vint32mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei16_v_i32mf2x8_m(vbool64_t vm, int32_t *rs1,
                                       vuint16mf4_t vs2, vint32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei16_v_i32m1x2_m(vbool32_t vm, int32_t *rs1,
                                      vuint16mf2_t vs2, vint32m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_i32m1x3_m(vbool32_t vm, int32_t *rs1,
                                      vuint16mf2_t vs2, vint32m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_i32m1x4_m(vbool32_t vm, int32_t *rs1,
                                      vuint16mf2_t vs2, vint32m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei16_v_i32m1x5_m(vbool32_t vm, int32_t *rs1,
                                      vuint16mf2_t vs2, vint32m1x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei16_v_i32m1x6_m(vbool32_t vm, int32_t *rs1,
                                      vuint16mf2_t vs2, vint32m1x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei16_v_i32m1x7_m(vbool32_t vm, int32_t *rs1,
                                      vuint16mf2_t vs2, vint32m1x7_t vs3,
                                      size_t vl);
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                                      vuint16mf2_t vs2, vint32m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_i32m2x2_m(vbool16_t vm, int32_t *rs1,
                                      vuint16m1_t vs2, vint32m2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_i32m2x3_m(vbool16_t vm, int32_t *rs1,
                                      vuint16m1_t vs2, vint32m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_i32m2x4_m(vbool16_t vm, int32_t *rs1,
                                      vuint16m1_t vs2, vint32m2x4_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg2ei16_v_i32m4x2_m(vbool8_t vm, int32_t *rs1,
                                      vuint16m2_t vs2, vint32m4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei32_v_i32mf2x2_m(vbool64_t vm, int32_t *rs1,
                                       vuint32mf2_t vs2, vint32mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei32_v_i32mf2x3_m(vbool64_t vm, int32_t *rs1,
                                       vuint32mf2_t vs2, vint32mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei32_v_i32mf2x4_m(vbool64_t vm, int32_t *rs1,
                                       vuint32mf2_t vs2, vint32mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei32_v_i32mf2x5_m(vbool64_t vm, int32_t *rs1,
                                       vuint32mf2_t vs2, vint32mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei32_v_i32mf2x6_m(vbool64_t vm, int32_t *rs1,
                                       vuint32mf2_t vs2, vint32mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei32_v_i32mf2x7_m(vbool64_t vm, int32_t *rs1,
                                       vuint32mf2_t vs2, vint32mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei32_v_i32mf2x8_m(vbool64_t vm, int32_t *rs1,
                                       vuint32mf2_t vs2, vint32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei32_v_i32m1x2_m(vbool32_t vm, int32_t *rs1,
                                      vuint32m1_t vs2, vint32m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei32_v_i32m1x3_m(vbool32_t vm, int32_t *rs1,
                                      vuint32m1_t vs2, vint32m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei32_v_i32m1x4_m(vbool32_t vm, int32_t *rs1,
                                      vuint32m1_t vs2, vint32m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei32_v_i32m1x5_m(vbool32_t vm, int32_t *rs1,
                                      vuint32m1_t vs2, vint32m1x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei32_v_i32m1x6_m(vbool32_t vm, int32_t *rs1,
                                      vuint32m1_t vs2, vint32m1x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei32_v_i32m1x7_m(vbool32_t vm, int32_t *rs1,
                                      vuint32m1_t vs2, vint32m1x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei32_v_i32m1x8_m(vbool32_t vm, int32_t *rs1,
                                      vuint32m1_t vs2, vint32m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei32_v_i32m2x2_m(vbool16_t vm, int32_t *rs1,
                                      vuint32m2_t vs2, vint32m2x2_t vs3,
                                      size_t vl);
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                                      vuint32m2_t vs2, vint32m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei32_v_i32m2x4_m(vbool16_t vm, int32_t *rs1,
                                      vuint32m2_t vs2, vint32m2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei32_v_i32m4x2_m(vbool8_t vm, int32_t *rs1,
                                      vuint32m4_t vs2, vint32m4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei64_v_i32mf2x2_m(vbool64_t vm, int32_t *rs1,
                                       vuint64m1_t vs2, vint32mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei64_v_i32mf2x3_m(vbool64_t vm, int32_t *rs1,
                                       vuint64m1_t vs2, vint32mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei64_v_i32mf2x4_m(vbool64_t vm, int32_t *rs1,
                                       vuint64m1_t vs2, vint32mf2x4_t vs3,
                                       size_t vl);
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void __riscv_vsuxseg5ei64_v_i32mf2x5_m(vbool64_t vm, int32_t *rs1,
                                       vuint64m1_t vs2, vint32mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei64_v_i32mf2x6_m(vbool64_t vm, int32_t *rs1,
                                       vuint64m1_t vs2, vint32mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei64_v_i32mf2x7_m(vbool64_t vm, int32_t *rs1,
                                       vuint64m1_t vs2, vint32mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei64_v_i32mf2x8_m(vbool64_t vm, int32_t *rs1,
                                       vuint64m1_t vs2, vint32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei64_v_i32m1x2_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei64_v_i32m1x3_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei64_v_i32m1x4_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei64_v_i32m1x5_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei64_v_i32m1x6_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei64_v_i32m1x7_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei64_v_i32m1x8_m(vbool32_t vm, int32_t *rs1,
                                      vuint64m2_t vs2, vint32m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei64_v_i32m2x2_m(vbool16_t vm, int32_t *rs1,
                                      vuint64m4_t vs2, vint32m2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei64_v_i32m2x3_m(vbool16_t vm, int32_t *rs1,
                                      vuint64m4_t vs2, vint32m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei64_v_i32m2x4_m(vbool16_t vm, int32_t *rs1,
                                      vuint64m4_t vs2, vint32m2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei64_v_i32m4x2_m(vbool8_t vm, int32_t *rs1,
                                      vuint64m8_t vs2, vint32m4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei8_v_i64m1x2_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei8_v_i64m1x3_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei8_v_i64m1x4_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei8_v_i64m1x5_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei8_v_i64m1x6_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei8_v_i64m1x7_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei8_v_i64m1x8_m(vbool64_t vm, int64_t *rs1,
                                     vuint8mf8_t vs2, vint64m1x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei8_v_i64m2x2_m(vbool32_t vm, int64_t *rs1,
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                                    vuint8mf4_t vs2, vint64m2x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei8_v_i64m2x3_m(vbool32_t vm, int64_t *rs1,
                                    vuint8mf4_t vs2, vint64m2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei8_v_i64m2x4_m(vbool32_t vm, int64_t *rs1,
                                    vuint8mf4_t vs2, vint64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei8_v_i64m4x2_m(vbool16_t vm, int64_t *rs1,
                                    vuint8mf2_t vs2, vint64m4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei16_v_i64m1x2_m(vbool64_t vm, int64_t *rs1,
                                     vuint16mf4_t vs2, vint64m1x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei16_v_i64m1x3_m(vbool64_t vm, int64_t *rs1,
                                     vuint16mf4_t vs2, vint64m1x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei16_v_i64m1x4_m(vbool64_t vm, int64_t *rs1,
                                     vuint16mf4_t vs2, vint64m1x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei16_v_i64m1x5_m(vbool64_t vm, int64_t *rs1,
                                     vuint16mf4_t vs2, vint64m1x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei16_v_i64m1x6_m(vbool64_t vm, int64_t *rs1,
                                     vuint16mf4_t vs2, vint64m1x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei16_v_i64m1x7_m(vbool64_t vm, int64_t *rs1,
                                     vuint16mf4_t vs2, vint64m1x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei16_v_i64m1x8_m(vbool64_t vm, int64_t *rs1,
                                     vuint16mf4_t vs2, vint64m1x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei16_v_i64m2x2_m(vbool32_t vm, int64_t *rs1,
                                     vuint16mf2_t vs2, vint64m2x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei16_v_i64m2x3_m(vbool32_t vm, int64_t *rs1,
                                     vuint16mf2_t vs2, vint64m2x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei16_v_i64m2x4_m(vbool32_t vm, int64_t *rs1,
                                     vuint16mf2_t vs2, vint64m2x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei16_v_i64m4x2_m(vbool16_t vm, int64_t *rs1,
                                     vuint16m1_t vs2, vint64m4x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei32_v_i64m1x2_m(vbool64_t vm, int64_t *rs1,
                                     vuint32mf2_t vs2, vint64m1x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei32_v_i64m1x3_m(vbool64_t vm, int64_t *rs1,
                                     vuint32mf2_t vs2, vint64m1x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei32_v_i64m1x4_m(vbool64_t vm, int64_t *rs1,
                                     vuint32mf2_t vs2, vint64m1x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei32_v_i64m1x5_m(vbool64_t vm, int64_t *rs1,
                                     vuint32mf2_t vs2, vint64m1x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei32_v_i64m1x6_m(vbool64_t vm, int64_t *rs1,
                                     vuint32mf2_t vs2, vint64m1x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei32_v_i64m1x7_m(vbool64_t vm, int64_t *rs1,
                                     vuint32mf2_t vs2, vint64m1x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei32_v_i64m1x8_m(vbool64_t vm, int64_t *rs1,
                                     vuint32mf2_t vs2, vint64m1x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei32_v_i64m2x2_m(vbool32_t vm, int64_t *rs1,
                                     vuint32m1_t vs2, vint64m2x2_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg3ei32_v_i64m2x3_m(vbool32_t vm, int64_t *rs1,
                                    vuint32m1_t vs2, vint64m2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei32_v_i64m2x4_m(vbool32_t vm, int64_t *rs1,
                                    vuint32m1_t vs2, vint64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei32_v_i64m4x2_m(vbool16_t vm, int64_t *rs1,
                                    vuint32m2_t vs2, vint64m4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_i64m1x2_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei64_v_i64m1x3_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei64_v_i64m1x4_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei64_v_i64m1x5_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei64_v_i64m1x6_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei64_v_i64m1x7_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei64_v_i64m1x8_m(vbool64_t vm, int64_t *rs1,
                                    vuint64m1_t vs2, vint64m1x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_i64m2x2_m(vbool32_t vm, int64_t *rs1,
                                    vuint64m2_t vs2, vint64m2x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei64_v_i64m2x3_m(vbool32_t vm, int64_t *rs1,
                                    vuint64m2_t vs2, vint64m2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei64_v_i64m2x4_m(vbool32_t vm, int64_t *rs1,
                                    vuint64m2_t vs2, vint64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_i64m4x2_m(vbool16_t vm, int64_t *rs1,
                                    vuint64m4_t vs2, vint64m4x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei8_v_u8mf8x2_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei8_v_u8mf8x3_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei8_v_u8mf8x4_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg5ei8_v_u8mf8x5_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x5_t vs3,
                                   size_t vl);
void __riscv_vsoxseg6ei8_v_u8mf8x6_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x6_t vs3,
                                   size_t vl);
void __riscv_vsoxseg7ei8_v_u8mf8x7_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x7_t vs3,
                                   size_t vl);
void __riscv_vsoxseg8ei8_v_u8mf8x8_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x8_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei8_v_u8mf4x2_m(vbool32_t vm, uint8_t *rs1,
                                   vuint8mf4_t vs2, vuint8mf4x2_t vs3,
                                   size_t vl);
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void __riscv_vsoxseg3ei8_v_u8mf4x3_m(vbool32_t vm, uint8_t *rs1,
                                     vuint8mf4_t vs2, vuint8mf4x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei8_v_u8mf4x4_m(vbool32_t vm, uint8_t *rs1,
                                     vuint8mf4_t vs2, vuint8mf4x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei8_v_u8mf4x5_m(vbool32_t vm, uint8_t *rs1,
                                     vuint8mf4_t vs2, vuint8mf4x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei8_v_u8mf4x6_m(vbool32_t vm, uint8_t *rs1,
                                     vuint8mf4_t vs2, vuint8mf4x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei8_v_u8mf4x7_m(vbool32_t vm, uint8_t *rs1,
                                     vuint8mf4_t vs2, vuint8mf4x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei8_v_u8mf4x8_m(vbool32_t vm, uint8_t *rs1,
                                     vuint8mf4_t vs2, vuint8mf4x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei8_v_u8mf2x2_m(vbool16_t vm, uint8_t *rs1,
                                     vuint8mf2_t vs2, vuint8mf2x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei8_v_u8mf2x3_m(vbool16_t vm, uint8_t *rs1,
                                     vuint8mf2_t vs2, vuint8mf2x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei8_v_u8mf2x4_m(vbool16_t vm, uint8_t *rs1,
                                     vuint8mf2_t vs2, vuint8mf2x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei8_v_u8mf2x5_m(vbool16_t vm, uint8_t *rs1,
                                     vuint8mf2_t vs2, vuint8mf2x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei8_v_u8mf2x6_m(vbool16_t vm, uint8_t *rs1,
                                     vuint8mf2_t vs2, vuint8mf2x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei8_v_u8mf2x7_m(vbool16_t vm, uint8_t *rs1,
                                     vuint8mf2_t vs2, vuint8mf2x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei8_v_u8mf2x8_m(vbool16_t vm, uint8_t *rs1,
                                     vuint8mf2_t vs2, vuint8mf2x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei8_v_u8m1x2_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u8m1x3_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u8m1x4_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8_v_u8m1x5_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8_v_u8m1x6_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8_v_u8m1x7_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8_v_u8m1x8_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u8m2x2_m(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                                    vuint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u8m2x3_m(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                                    vuint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u8m2x4_m(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                                    vuint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u8m4x2_m(vbool2_t vm, uint8_t *rs1, vuint8m4_t vs2,
                                    vuint8m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u8mf8x2_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_u8mf8x3_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x3_t vs3,
                                      size_t vl);
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void __riscv_vsoxseg4ei16_v_u8mf8x4_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei16_v_u8mf8x5_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei16_v_u8mf8x6_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei16_v_u8mf8x7_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei16_v_u8mf8x8_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_u8mf4x2_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_u8mf4x3_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_u8mf4x4_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei16_v_u8mf4x5_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei16_v_u8mf4x6_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei16_v_u8mf4x7_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei16_v_u8mf4x8_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_u8mf2x2_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_u8mf2x3_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_u8mf2x4_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei16_v_u8mf2x5_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei16_v_u8mf2x6_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei16_v_u8mf2x7_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei16_v_u8mf2x8_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_u8m1x2_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u8m1x3_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u8m1x4_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16_v_u8m1x5_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16_v_u8m1x6_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x6_t vs3, size_t vl);
```

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void __riscv_vsoxseg7ei16_v_u8m1x7_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16_v_u8m1x8_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u8m2x2_m(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                                     vuint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16_v_u8m2x3_m(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                                     vuint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16_v_u8m2x4_m(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                                     vuint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u8m4x2_m(vbool2_t vm, uint8_t *rs1, vuint16m8_t vs2,
                                     vuint8m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u8mf8x2_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_u8mf8x3_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_u8mf8x4_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei32_v_u8mf8x5_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei32_v_u8mf8x6_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei32_v_u8mf8x7_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei32_v_u8mf8x8_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_u8mf4x2_m(vbool32_t vm, uint8_t *rs1,
                                      vuint32m1_t vs2, vuint8mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_u8mf4x3_m(vbool32_t vm, uint8_t *rs1,
                                      vuint32m1_t vs2, vuint8mf4x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_u8mf4x4_m(vbool32_t vm, uint8_t *rs1,
                                      vuint32m1_t vs2, vuint8mf4x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei32_v_u8mf4x5_m(vbool32_t vm, uint8_t *rs1,
                                      vuint32m1_t vs2, vuint8mf4x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei32_v_u8mf4x6_m(vbool32_t vm, uint8_t *rs1,
                                      vuint32m1_t vs2, vuint8mf4x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei32_v_u8mf4x7_m(vbool32_t vm, uint8_t *rs1,
                                      vuint32m1_t vs2, vuint8mf4x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei32_v_u8mf4x8_m(vbool32_t vm, uint8_t *rs1,
                                      vuint32m1_t vs2, vuint8mf4x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_u8mf2x2_m(vbool16_t vm, uint8_t *rs1,
                                      vuint32m2_t vs2, vuint8mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_u8mf2x3_m(vbool16_t vm, uint8_t *rs1,
                                      vuint32m2_t vs2, vuint8mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_u8mf2x4_m(vbool16_t vm, uint8_t *rs1,
                                      vuint32m2_t vs2, vuint8mf2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei32_v_u8mf2x5_m(vbool16_t vm, uint8_t *rs1,
                                      vuint32m2_t vs2, vuint8mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei32_v_u8mf2x6_m(vbool16_t vm, uint8_t *rs1,
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                                    vuint32m2_t vs2, vuint8mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei32_v_u8mf2x7_m(vbool16_t vm, uint8_t *rs1,
                                    vuint32m2_t vs2, vuint8mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei32_v_u8mf2x8_m(vbool16_t vm, uint8_t *rs1,
                                    vuint32m2_t vs2, vuint8mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei32_v_u8m1x2_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u8m1x3_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u8m1x4_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32_v_u8m1x5_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32_v_u8m1x6_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32_v_u8m1x7_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32_v_u8m1x8_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32_v_u8m2x2_m(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32_v_u8m2x3_m(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32_v_u8m2x4_m(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64_v_u8mf8x2_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_u8mf8x3_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_u8mf8x4_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei64_v_u8mf8x5_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei64_v_u8mf8x6_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei64_v_u8mf8x7_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei64_v_u8mf8x8_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_u8mf4x2_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_u8mf4x3_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_u8mf4x4_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei64_v_u8mf4x5_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei64_v_u8mf4x6_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei64_v_u8mf4x7_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x7_t vs3,
                                    size_t vl);
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void __riscv_vsoxseg8ei64_v_u8mf4x8_m(vbool32_t vm, uint8_t *rs1,
                                      vuint64m2_t vs2, vuint8mf4x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_u8mf2x2_m(vbool16_t vm, uint8_t *rs1,
                                      vuint64m4_t vs2, vuint8mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei64_v_u8mf2x3_m(vbool16_t vm, uint8_t *rs1,
                                      vuint64m4_t vs2, vuint8mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei64_v_u8mf2x4_m(vbool16_t vm, uint8_t *rs1,
                                      vuint64m4_t vs2, vuint8mf2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei64_v_u8mf2x5_m(vbool16_t vm, uint8_t *rs1,
                                      vuint64m4_t vs2, vuint8mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei64_v_u8mf2x6_m(vbool16_t vm, uint8_t *rs1,
                                      vuint64m4_t vs2, vuint8mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei64_v_u8mf2x7_m(vbool16_t vm, uint8_t *rs1,
                                      vuint64m4_t vs2, vuint8mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei64_v_u8mf2x8_m(vbool16_t vm, uint8_t *rs1,
                                      vuint64m4_t vs2, vuint8mf2x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_u8m1x2_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                     vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64_v_u8m1x3_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                     vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64_v_u8m1x4_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                     vuint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64_v_u8m1x5_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                     vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64_v_u8m1x6_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                     vuint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64_v_u8m1x7_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                     vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64_v_u8m1x8_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                     vuint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u16mf4x2_m(vbool64_t vm, uint16_t *rs1,
                                      vuint8mf8_t vs2, vuint16mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei8_v_u16mf4x3_m(vbool64_t vm, uint16_t *rs1,
                                      vuint8mf8_t vs2, vuint16mf4x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei8_v_u16mf4x4_m(vbool64_t vm, uint16_t *rs1,
                                      vuint8mf8_t vs2, vuint16mf4x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei8_v_u16mf4x5_m(vbool64_t vm, uint16_t *rs1,
                                      vuint8mf8_t vs2, vuint16mf4x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei8_v_u16mf4x6_m(vbool64_t vm, uint16_t *rs1,
                                      vuint8mf8_t vs2, vuint16mf4x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei8_v_u16mf4x7_m(vbool64_t vm, uint16_t *rs1,
                                      vuint8mf8_t vs2, vuint16mf4x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei8_v_u16mf4x8_m(vbool64_t vm, uint16_t *rs1,
                                      vuint8mf8_t vs2, vuint16mf4x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei8_v_u16mf2x2_m(vbool32_t vm, uint16_t *rs1,
                                      vuint8mf4_t vs2, vuint16mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei8_v_u16mf2x3_m(vbool32_t vm, uint16_t *rs1,
                                      vuint8mf4_t vs2, vuint16mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei8_v_u16mf2x4_m(vbool32_t vm, uint16_t *rs1,
                                      vuint8mf4_t vs2, vuint16mf2x4_t vs3,
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                                    size_t vl);
void __riscv_vsoxseg5ei8_v_u16mf2x5_m(vbool32_t vm, uint16_t *rs1,
                                      vuint8mf4_t vs2, vuint16mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei8_v_u16mf2x6_m(vbool32_t vm, uint16_t *rs1,
                                      vuint8mf4_t vs2, vuint16mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei8_v_u16mf2x7_m(vbool32_t vm, uint16_t *rs1,
                                      vuint8mf4_t vs2, vuint16mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei8_v_u16mf2x8_m(vbool32_t vm, uint16_t *rs1,
                                      vuint8mf4_t vs2, vuint16mf2x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei8_v_u16m1x2_m(vbool16_t vm, uint16_t *rs1,
                                     vuint8mf2_t vs2, vuint16m1x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei8_v_u16m1x3_m(vbool16_t vm, uint16_t *rs1,
                                     vuint8mf2_t vs2, vuint16m1x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei8_v_u16m1x4_m(vbool16_t vm, uint16_t *rs1,
                                     vuint8mf2_t vs2, vuint16m1x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei8_v_u16m1x5_m(vbool16_t vm, uint16_t *rs1,
                                     vuint8mf2_t vs2, vuint16m1x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei8_v_u16m1x6_m(vbool16_t vm, uint16_t *rs1,
                                     vuint8mf2_t vs2, vuint16m1x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei8_v_u16m1x7_m(vbool16_t vm, uint16_t *rs1,
                                     vuint8mf2_t vs2, vuint16m1x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei8_v_u16m1x8_m(vbool16_t vm, uint16_t *rs1,
                                     vuint8mf2_t vs2, vuint16m1x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei8_v_u16m2x2_m(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
                                     vuint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8_v_u16m2x3_m(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
                                     vuint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8_v_u16m2x4_m(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
                                     vuint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8_v_u16m4x2_m(vbool4_t vm, uint16_t *rs1, vuint8m2_t vs2,
                                     vuint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u16mf4x2_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei16_v_u16mf4x3_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei16_v_u16mf4x4_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x4_t vs3,
                                       size_t vl);
void __riscv_vsoxseg5ei16_v_u16mf4x5_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x5_t vs3,
                                       size_t vl);
void __riscv_vsoxseg6ei16_v_u16mf4x6_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x6_t vs3,
                                       size_t vl);
void __riscv_vsoxseg7ei16_v_u16mf4x7_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x7_t vs3,
                                       size_t vl);
void __riscv_vsoxseg8ei16_v_u16mf4x8_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei16_v_u16mf2x2_m(vbool32_t vm, uint16_t *rs1,
                                       vuint16mf2_t vs2, vuint16mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei16_v_u16mf2x3_m(vbool32_t vm, uint16_t *rs1,
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                                    vuint16mf2_t vs2, vuint16mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei16_v_u16mf2x4_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2_t vs2, vuint16mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei16_v_u16mf2x5_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2_t vs2, vuint16mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei16_v_u16mf2x6_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2_t vs2, vuint16mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei16_v_u16mf2x7_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2_t vs2, vuint16mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei16_v_u16mf2x8_m(vbool32_t vm, uint16_t *rs1,
                                    vuint16mf2_t vs2, vuint16mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei16_v_u16m1x2_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1_t vs2, vuint16m1x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei16_v_u16m1x3_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1_t vs2, vuint16m1x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei16_v_u16m1x4_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1_t vs2, vuint16m1x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg5ei16_v_u16m1x5_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1_t vs2, vuint16m1x5_t vs3,
                                   size_t vl);
void __riscv_vsoxseg6ei16_v_u16m1x6_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1_t vs2, vuint16m1x6_t vs3,
                                   size_t vl);
void __riscv_vsoxseg7ei16_v_u16m1x7_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1_t vs2, vuint16m1x7_t vs3,
                                   size_t vl);
void __riscv_vsoxseg8ei16_v_u16m1x8_m(vbool16_t vm, uint16_t *rs1,
                                   vuint16m1_t vs2, vuint16m1x8_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei16_v_u16m2x2_m(vbool8_t vm, uint16_t *rs1,
                                   vuint16m2_t vs2, vuint16m2x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei16_v_u16m2x3_m(vbool8_t vm, uint16_t *rs1,
                                   vuint16m2_t vs2, vuint16m2x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei16_v_u16m2x4_m(vbool8_t vm, uint16_t *rs1,
                                   vuint16m2_t vs2, vuint16m2x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei16_v_u16m4x2_m(vbool4_t vm, uint16_t *rs1,
                                   vuint16m4_t vs2, vuint16m4x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei32_v_u16mf4x2_m(vbool64_t vm, uint16_t *rs1,
                                    vuint32mf2_t vs2, vuint16mf4x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei32_v_u16mf4x3_m(vbool64_t vm, uint16_t *rs1,
                                    vuint32mf2_t vs2, vuint16mf4x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei32_v_u16mf4x4_m(vbool64_t vm, uint16_t *rs1,
                                    vuint32mf2_t vs2, vuint16mf4x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei32_v_u16mf4x5_m(vbool64_t vm, uint16_t *rs1,
                                    vuint32mf2_t vs2, vuint16mf4x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei32_v_u16mf4x6_m(vbool64_t vm, uint16_t *rs1,
                                    vuint32mf2_t vs2, vuint16mf4x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei32_v_u16mf4x7_m(vbool64_t vm, uint16_t *rs1,
                                    vuint32mf2_t vs2, vuint16mf4x7_t vs3,
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                                     size_t vl);
void __riscv_vsoxseg8ei32_v_u16mf4x8_m(vbool64_t vm, uint16_t *rs1,
                                       vuint32mf2_t vs2, vuint16mf4x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei32_v_u16mf2x2_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei32_v_u16mf2x3_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei32_v_u16mf2x4_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsoxseg5ei32_v_u16mf2x5_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsoxseg6ei32_v_u16mf2x6_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsoxseg7ei32_v_u16mf2x7_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsoxseg8ei32_v_u16mf2x8_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei32_v_u16m1x2_m(vbool16_t vm, uint16_t *rs1,
                                      vuint32m2_t vs2, vuint16m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_u16m1x3_m(vbool16_t vm, uint16_t *rs1,
                                      vuint32m2_t vs2, vuint16m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_u16m1x4_m(vbool16_t vm, uint16_t *rs1,
                                      vuint32m2_t vs2, vuint16m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei32_v_u16m1x5_m(vbool16_t vm, uint16_t *rs1,
                                      vuint32m2_t vs2, vuint16m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei32_v_u16m1x6_m(vbool16_t vm, uint16_t *rs1,
                                      vuint32m2_t vs2, vuint16m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei32_v_u16m1x7_m(vbool16_t vm, uint16_t *rs1,
                                      vuint32m2_t vs2, vuint16m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei32_v_u16m1x8_m(vbool16_t vm, uint16_t *rs1,
                                      vuint32m2_t vs2, vuint16m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_u16m2x2_m(vbool8_t vm, uint16_t *rs1,
                                      vuint32m4_t vs2, vuint16m2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_u16m2x3_m(vbool8_t vm, uint16_t *rs1,
                                      vuint32m4_t vs2, vuint16m2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_u16m2x4_m(vbool8_t vm, uint16_t *rs1,
                                      vuint32m4_t vs2, vuint16m2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_u16m4x2_m(vbool4_t vm, uint16_t *rs1,
                                      vuint32m8_t vs2, vuint16m4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_u16mf4x2_m(vbool64_t vm, uint16_t *rs1,
                                       vuint64m1_t vs2, vuint16mf4x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei64_v_u16mf4x3_m(vbool64_t vm, uint16_t *rs1,
                                       vuint64m1_t vs2, vuint16mf4x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei64_v_u16mf4x4_m(vbool64_t vm, uint16_t *rs1,
                                       vuint64m1_t vs2, vuint16mf4x4_t vs3,
                                       size_t vl);
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void __riscv_vsoxseg5ei64_v_u16mf4x5_m(vbool64_t vm, uint16_t *rs1,
                                       vuint64m1_t vs2, vuint16mf4x5_t vs3,
                                       size_t vl);
void __riscv_vsoxseg6ei64_v_u16mf4x6_m(vbool64_t vm, uint16_t *rs1,
                                       vuint64m1_t vs2, vuint16mf4x6_t vs3,
                                       size_t vl);
void __riscv_vsoxseg7ei64_v_u16mf4x7_m(vbool64_t vm, uint16_t *rs1,
                                       vuint64m1_t vs2, vuint16mf4x7_t vs3,
                                       size_t vl);
void __riscv_vsoxseg8ei64_v_u16mf4x8_m(vbool64_t vm, uint16_t *rs1,
                                       vuint64m1_t vs2, vuint16mf4x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei64_v_u16mf2x2_m(vbool32_t vm, uint16_t *rs1,
                                       vuint64m2_t vs2, vuint16mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei64_v_u16mf2x3_m(vbool32_t vm, uint16_t *rs1,
                                       vuint64m2_t vs2, vuint16mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei64_v_u16mf2x4_m(vbool32_t vm, uint16_t *rs1,
                                       vuint64m2_t vs2, vuint16mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsoxseg5ei64_v_u16mf2x5_m(vbool32_t vm, uint16_t *rs1,
                                       vuint64m2_t vs2, vuint16mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsoxseg6ei64_v_u16mf2x6_m(vbool32_t vm, uint16_t *rs1,
                                       vuint64m2_t vs2, vuint16mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsoxseg7ei64_v_u16mf2x7_m(vbool32_t vm, uint16_t *rs1,
                                       vuint64m2_t vs2, vuint16mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsoxseg8ei64_v_u16mf2x8_m(vbool32_t vm, uint16_t *rs1,
                                       vuint64m2_t vs2, vuint16mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei64_v_u16m1x2_m(vbool16_t vm, uint16_t *rs1,
                                      vuint64m4_t vs2, vuint16m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei64_v_u16m1x3_m(vbool16_t vm, uint16_t *rs1,
                                      vuint64m4_t vs2, vuint16m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei64_v_u16m1x4_m(vbool16_t vm, uint16_t *rs1,
                                      vuint64m4_t vs2, vuint16m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei64_v_u16m1x5_m(vbool16_t vm, uint16_t *rs1,
                                      vuint64m4_t vs2, vuint16m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei64_v_u16m1x6_m(vbool16_t vm, uint16_t *rs1,
                                      vuint64m4_t vs2, vuint16m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei64_v_u16m1x7_m(vbool16_t vm, uint16_t *rs1,
                                      vuint64m4_t vs2, vuint16m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei64_v_u16m1x8_m(vbool16_t vm, uint16_t *rs1,
                                      vuint64m4_t vs2, vuint16m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_u16m2x2_m(vbool8_t vm, uint16_t *rs1,
                                      vuint64m8_t vs2, vuint16m2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei64_v_u16m2x3_m(vbool8_t vm, uint16_t *rs1,
                                      vuint64m8_t vs2, vuint16m2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei64_v_u16m2x4_m(vbool8_t vm, uint16_t *rs1,
                                      vuint64m8_t vs2, vuint16m2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei8_v_u32mf2x2_m(vbool64_t vm, uint32_t *rs1,
                                      vuint8mf8_t vs2, vuint32mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei8_v_u32mf2x3_m(vbool64_t vm, uint32_t *rs1,
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                                    vuint8mf8_t vs2, vuint32mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei8_v_u32mf2x4_m(vbool64_t vm, uint32_t *rs1,
                                    vuint8mf8_t vs2, vuint32mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei8_v_u32mf2x5_m(vbool64_t vm, uint32_t *rs1,
                                    vuint8mf8_t vs2, vuint32mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei8_v_u32mf2x6_m(vbool64_t vm, uint32_t *rs1,
                                    vuint8mf8_t vs2, vuint32mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei8_v_u32mf2x7_m(vbool64_t vm, uint32_t *rs1,
                                    vuint8mf8_t vs2, vuint32mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei8_v_u32mf2x8_m(vbool64_t vm, uint32_t *rs1,
                                    vuint8mf8_t vs2, vuint32mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei8_v_u32m1x2_m(vbool32_t vm, uint32_t *rs1,
                                   vuint8mf4_t vs2, vuint32m1x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei8_v_u32m1x3_m(vbool32_t vm, uint32_t *rs1,
                                   vuint8mf4_t vs2, vuint32m1x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei8_v_u32m1x4_m(vbool32_t vm, uint32_t *rs1,
                                   vuint8mf4_t vs2, vuint32m1x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg5ei8_v_u32m1x5_m(vbool32_t vm, uint32_t *rs1,
                                   vuint8mf4_t vs2, vuint32m1x5_t vs3,
                                   size_t vl);
void __riscv_vsoxseg6ei8_v_u32m1x6_m(vbool32_t vm, uint32_t *rs1,
                                   vuint8mf4_t vs2, vuint32m1x6_t vs3,
                                   size_t vl);
void __riscv_vsoxseg7ei8_v_u32m1x7_m(vbool32_t vm, uint32_t *rs1,
                                   vuint8mf4_t vs2, vuint32m1x7_t vs3,
                                   size_t vl);
void __riscv_vsoxseg8ei8_v_u32m1x8_m(vbool32_t vm, uint32_t *rs1,
                                   vuint8mf4_t vs2, vuint32m1x8_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei8_v_u32m2x2_m(vbool16_t vm, uint32_t *rs1,
                                   vuint8mf2_t vs2, vuint32m2x2_t vs3,
                                   size_t vl);
void __riscv_vsoxseg3ei8_v_u32m2x3_m(vbool16_t vm, uint32_t *rs1,
                                   vuint8mf2_t vs2, vuint32m2x3_t vs3,
                                   size_t vl);
void __riscv_vsoxseg4ei8_v_u32m2x4_m(vbool16_t vm, uint32_t *rs1,
                                   vuint8mf2_t vs2, vuint32m2x4_t vs3,
                                   size_t vl);
void __riscv_vsoxseg2ei8_v_u32m4x2_m(vbool8_t vm, uint32_t *rs1, vuint8m1_t vs2,
                                   vuint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16_v_u32mf2x2_m(vbool64_t vm, uint32_t *rs1,
                                     vuint16mf4_t vs2, vuint32mf2x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei16_v_u32mf2x3_m(vbool64_t vm, uint32_t *rs1,
                                     vuint16mf4_t vs2, vuint32mf2x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei16_v_u32mf2x4_m(vbool64_t vm, uint32_t *rs1,
                                     vuint16mf4_t vs2, vuint32mf2x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei16_v_u32mf2x5_m(vbool64_t vm, uint32_t *rs1,
                                     vuint16mf4_t vs2, vuint32mf2x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei16_v_u32mf2x6_m(vbool64_t vm, uint32_t *rs1,
                                     vuint16mf4_t vs2, vuint32mf2x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei16_v_u32mf2x7_m(vbool64_t vm, uint32_t *rs1,
                                     vuint16mf4_t vs2, vuint32mf2x7_t vs3,
                                     size_t vl);
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void __riscv_vsoxseg8ei16_v_u32mf2x8_m(vbool64_t vm, uint32_t *rs1,
                                       vuint16mf4_t vs2, vuint32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei16_v_u32m1x2_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_u32m1x3_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_u32m1x4_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei16_v_u32m1x5_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei16_v_u32m1x6_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei16_v_u32m1x7_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei16_v_u32m1x8_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_u32m2x2_m(vbool16_t vm, uint32_t *rs1,
                                      vuint16m1_t vs2, vuint32m2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_u32m2x3_m(vbool16_t vm, uint32_t *rs1,
                                      vuint16m1_t vs2, vuint32m2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_u32m2x4_m(vbool16_t vm, uint32_t *rs1,
                                      vuint16m1_t vs2, vuint32m2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_u32m4x2_m(vbool8_t vm, uint32_t *rs1,
                                      vuint16m2_t vs2, vuint32m4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_u32mf2x2_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsoxseg3ei32_v_u32mf2x3_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsoxseg4ei32_v_u32mf2x4_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsoxseg5ei32_v_u32mf2x5_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsoxseg6ei32_v_u32mf2x6_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsoxseg7ei32_v_u32mf2x7_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsoxseg8ei32_v_u32mf2x8_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsoxseg2ei32_v_u32m1x2_m(vbool32_t vm, uint32_t *rs1,
                                      vuint32m1_t vs2, vuint32m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_u32m1x3_m(vbool32_t vm, uint32_t *rs1,
                                      vuint32m1_t vs2, vuint32m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_u32m1x4_m(vbool32_t vm, uint32_t *rs1,
                                      vuint32m1_t vs2, vuint32m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei32_v_u32m1x5_m(vbool32_t vm, uint32_t *rs1,
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                                    vuint32m1_t vs2, vuint32m1x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei32_v_u32m1x6_m(vbool32_t vm, uint32_t *rs1,
                                    vuint32m1_t vs2, vuint32m1x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei32_v_u32m1x7_m(vbool32_t vm, uint32_t *rs1,
                                    vuint32m1_t vs2, vuint32m1x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei32_v_u32m1x8_m(vbool32_t vm, uint32_t *rs1,
                                    vuint32m1_t vs2, vuint32m1x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei32_v_u32m2x2_m(vbool16_t vm, uint32_t *rs1,
                                    vuint32m2_t vs2, vuint32m2x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei32_v_u32m2x3_m(vbool16_t vm, uint32_t *rs1,
                                    vuint32m2_t vs2, vuint32m2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei32_v_u32m2x4_m(vbool16_t vm, uint32_t *rs1,
                                    vuint32m2_t vs2, vuint32m2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei32_v_u32m4x2_m(vbool8_t vm, uint32_t *rs1,
                                    vuint32m4_t vs2, vuint32m4x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_u32mf2x2_m(vbool64_t vm, uint32_t *rs1,
                                     vuint64m1_t vs2, vuint32mf2x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei64_v_u32mf2x3_m(vbool64_t vm, uint32_t *rs1,
                                     vuint64m1_t vs2, vuint32mf2x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei64_v_u32mf2x4_m(vbool64_t vm, uint32_t *rs1,
                                     vuint64m1_t vs2, vuint32mf2x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei64_v_u32mf2x5_m(vbool64_t vm, uint32_t *rs1,
                                     vuint64m1_t vs2, vuint32mf2x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei64_v_u32mf2x6_m(vbool64_t vm, uint32_t *rs1,
                                     vuint64m1_t vs2, vuint32mf2x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei64_v_u32mf2x7_m(vbool64_t vm, uint32_t *rs1,
                                     vuint64m1_t vs2, vuint32mf2x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei64_v_u32mf2x8_m(vbool64_t vm, uint32_t *rs1,
                                     vuint64m1_t vs2, vuint32mf2x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei64_v_u32m1x2_m(vbool32_t vm, uint32_t *rs1,
                                    vuint64m2_t vs2, vuint32m1x2_t vs3,
                                    size_t vl);
void __riscv_vsoxseg3ei64_v_u32m1x3_m(vbool32_t vm, uint32_t *rs1,
                                    vuint64m2_t vs2, vuint32m1x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_u32m1x4_m(vbool32_t vm, uint32_t *rs1,
                                    vuint64m2_t vs2, vuint32m1x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg5ei64_v_u32m1x5_m(vbool32_t vm, uint32_t *rs1,
                                    vuint64m2_t vs2, vuint32m1x5_t vs3,
                                    size_t vl);
void __riscv_vsoxseg6ei64_v_u32m1x6_m(vbool32_t vm, uint32_t *rs1,
                                    vuint64m2_t vs2, vuint32m1x6_t vs3,
                                    size_t vl);
void __riscv_vsoxseg7ei64_v_u32m1x7_m(vbool32_t vm, uint32_t *rs1,
                                    vuint64m2_t vs2, vuint32m1x7_t vs3,
                                    size_t vl);
void __riscv_vsoxseg8ei64_v_u32m1x8_m(vbool32_t vm, uint32_t *rs1,
                                    vuint64m2_t vs2, vuint32m1x8_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_u32m2x2_m(vbool16_t vm, uint32_t *rs1,
                                    vuint64m4_t vs2, vuint32m2x2_t vs3,
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                                    size_t vl);
void __riscv_vsoxseg3ei64_v_u32m2x3_m(vbool16_t vm, uint32_t *rs1,
                                      vuint64m4_t vs2, vuint32m2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei64_v_u32m2x4_m(vbool16_t vm, uint32_t *rs1,
                                      vuint64m4_t vs2, vuint32m2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_u32m4x2_m(vbool8_t vm, uint32_t *rs1,
                                      vuint64m8_t vs2, vuint32m4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei8_v_u64m1x2_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei8_v_u64m1x3_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei8_v_u64m1x4_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg5ei8_v_u64m1x5_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x5_t vs3,
                                     size_t vl);
void __riscv_vsoxseg6ei8_v_u64m1x6_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x6_t vs3,
                                     size_t vl);
void __riscv_vsoxseg7ei8_v_u64m1x7_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x7_t vs3,
                                     size_t vl);
void __riscv_vsoxseg8ei8_v_u64m1x8_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x8_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei8_v_u64m2x2_m(vbool32_t vm, uint64_t *rs1,
                                     vuint8mf4_t vs2, vuint64m2x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg3ei8_v_u64m2x3_m(vbool32_t vm, uint64_t *rs1,
                                     vuint8mf4_t vs2, vuint64m2x3_t vs3,
                                     size_t vl);
void __riscv_vsoxseg4ei8_v_u64m2x4_m(vbool32_t vm, uint64_t *rs1,
                                     vuint8mf4_t vs2, vuint64m2x4_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei8_v_u64m4x2_m(vbool16_t vm, uint64_t *rs1,
                                     vuint8mf2_t vs2, vuint64m4x2_t vs3,
                                     size_t vl);
void __riscv_vsoxseg2ei16_v_u64m1x2_m(vbool64_t vm, uint64_t *rs1,
                                      vuint16mf4_t vs2, vuint64m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei16_v_u64m1x3_m(vbool64_t vm, uint64_t *rs1,
                                      vuint16mf4_t vs2, vuint64m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_u64m1x4_m(vbool64_t vm, uint64_t *rs1,
                                      vuint16mf4_t vs2, vuint64m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei16_v_u64m1x5_m(vbool64_t vm, uint64_t *rs1,
                                      vuint16mf4_t vs2, vuint64m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei16_v_u64m1x6_m(vbool64_t vm, uint64_t *rs1,
                                      vuint16mf4_t vs2, vuint64m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei16_v_u64m1x7_m(vbool64_t vm, uint64_t *rs1,
                                      vuint16mf4_t vs2, vuint64m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei16_v_u64m1x8_m(vbool64_t vm, uint64_t *rs1,
                                      vuint16mf4_t vs2, vuint64m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_u64m2x2_m(vbool32_t vm, uint64_t *rs1,
                                      vuint16mf2_t vs2, vuint64m2x2_t vs3,
                                      size_t vl);
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void __riscv_vsoxseg3ei16_v_u64m2x3_m(vbool32_t vm, uint64_t *rs1,
                                      vuint16mf2_t vs2, vuint64m2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei16_v_u64m2x4_m(vbool32_t vm, uint64_t *rs1,
                                      vuint16mf2_t vs2, vuint64m2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei16_v_u64m4x2_m(vbool16_t vm, uint64_t *rs1,
                                      vuint16m1_t vs2, vuint64m4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_u64m1x2_m(vbool64_t vm, uint64_t *rs1,
                                      vuint32mf2_t vs2, vuint64m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_u64m1x3_m(vbool64_t vm, uint64_t *rs1,
                                      vuint32mf2_t vs2, vuint64m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_u64m1x4_m(vbool64_t vm, uint64_t *rs1,
                                      vuint32mf2_t vs2, vuint64m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei32_v_u64m1x5_m(vbool64_t vm, uint64_t *rs1,
                                      vuint32mf2_t vs2, vuint64m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei32_v_u64m1x6_m(vbool64_t vm, uint64_t *rs1,
                                      vuint32mf2_t vs2, vuint64m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei32_v_u64m1x7_m(vbool64_t vm, uint64_t *rs1,
                                      vuint32mf2_t vs2, vuint64m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei32_v_u64m1x8_m(vbool64_t vm, uint64_t *rs1,
                                      vuint32mf2_t vs2, vuint64m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_u64m2x2_m(vbool32_t vm, uint64_t *rs1,
                                      vuint32m1_t vs2, vuint64m2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei32_v_u64m2x3_m(vbool32_t vm, uint64_t *rs1,
                                      vuint32m1_t vs2, vuint64m2x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei32_v_u64m2x4_m(vbool32_t vm, uint64_t *rs1,
                                      vuint32m1_t vs2, vuint64m2x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei32_v_u64m4x2_m(vbool16_t vm, uint64_t *rs1,
                                      vuint32m2_t vs2, vuint64m4x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_u64m1x2_m(vbool64_t vm, uint64_t *rs1,
                                      vuint64m1_t vs2, vuint64m1x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei64_v_u64m1x3_m(vbool64_t vm, uint64_t *rs1,
                                      vuint64m1_t vs2, vuint64m1x3_t vs3,
                                      size_t vl);
void __riscv_vsoxseg4ei64_v_u64m1x4_m(vbool64_t vm, uint64_t *rs1,
                                      vuint64m1_t vs2, vuint64m1x4_t vs3,
                                      size_t vl);
void __riscv_vsoxseg5ei64_v_u64m1x5_m(vbool64_t vm, uint64_t *rs1,
                                      vuint64m1_t vs2, vuint64m1x5_t vs3,
                                      size_t vl);
void __riscv_vsoxseg6ei64_v_u64m1x6_m(vbool64_t vm, uint64_t *rs1,
                                      vuint64m1_t vs2, vuint64m1x6_t vs3,
                                      size_t vl);
void __riscv_vsoxseg7ei64_v_u64m1x7_m(vbool64_t vm, uint64_t *rs1,
                                      vuint64m1_t vs2, vuint64m1x7_t vs3,
                                      size_t vl);
void __riscv_vsoxseg8ei64_v_u64m1x8_m(vbool64_t vm, uint64_t *rs1,
                                      vuint64m1_t vs2, vuint64m1x8_t vs3,
                                      size_t vl);
void __riscv_vsoxseg2ei64_v_u64m2x2_m(vbool32_t vm, uint64_t *rs1,
                                      vuint64m2_t vs2, vuint64m2x2_t vs3,
                                      size_t vl);
void __riscv_vsoxseg3ei64_v_u64m2x3_m(vbool32_t vm, uint64_t *rs1,
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                                    vuint64m2_t vs2, vuint64m2x3_t vs3,
                                    size_t vl);
void __riscv_vsoxseg4ei64_v_u64m2x4_m(vbool32_t vm, uint64_t *rs1,
                                    vuint64m2_t vs2, vuint64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsoxseg2ei64_v_u64m4x2_m(vbool16_t vm, uint64_t *rs1,
                                    vuint64m4_t vs2, vuint64m4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei8_v_u8mf8x2_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x2_t vs3,
                                   size_t vl);
void __riscv_vsuxseg3ei8_v_u8mf8x3_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x3_t vs3,
                                   size_t vl);
void __riscv_vsuxseg4ei8_v_u8mf8x4_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x4_t vs3,
                                   size_t vl);
void __riscv_vsuxseg5ei8_v_u8mf8x5_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x5_t vs3,
                                   size_t vl);
void __riscv_vsuxseg6ei8_v_u8mf8x6_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x6_t vs3,
                                   size_t vl);
void __riscv_vsuxseg7ei8_v_u8mf8x7_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x7_t vs3,
                                   size_t vl);
void __riscv_vsuxseg8ei8_v_u8mf8x8_m(vbool64_t vm, uint8_t *rs1,
                                   vuint8mf8_t vs2, vuint8mf8x8_t vs3,
                                   size_t vl);
void __riscv_vsuxseg2ei8_v_u8mf4x2_m(vbool32_t vm, uint8_t *rs1,
                                   vuint8mf4_t vs2, vuint8mf4x2_t vs3,
                                   size_t vl);
void __riscv_vsuxseg3ei8_v_u8mf4x3_m(vbool32_t vm, uint8_t *rs1,
                                   vuint8mf4_t vs2, vuint8mf4x3_t vs3,
                                   size_t vl);
void __riscv_vsuxseg4ei8_v_u8mf4x4_m(vbool32_t vm, uint8_t *rs1,
                                   vuint8mf4_t vs2, vuint8mf4x4_t vs3,
                                   size_t vl);
void __riscv_vsuxseg5ei8_v_u8mf4x5_m(vbool32_t vm, uint8_t *rs1,
                                   vuint8mf4_t vs2, vuint8mf4x5_t vs3,
                                   size_t vl);
void __riscv_vsuxseg6ei8_v_u8mf4x6_m(vbool32_t vm, uint8_t *rs1,
                                   vuint8mf4_t vs2, vuint8mf4x6_t vs3,
                                   size_t vl);
void __riscv_vsuxseg7ei8_v_u8mf4x7_m(vbool32_t vm, uint8_t *rs1,
                                   vuint8mf4_t vs2, vuint8mf4x7_t vs3,
                                   size_t vl);
void __riscv_vsuxseg8ei8_v_u8mf4x8_m(vbool32_t vm, uint8_t *rs1,
                                   vuint8mf4_t vs2, vuint8mf4x8_t vs3,
                                   size_t vl);
void __riscv_vsuxseg2ei8_v_u8mf2x2_m(vbool16_t vm, uint8_t *rs1,
                                   vuint8mf2_t vs2, vuint8mf2x2_t vs3,
                                   size_t vl);
void __riscv_vsuxseg3ei8_v_u8mf2x3_m(vbool16_t vm, uint8_t *rs1,
                                   vuint8mf2_t vs2, vuint8mf2x3_t vs3,
                                   size_t vl);
void __riscv_vsuxseg4ei8_v_u8mf2x4_m(vbool16_t vm, uint8_t *rs1,
                                   vuint8mf2_t vs2, vuint8mf2x4_t vs3,
                                   size_t vl);
void __riscv_vsuxseg5ei8_v_u8mf2x5_m(vbool16_t vm, uint8_t *rs1,
                                   vuint8mf2_t vs2, vuint8mf2x5_t vs3,
                                   size_t vl);
void __riscv_vsuxseg6ei8_v_u8mf2x6_m(vbool16_t vm, uint8_t *rs1,
                                   vuint8mf2_t vs2, vuint8mf2x6_t vs3,
                                   size_t vl);
void __riscv_vsuxseg7ei8_v_u8mf2x7_m(vbool16_t vm, uint8_t *rs1,
                                   vuint8mf2_t vs2, vuint8mf2x7_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg8ei8_v_u8mf2x8_m(vbool16_t vm, uint8_t *rs1,
                                     vuint8mf2_t vs2, vuint8mf2x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei8_v_u8m1x2_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u8m1x3_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u8m1x4_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8_v_u8m1x5_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8_v_u8m1x6_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8_v_u8m1x7_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8_v_u8m1x8_m(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                                    vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u8m2x2_m(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                                    vuint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u8m2x3_m(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                                    vuint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u8m2x4_m(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                                    vuint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u8m4x2_m(vbool2_t vm, uint8_t *rs1, vuint8m4_t vs2,
                                    vuint8m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u8mf8x2_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_u8mf8x3_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_u8mf8x4_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei16_v_u8mf8x5_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei16_v_u8mf8x6_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei16_v_u8mf8x7_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei16_v_u8mf8x8_m(vbool64_t vm, uint8_t *rs1,
                                      vuint16mf4_t vs2, vuint8mf8x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_u8mf4x2_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_u8mf4x3_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_u8mf4x4_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei16_v_u8mf4x5_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei16_v_u8mf4x6_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei16_v_u8mf4x7_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei16_v_u8mf4x8_m(vbool32_t vm, uint8_t *rs1,
                                      vuint16mf2_t vs2, vuint8mf4x8_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg2ei16_v_u8mf2x2_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_u8mf2x3_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_u8mf2x4_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei16_v_u8mf2x5_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei16_v_u8mf2x6_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei16_v_u8mf2x7_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei16_v_u8mf2x8_m(vbool16_t vm, uint8_t *rs1,
                                      vuint16m1_t vs2, vuint8mf2x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_u8m1x2_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u8m1x3_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u8m1x4_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16_v_u8m1x5_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16_v_u8m1x6_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16_v_u8m1x7_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16_v_u8m1x8_m(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                                     vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u8m2x2_m(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                                     vuint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16_v_u8m2x3_m(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                                     vuint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16_v_u8m2x4_m(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                                     vuint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u8m4x2_m(vbool2_t vm, uint8_t *rs1, vuint16m8_t vs2,
                                     vuint8m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u8mf8x2_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei32_v_u8mf8x3_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei32_v_u8mf8x4_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei32_v_u8mf8x5_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei32_v_u8mf8x6_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei32_v_u8mf8x7_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei32_v_u8mf8x8_m(vbool64_t vm, uint8_t *rs1,
                                      vuint32mf2_t vs2, vuint8mf8x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei32_v_u8mf4x2_m(vbool32_t vm, uint8_t *rs1,
                                      vuint32m1_t vs2, vuint8mf4x2_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg3ei32_v_u8mf4x3_m(vbool32_t vm, uint8_t *rs1,
                                    vuint32m1_t vs2, vuint8mf4x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei32_v_u8mf4x4_m(vbool32_t vm, uint8_t *rs1,
                                    vuint32m1_t vs2, vuint8mf4x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei32_v_u8mf4x5_m(vbool32_t vm, uint8_t *rs1,
                                    vuint32m1_t vs2, vuint8mf4x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei32_v_u8mf4x6_m(vbool32_t vm, uint8_t *rs1,
                                    vuint32m1_t vs2, vuint8mf4x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei32_v_u8mf4x7_m(vbool32_t vm, uint8_t *rs1,
                                    vuint32m1_t vs2, vuint8mf4x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei32_v_u8mf4x8_m(vbool32_t vm, uint8_t *rs1,
                                    vuint32m1_t vs2, vuint8mf4x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei32_v_u8mf2x2_m(vbool16_t vm, uint8_t *rs1,
                                    vuint32m2_t vs2, vuint8mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei32_v_u8mf2x3_m(vbool16_t vm, uint8_t *rs1,
                                    vuint32m2_t vs2, vuint8mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei32_v_u8mf2x4_m(vbool16_t vm, uint8_t *rs1,
                                    vuint32m2_t vs2, vuint8mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei32_v_u8mf2x5_m(vbool16_t vm, uint8_t *rs1,
                                    vuint32m2_t vs2, vuint8mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei32_v_u8mf2x6_m(vbool16_t vm, uint8_t *rs1,
                                    vuint32m2_t vs2, vuint8mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei32_v_u8mf2x7_m(vbool16_t vm, uint8_t *rs1,
                                    vuint32m2_t vs2, vuint8mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei32_v_u8mf2x8_m(vbool16_t vm, uint8_t *rs1,
                                    vuint32m2_t vs2, vuint8mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei32_v_u8m1x2_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u8m1x3_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u8m1x4_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32_v_u8m1x5_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32_v_u8m1x6_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32_v_u8m1x7_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32_v_u8m1x8_m(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                                   vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32_v_u8m2x2_m(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32_v_u8m2x3_m(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32_v_u8m2x4_m(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                                   vuint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64_v_u8mf8x2_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei64_v_u8mf8x3_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei64_v_u8mf8x4_m(vbool64_t vm, uint8_t *rs1,
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                                    vuint64m1_t vs2, vuint8mf8x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei64_v_u8mf8x5_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei64_v_u8mf8x6_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei64_v_u8mf8x7_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei64_v_u8mf8x8_m(vbool64_t vm, uint8_t *rs1,
                                    vuint64m1_t vs2, vuint8mf8x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_u8mf4x2_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei64_v_u8mf4x3_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei64_v_u8mf4x4_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei64_v_u8mf4x5_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei64_v_u8mf4x6_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei64_v_u8mf4x7_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei64_v_u8mf4x8_m(vbool32_t vm, uint8_t *rs1,
                                    vuint64m2_t vs2, vuint8mf4x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_u8mf2x2_m(vbool16_t vm, uint8_t *rs1,
                                    vuint64m4_t vs2, vuint8mf2x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei64_v_u8mf2x3_m(vbool16_t vm, uint8_t *rs1,
                                    vuint64m4_t vs2, vuint8mf2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei64_v_u8mf2x4_m(vbool16_t vm, uint8_t *rs1,
                                    vuint64m4_t vs2, vuint8mf2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei64_v_u8mf2x5_m(vbool16_t vm, uint8_t *rs1,
                                    vuint64m4_t vs2, vuint8mf2x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei64_v_u8mf2x6_m(vbool16_t vm, uint8_t *rs1,
                                    vuint64m4_t vs2, vuint8mf2x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei64_v_u8mf2x7_m(vbool16_t vm, uint8_t *rs1,
                                    vuint64m4_t vs2, vuint8mf2x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei64_v_u8mf2x8_m(vbool16_t vm, uint8_t *rs1,
                                    vuint64m4_t vs2, vuint8mf2x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_u8m1x2_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64_v_u8m1x3_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64_v_u8m1x4_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64_v_u8m1x5_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64_v_u8m1x6_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                   vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64_v_u8m1x7_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
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                                    vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64_v_u8m1x8_m(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                                    vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u16mf4x2_m(vbool64_t vm, uint16_t *rs1,
                                     vuint8mf8_t vs2, vuint16mf4x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei8_v_u16mf4x3_m(vbool64_t vm, uint16_t *rs1,
                                     vuint8mf8_t vs2, vuint16mf4x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei8_v_u16mf4x4_m(vbool64_t vm, uint16_t *rs1,
                                     vuint8mf8_t vs2, vuint16mf4x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei8_v_u16mf4x5_m(vbool64_t vm, uint16_t *rs1,
                                     vuint8mf8_t vs2, vuint16mf4x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei8_v_u16mf4x6_m(vbool64_t vm, uint16_t *rs1,
                                     vuint8mf8_t vs2, vuint16mf4x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei8_v_u16mf4x7_m(vbool64_t vm, uint16_t *rs1,
                                     vuint8mf8_t vs2, vuint16mf4x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei8_v_u16mf4x8_m(vbool64_t vm, uint16_t *rs1,
                                     vuint8mf8_t vs2, vuint16mf4x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei8_v_u16mf2x2_m(vbool32_t vm, uint16_t *rs1,
                                     vuint8mf4_t vs2, vuint16mf2x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei8_v_u16mf2x3_m(vbool32_t vm, uint16_t *rs1,
                                     vuint8mf4_t vs2, vuint16mf2x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei8_v_u16mf2x4_m(vbool32_t vm, uint16_t *rs1,
                                     vuint8mf4_t vs2, vuint16mf2x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei8_v_u16mf2x5_m(vbool32_t vm, uint16_t *rs1,
                                     vuint8mf4_t vs2, vuint16mf2x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei8_v_u16mf2x6_m(vbool32_t vm, uint16_t *rs1,
                                     vuint8mf4_t vs2, vuint16mf2x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei8_v_u16mf2x7_m(vbool32_t vm, uint16_t *rs1,
                                     vuint8mf4_t vs2, vuint16mf2x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei8_v_u16mf2x8_m(vbool32_t vm, uint16_t *rs1,
                                     vuint8mf4_t vs2, vuint16mf2x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei8_v_u16m1x2_m(vbool16_t vm, uint16_t *rs1,
                                    vuint8mf2_t vs2, vuint16m1x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei8_v_u16m1x3_m(vbool16_t vm, uint16_t *rs1,
                                    vuint8mf2_t vs2, vuint16m1x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei8_v_u16m1x4_m(vbool16_t vm, uint16_t *rs1,
                                    vuint8mf2_t vs2, vuint16m1x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei8_v_u16m1x5_m(vbool16_t vm, uint16_t *rs1,
                                    vuint8mf2_t vs2, vuint16m1x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei8_v_u16m1x6_m(vbool16_t vm, uint16_t *rs1,
                                    vuint8mf2_t vs2, vuint16m1x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei8_v_u16m1x7_m(vbool16_t vm, uint16_t *rs1,
                                    vuint8mf2_t vs2, vuint16m1x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei8_v_u16m1x8_m(vbool16_t vm, uint16_t *rs1,
                                    vuint8mf2_t vs2, vuint16m1x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei8_v_u16m2x2_m(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
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                                    vuint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8_v_u16m2x3_m(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
                                    vuint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8_v_u16m2x4_m(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
                                    vuint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8_v_u16m4x2_m(vbool4_t vm, uint16_t *rs1, vuint8m2_t vs2,
                                    vuint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u16mf4x2_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei16_v_u16mf4x3_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei16_v_u16mf4x4_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei16_v_u16mf4x5_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei16_v_u16mf4x6_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei16_v_u16mf4x7_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei16_v_u16mf4x8_m(vbool64_t vm, uint16_t *rs1,
                                       vuint16mf4_t vs2, vuint16mf4x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei16_v_u16mf2x2_m(vbool32_t vm, uint16_t *rs1,
                                       vuint16mf2_t vs2, vuint16mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei16_v_u16mf2x3_m(vbool32_t vm, uint16_t *rs1,
                                       vuint16mf2_t vs2, vuint16mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei16_v_u16mf2x4_m(vbool32_t vm, uint16_t *rs1,
                                       vuint16mf2_t vs2, vuint16mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei16_v_u16mf2x5_m(vbool32_t vm, uint16_t *rs1,
                                       vuint16mf2_t vs2, vuint16mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei16_v_u16mf2x6_m(vbool32_t vm, uint16_t *rs1,
                                       vuint16mf2_t vs2, vuint16mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei16_v_u16mf2x7_m(vbool32_t vm, uint16_t *rs1,
                                       vuint16mf2_t vs2, vuint16mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei16_v_u16mf2x8_m(vbool32_t vm, uint16_t *rs1,
                                       vuint16mf2_t vs2, vuint16mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei16_v_u16m1x2_m(vbool16_t vm, uint16_t *rs1,
                                      vuint16m1_t vs2, vuint16m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_u16m1x3_m(vbool16_t vm, uint16_t *rs1,
                                      vuint16m1_t vs2, vuint16m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_u16m1x4_m(vbool16_t vm, uint16_t *rs1,
                                      vuint16m1_t vs2, vuint16m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei16_v_u16m1x5_m(vbool16_t vm, uint16_t *rs1,
                                      vuint16m1_t vs2, vuint16m1x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei16_v_u16m1x6_m(vbool16_t vm, uint16_t *rs1,
                                      vuint16m1_t vs2, vuint16m1x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei16_v_u16m1x7_m(vbool16_t vm, uint16_t *rs1,
                                      vuint16m1_t vs2, vuint16m1x7_t vs3,
                                      size_t vl);
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void __riscv_vsuxseg8ei16_v_u16m1x8_m(vbool16_t vm, uint16_t *rs1,
                                      vuint16m1_t vs2, vuint16m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_u16m2x2_m(vbool8_t vm, uint16_t *rs1,
                                      vuint16m2_t vs2, vuint16m2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_u16m2x3_m(vbool8_t vm, uint16_t *rs1,
                                      vuint16m2_t vs2, vuint16m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_u16m2x4_m(vbool8_t vm, uint16_t *rs1,
                                      vuint16m2_t vs2, vuint16m2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_u16m4x2_m(vbool4_t vm, uint16_t *rs1,
                                      vuint16m4_t vs2, vuint16m4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei32_v_u16mf4x2_m(vbool64_t vm, uint16_t *rs1,
                                       vuint32mf2_t vs2, vuint16mf4x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei32_v_u16mf4x3_m(vbool64_t vm, uint16_t *rs1,
                                       vuint32mf2_t vs2, vuint16mf4x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei32_v_u16mf4x4_m(vbool64_t vm, uint16_t *rs1,
                                       vuint32mf2_t vs2, vuint16mf4x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei32_v_u16mf4x5_m(vbool64_t vm, uint16_t *rs1,
                                       vuint32mf2_t vs2, vuint16mf4x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei32_v_u16mf4x6_m(vbool64_t vm, uint16_t *rs1,
                                       vuint32mf2_t vs2, vuint16mf4x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei32_v_u16mf4x7_m(vbool64_t vm, uint16_t *rs1,
                                       vuint32mf2_t vs2, vuint16mf4x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei32_v_u16mf4x8_m(vbool64_t vm, uint16_t *rs1,
                                       vuint32mf2_t vs2, vuint16mf4x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei32_v_u16mf2x2_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei32_v_u16mf2x3_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei32_v_u16mf2x4_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei32_v_u16mf2x5_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei32_v_u16mf2x6_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei32_v_u16mf2x7_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei32_v_u16mf2x8_m(vbool32_t vm, uint16_t *rs1,
                                       vuint32m1_t vs2, vuint16mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei32_v_u16m1x2_m(vbool16_t vm, uint16_t *rs1,
                                      vuint32m2_t vs2, vuint16m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei32_v_u16m1x3_m(vbool16_t vm, uint16_t *rs1,
                                      vuint32m2_t vs2, vuint16m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei32_v_u16m1x4_m(vbool16_t vm, uint16_t *rs1,
                                      vuint32m2_t vs2, vuint16m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei32_v_u16m1x5_m(vbool16_t vm, uint16_t *rs1,
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                                    vuint32m2_t vs2, vuint16m1x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei32_v_u16m1x6_m(vbool16_t vm, uint16_t *rs1,
                                    vuint32m2_t vs2, vuint16m1x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei32_v_u16m1x7_m(vbool16_t vm, uint16_t *rs1,
                                    vuint32m2_t vs2, vuint16m1x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei32_v_u16m1x8_m(vbool16_t vm, uint16_t *rs1,
                                    vuint32m2_t vs2, vuint16m1x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei32_v_u16m2x2_m(vbool8_t vm, uint16_t *rs1,
                                    vuint32m4_t vs2, vuint16m2x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei32_v_u16m2x3_m(vbool8_t vm, uint16_t *rs1,
                                    vuint32m4_t vs2, vuint16m2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei32_v_u16m2x4_m(vbool8_t vm, uint16_t *rs1,
                                    vuint32m4_t vs2, vuint16m2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei32_v_u16m4x2_m(vbool4_t vm, uint16_t *rs1,
                                    vuint32m8_t vs2, vuint16m4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_u16mf4x2_m(vbool64_t vm, uint16_t *rs1,
                                     vuint64m1_t vs2, vuint16mf4x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei64_v_u16mf4x3_m(vbool64_t vm, uint16_t *rs1,
                                     vuint64m1_t vs2, vuint16mf4x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei64_v_u16mf4x4_m(vbool64_t vm, uint16_t *rs1,
                                     vuint64m1_t vs2, vuint16mf4x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei64_v_u16mf4x5_m(vbool64_t vm, uint16_t *rs1,
                                     vuint64m1_t vs2, vuint16mf4x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei64_v_u16mf4x6_m(vbool64_t vm, uint16_t *rs1,
                                     vuint64m1_t vs2, vuint16mf4x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei64_v_u16mf4x7_m(vbool64_t vm, uint16_t *rs1,
                                     vuint64m1_t vs2, vuint16mf4x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei64_v_u16mf4x8_m(vbool64_t vm, uint16_t *rs1,
                                     vuint64m1_t vs2, vuint16mf4x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei64_v_u16mf2x2_m(vbool32_t vm, uint16_t *rs1,
                                     vuint64m2_t vs2, vuint16mf2x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei64_v_u16mf2x3_m(vbool32_t vm, uint16_t *rs1,
                                     vuint64m2_t vs2, vuint16mf2x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei64_v_u16mf2x4_m(vbool32_t vm, uint16_t *rs1,
                                     vuint64m2_t vs2, vuint16mf2x4_t vs3,
                                     size_t vl);
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                                     vuint64m2_t vs2, vuint16mf2x5_t vs3,
                                     size_t vl);
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                                     vuint64m2_t vs2, vuint16mf2x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei64_v_u16mf2x7_m(vbool32_t vm, uint16_t *rs1,
                                     vuint64m2_t vs2, vuint16mf2x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei64_v_u16mf2x8_m(vbool32_t vm, uint16_t *rs1,
                                     vuint64m2_t vs2, vuint16mf2x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei64_v_u16m1x2_m(vbool16_t vm, uint16_t *rs1,
                                    vuint64m4_t vs2, vuint16m1x2_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg3ei64_v_u16m1x3_m(vbool16_t vm, uint16_t *rs1,
                                      vuint64m4_t vs2, vuint16m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei64_v_u16m1x4_m(vbool16_t vm, uint16_t *rs1,
                                      vuint64m4_t vs2, vuint16m1x4_t vs3,
                                      size_t vl);
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                                      vuint64m4_t vs2, vuint16m1x5_t vs3,
                                      size_t vl);
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                                      vuint64m4_t vs2, vuint16m1x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei64_v_u16m1x7_m(vbool16_t vm, uint16_t *rs1,
                                      vuint64m4_t vs2, vuint16m1x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei64_v_u16m1x8_m(vbool16_t vm, uint16_t *rs1,
                                      vuint64m4_t vs2, vuint16m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei64_v_u16m2x2_m(vbool8_t vm, uint16_t *rs1,
                                      vuint64m8_t vs2, vuint16m2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei64_v_u16m2x3_m(vbool8_t vm, uint16_t *rs1,
                                      vuint64m8_t vs2, vuint16m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei64_v_u16m2x4_m(vbool8_t vm, uint16_t *rs1,
                                      vuint64m8_t vs2, vuint16m2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei8_v_u32mf2x2_m(vbool64_t vm, uint32_t *rs1,
                                      vuint8mf8_t vs2, vuint32mf2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei8_v_u32mf2x3_m(vbool64_t vm, uint32_t *rs1,
                                      vuint8mf8_t vs2, vuint32mf2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei8_v_u32mf2x4_m(vbool64_t vm, uint32_t *rs1,
                                      vuint8mf8_t vs2, vuint32mf2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei8_v_u32mf2x5_m(vbool64_t vm, uint32_t *rs1,
                                      vuint8mf8_t vs2, vuint32mf2x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei8_v_u32mf2x6_m(vbool64_t vm, uint32_t *rs1,
                                      vuint8mf8_t vs2, vuint32mf2x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei8_v_u32mf2x7_m(vbool64_t vm, uint32_t *rs1,
                                      vuint8mf8_t vs2, vuint32mf2x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei8_v_u32mf2x8_m(vbool64_t vm, uint32_t *rs1,
                                      vuint8mf8_t vs2, vuint32mf2x8_t vs3,
                                      size_t vl);
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                                     vuint8mf4_t vs2, vuint32m1x2_t vs3,
                                     size_t vl);
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                                     vuint8mf4_t vs2, vuint32m1x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei8_v_u32m1x4_m(vbool32_t vm, uint32_t *rs1,
                                     vuint8mf4_t vs2, vuint32m1x4_t vs3,
                                     size_t vl);
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                                     vuint8mf4_t vs2, vuint32m1x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei8_v_u32m1x6_m(vbool32_t vm, uint32_t *rs1,
                                     vuint8mf4_t vs2, vuint32m1x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei8_v_u32m1x7_m(vbool32_t vm, uint32_t *rs1,
                                     vuint8mf4_t vs2, vuint32m1x7_t vs3,
                                     size_t vl);
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void __riscv_vsuxseg8ei8_v_u32m1x8_m(vbool32_t vm, uint32_t *rs1,
                                     vuint8mf4_t vs2, vuint32m1x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei8_v_u32m2x2_m(vbool16_t vm, uint32_t *rs1,
                                     vuint8mf2_t vs2, vuint32m2x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei8_v_u32m2x3_m(vbool16_t vm, uint32_t *rs1,
                                     vuint8mf2_t vs2, vuint32m2x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei8_v_u32m2x4_m(vbool16_t vm, uint32_t *rs1,
                                     vuint8mf2_t vs2, vuint32m2x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei8_v_u32m4x2_m(vbool8_t vm, uint32_t *rs1, vuint8m1_t vs2,
                                     vuint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16_v_u32mf2x2_m(vbool64_t vm, uint32_t *rs1,
                                       vuint16mf4_t vs2, vuint32mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei16_v_u32mf2x3_m(vbool64_t vm, uint32_t *rs1,
                                       vuint16mf4_t vs2, vuint32mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei16_v_u32mf2x4_m(vbool64_t vm, uint32_t *rs1,
                                       vuint16mf4_t vs2, vuint32mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei16_v_u32mf2x5_m(vbool64_t vm, uint32_t *rs1,
                                       vuint16mf4_t vs2, vuint32mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei16_v_u32mf2x6_m(vbool64_t vm, uint32_t *rs1,
                                       vuint16mf4_t vs2, vuint32mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei16_v_u32mf2x7_m(vbool64_t vm, uint32_t *rs1,
                                       vuint16mf4_t vs2, vuint32mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei16_v_u32mf2x8_m(vbool64_t vm, uint32_t *rs1,
                                       vuint16mf4_t vs2, vuint32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei16_v_u32m1x2_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_u32m1x3_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_u32m1x4_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei16_v_u32m1x5_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei16_v_u32m1x6_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei16_v_u32m1x7_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei16_v_u32m1x8_m(vbool32_t vm, uint32_t *rs1,
                                      vuint16mf2_t vs2, vuint32m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_u32m2x2_m(vbool16_t vm, uint32_t *rs1,
                                      vuint16m1_t vs2, vuint32m2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei16_v_u32m2x3_m(vbool16_t vm, uint32_t *rs1,
                                      vuint16m1_t vs2, vuint32m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei16_v_u32m2x4_m(vbool16_t vm, uint32_t *rs1,
                                      vuint16m1_t vs2, vuint32m2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei16_v_u32m4x2_m(vbool8_t vm, uint32_t *rs1,
                                      vuint16m2_t vs2, vuint32m4x2_t vs3,
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                                    size_t vl);
void __riscv_vsuxseg2ei32_v_u32mf2x2_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei32_v_u32mf2x3_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei32_v_u32mf2x4_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei32_v_u32mf2x5_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x5_t vs3,
                                       size_t vl);
void __riscv_vsuxseg6ei32_v_u32mf2x6_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei32_v_u32mf2x7_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei32_v_u32mf2x8_m(vbool64_t vm, uint32_t *rs1,
                                       vuint32mf2_t vs2, vuint32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei32_v_u32m1x2_m(vbool32_t vm, uint32_t *rs1,
                                      vuint32m1_t vs2, vuint32m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei32_v_u32m1x3_m(vbool32_t vm, uint32_t *rs1,
                                      vuint32m1_t vs2, vuint32m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei32_v_u32m1x4_m(vbool32_t vm, uint32_t *rs1,
                                      vuint32m1_t vs2, vuint32m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei32_v_u32m1x5_m(vbool32_t vm, uint32_t *rs1,
                                      vuint32m1_t vs2, vuint32m1x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei32_v_u32m1x6_m(vbool32_t vm, uint32_t *rs1,
                                      vuint32m1_t vs2, vuint32m1x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei32_v_u32m1x7_m(vbool32_t vm, uint32_t *rs1,
                                      vuint32m1_t vs2, vuint32m1x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei32_v_u32m1x8_m(vbool32_t vm, uint32_t *rs1,
                                      vuint32m1_t vs2, vuint32m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei32_v_u32m2x2_m(vbool16_t vm, uint32_t *rs1,
                                      vuint32m2_t vs2, vuint32m2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei32_v_u32m2x3_m(vbool16_t vm, uint32_t *rs1,
                                      vuint32m2_t vs2, vuint32m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei32_v_u32m2x4_m(vbool16_t vm, uint32_t *rs1,
                                      vuint32m2_t vs2, vuint32m2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei32_v_u32m4x2_m(vbool8_t vm, uint32_t *rs1,
                                      vuint32m4_t vs2, vuint32m4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei64_v_u32mf2x2_m(vbool64_t vm, uint32_t *rs1,
                                       vuint64m1_t vs2, vuint32mf2x2_t vs3,
                                       size_t vl);
void __riscv_vsuxseg3ei64_v_u32mf2x3_m(vbool64_t vm, uint32_t *rs1,
                                       vuint64m1_t vs2, vuint32mf2x3_t vs3,
                                       size_t vl);
void __riscv_vsuxseg4ei64_v_u32mf2x4_m(vbool64_t vm, uint32_t *rs1,
                                       vuint64m1_t vs2, vuint32mf2x4_t vs3,
                                       size_t vl);
void __riscv_vsuxseg5ei64_v_u32mf2x5_m(vbool64_t vm, uint32_t *rs1,
                                       vuint64m1_t vs2, vuint32mf2x5_t vs3,
                                       size_t vl);
```

```
void __riscv_vsuxseg6ei64_v_u32mf2x6_m(vbool64_t vm, uint32_t *rs1,
                                       vuint64m1_t vs2, vuint32mf2x6_t vs3,
                                       size_t vl);
void __riscv_vsuxseg7ei64_v_u32mf2x7_m(vbool64_t vm, uint32_t *rs1,
                                       vuint64m1_t vs2, vuint32mf2x7_t vs3,
                                       size_t vl);
void __riscv_vsuxseg8ei64_v_u32mf2x8_m(vbool64_t vm, uint32_t *rs1,
                                       vuint64m1_t vs2, vuint32mf2x8_t vs3,
                                       size_t vl);
void __riscv_vsuxseg2ei64_v_u32m1x2_m(vbool32_t vm, uint32_t *rs1,
                                      vuint64m2_t vs2, vuint32m1x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei64_v_u32m1x3_m(vbool32_t vm, uint32_t *rs1,
                                      vuint64m2_t vs2, vuint32m1x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei64_v_u32m1x4_m(vbool32_t vm, uint32_t *rs1,
                                      vuint64m2_t vs2, vuint32m1x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg5ei64_v_u32m1x5_m(vbool32_t vm, uint32_t *rs1,
                                      vuint64m2_t vs2, vuint32m1x5_t vs3,
                                      size_t vl);
void __riscv_vsuxseg6ei64_v_u32m1x6_m(vbool32_t vm, uint32_t *rs1,
                                      vuint64m2_t vs2, vuint32m1x6_t vs3,
                                      size_t vl);
void __riscv_vsuxseg7ei64_v_u32m1x7_m(vbool32_t vm, uint32_t *rs1,
                                      vuint64m2_t vs2, vuint32m1x7_t vs3,
                                      size_t vl);
void __riscv_vsuxseg8ei64_v_u32m1x8_m(vbool32_t vm, uint32_t *rs1,
                                      vuint64m2_t vs2, vuint32m1x8_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei64_v_u32m2x2_m(vbool16_t vm, uint32_t *rs1,
                                      vuint64m4_t vs2, vuint32m2x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg3ei64_v_u32m2x3_m(vbool16_t vm, uint32_t *rs1,
                                      vuint64m4_t vs2, vuint32m2x3_t vs3,
                                      size_t vl);
void __riscv_vsuxseg4ei64_v_u32m2x4_m(vbool16_t vm, uint32_t *rs1,
                                      vuint64m4_t vs2, vuint32m2x4_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei64_v_u32m4x2_m(vbool8_t vm, uint32_t *rs1,
                                      vuint64m8_t vs2, vuint32m4x2_t vs3,
                                      size_t vl);
void __riscv_vsuxseg2ei8_v_u64m1x2_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei8_v_u64m1x3_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei8_v_u64m1x4_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei8_v_u64m1x5_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei8_v_u64m1x6_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei8_v_u64m1x7_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei8_v_u64m1x8_m(vbool64_t vm, uint64_t *rs1,
                                     vuint8mf8_t vs2, vuint64m1x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei8_v_u64m2x2_m(vbool32_t vm, uint64_t *rs1,
                                     vuint8mf4_t vs2, vuint64m2x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei8_v_u64m2x3_m(vbool32_t vm, uint64_t *rs1,
```

```
                                    vuint8mf4_t vs2, vuint64m2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei8_v_u64m2x4_m(vbool32_t vm, uint64_t *rs1,
                                    vuint8mf4_t vs2, vuint64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei8_v_u64m4x2_m(vbool16_t vm, uint64_t *rs1,
                                    vuint8mf2_t vs2, vuint64m4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei16_v_u64m1x2_m(vbool64_t vm, uint64_t *rs1,
                                     vuint16mf4_t vs2, vuint64m1x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei16_v_u64m1x3_m(vbool64_t vm, uint64_t *rs1,
                                     vuint16mf4_t vs2, vuint64m1x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei16_v_u64m1x4_m(vbool64_t vm, uint64_t *rs1,
                                     vuint16mf4_t vs2, vuint64m1x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei16_v_u64m1x5_m(vbool64_t vm, uint64_t *rs1,
                                     vuint16mf4_t vs2, vuint64m1x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei16_v_u64m1x6_m(vbool64_t vm, uint64_t *rs1,
                                     vuint16mf4_t vs2, vuint64m1x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei16_v_u64m1x7_m(vbool64_t vm, uint64_t *rs1,
                                     vuint16mf4_t vs2, vuint64m1x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei16_v_u64m1x8_m(vbool64_t vm, uint64_t *rs1,
                                     vuint16mf4_t vs2, vuint64m1x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei16_v_u64m2x2_m(vbool32_t vm, uint64_t *rs1,
                                     vuint16mf2_t vs2, vuint64m2x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei16_v_u64m2x3_m(vbool32_t vm, uint64_t *rs1,
                                     vuint16mf2_t vs2, vuint64m2x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei16_v_u64m2x4_m(vbool32_t vm, uint64_t *rs1,
                                     vuint16mf2_t vs2, vuint64m2x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei16_v_u64m4x2_m(vbool16_t vm, uint64_t *rs1,
                                     vuint16m1_t vs2, vuint64m4x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei32_v_u64m1x2_m(vbool64_t vm, uint64_t *rs1,
                                     vuint32mf2_t vs2, vuint64m1x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei32_v_u64m1x3_m(vbool64_t vm, uint64_t *rs1,
                                     vuint32mf2_t vs2, vuint64m1x3_t vs3,
                                     size_t vl);
void __riscv_vsuxseg4ei32_v_u64m1x4_m(vbool64_t vm, uint64_t *rs1,
                                     vuint32mf2_t vs2, vuint64m1x4_t vs3,
                                     size_t vl);
void __riscv_vsuxseg5ei32_v_u64m1x5_m(vbool64_t vm, uint64_t *rs1,
                                     vuint32mf2_t vs2, vuint64m1x5_t vs3,
                                     size_t vl);
void __riscv_vsuxseg6ei32_v_u64m1x6_m(vbool64_t vm, uint64_t *rs1,
                                     vuint32mf2_t vs2, vuint64m1x6_t vs3,
                                     size_t vl);
void __riscv_vsuxseg7ei32_v_u64m1x7_m(vbool64_t vm, uint64_t *rs1,
                                     vuint32mf2_t vs2, vuint64m1x7_t vs3,
                                     size_t vl);
void __riscv_vsuxseg8ei32_v_u64m1x8_m(vbool64_t vm, uint64_t *rs1,
                                     vuint32mf2_t vs2, vuint64m1x8_t vs3,
                                     size_t vl);
void __riscv_vsuxseg2ei32_v_u64m2x2_m(vbool32_t vm, uint64_t *rs1,
                                     vuint32m1_t vs2, vuint64m2x2_t vs3,
                                     size_t vl);
void __riscv_vsuxseg3ei32_v_u64m2x3_m(vbool32_t vm, uint64_t *rs1,
                                     vuint32m1_t vs2, vuint64m2x3_t vs3,
```

```
                                    size_t vl);
void __riscv_vsuxseg4ei32_v_u64m2x4_m(vbool32_t vm, uint64_t *rs1,
                                    vuint32m1_t vs2, vuint64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei32_v_u64m4x2_m(vbool16_t vm, uint64_t *rs1,
                                    vuint32m2_t vs2, vuint64m4x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_u64m1x2_m(vbool64_t vm, uint64_t *rs1,
                                    vuint64m1_t vs2, vuint64m1x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei64_v_u64m1x3_m(vbool64_t vm, uint64_t *rs1,
                                    vuint64m1_t vs2, vuint64m1x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei64_v_u64m1x4_m(vbool64_t vm, uint64_t *rs1,
                                    vuint64m1_t vs2, vuint64m1x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg5ei64_v_u64m1x5_m(vbool64_t vm, uint64_t *rs1,
                                    vuint64m1_t vs2, vuint64m1x5_t vs3,
                                    size_t vl);
void __riscv_vsuxseg6ei64_v_u64m1x6_m(vbool64_t vm, uint64_t *rs1,
                                    vuint64m1_t vs2, vuint64m1x6_t vs3,
                                    size_t vl);
void __riscv_vsuxseg7ei64_v_u64m1x7_m(vbool64_t vm, uint64_t *rs1,
                                    vuint64m1_t vs2, vuint64m1x7_t vs3,
                                    size_t vl);
void __riscv_vsuxseg8ei64_v_u64m1x8_m(vbool64_t vm, uint64_t *rs1,
                                    vuint64m1_t vs2, vuint64m1x8_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_u64m2x2_m(vbool32_t vm, uint64_t *rs1,
                                    vuint64m2_t vs2, vuint64m2x2_t vs3,
                                    size_t vl);
void __riscv_vsuxseg3ei64_v_u64m2x3_m(vbool32_t vm, uint64_t *rs1,
                                    vuint64m2_t vs2, vuint64m2x3_t vs3,
                                    size_t vl);
void __riscv_vsuxseg4ei64_v_u64m2x4_m(vbool32_t vm, uint64_t *rs1,
                                    vuint64m2_t vs2, vuint64m2x4_t vs3,
                                    size_t vl);
void __riscv_vsuxseg2ei64_v_u64m4x2_m(vbool16_t vm, uint64_t *rs1,
                                    vuint64m4_t vs2, vuint64m4x2_t vs3,
                                    size_t vl);
```

A.3. Vector Integer Arithmetic Intrinsics

A.3.1. Vector Single-Width Integer Add and Subtract Intrinsics

```
vint8mf8_t __riscv_vadd_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vadd_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vadd_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vadd_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vadd_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vadd_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vadd_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vadd_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vadd_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vadd_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vadd_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vadd_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vadd_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vadd_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vadd_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vadd_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vadd_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vadd_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
```

```
vint16m1_t __riscv_vadd_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vadd_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vadd_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vadd_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vadd_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vadd_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vadd_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vadd_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vadd_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vadd_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vadd_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vadd_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vadd_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vadd_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vadd_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vadd_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vadd_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vadd_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vadd_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vadd_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vadd_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vadd_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vadd_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vadd_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vadd_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vadd_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vsub_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsub_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsub_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsub_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsub_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsub_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vsub_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsub_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vsub_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsub_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vsub_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsub_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vsub_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsub_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsub_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsub_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsub_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsub_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vsub_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsub_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vsub_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsub_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vsub_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsub_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vsub_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsub_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsub_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsub_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vsub_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsub_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vsub_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsub_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vsub_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsub_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vsub_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsub_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vsub_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsub_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vsub_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsub_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vsub_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
```

```
vint64m4_t __riscv_vsub_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vsub_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsub_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrsub_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrsub_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrsub_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vrsub_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vrsub_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vrsub_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vrsub_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrsub_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrsub_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vrsub_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vrsub_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vrsub_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vrsub_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrsub_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vrsub_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vrsub_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vrsub_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vrsub_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vrsub_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vrsub_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vrsub_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vrsub_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vneg_v_i8mf8(vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vneg_v_i8mf4(vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vneg_v_i8mf2(vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vneg_v_i8m1(vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vneg_v_i8m2(vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vneg_v_i8m4(vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vneg_v_i8m8(vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vneg_v_i16mf4(vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vneg_v_i16mf2(vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vneg_v_i16m1(vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vneg_v_i16m2(vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vneg_v_i16m4(vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vneg_v_i16m8(vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vneg_v_i32mf2(vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vneg_v_i32m1(vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vneg_v_i32m2(vint32m2_t vs, size_t vl);
vint32m4_t __riscv_vneg_v_i32m4(vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vneg_v_i32m8(vint32m8_t vs, size_t vl);
vint64m1_t __riscv_vneg_v_i64m1(vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vneg_v_i64m2(vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vneg_v_i64m4(vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vneg_v_i64m8(vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vadd_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vadd_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vadd_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vadd_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vadd_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vadd_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vadd_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vadd_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vadd_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vadd_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vadd_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vadd_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vadd_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vadd_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vadd_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vadd_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vadd_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vadd_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
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vuint16m1_t __riscv_vadd_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vadd_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vadd_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vadd_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vadd_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vadd_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vadd_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vadd_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vadd_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vadd_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vadd_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vadd_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vadd_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vadd_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vadd_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vadd_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vadd_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vadd_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vadd_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vadd_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vadd_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vadd_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vadd_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vadd_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vadd_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vadd_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsub_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsub_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsub_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsub_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsub_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsub_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsub_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsub_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsub_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsub_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsub_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsub_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsub_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsub_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsub_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vsub_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsub_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vsub_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsub_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsub_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsub_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsub_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsub_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsub_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsub_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsub_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsub_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vsub_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsub_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsub_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsub_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsub_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsub_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsub_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsub_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsub_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsub_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
```

```
vuint64m1_t __riscv_vsub_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsub_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsub_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsub_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsub_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsub_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsub_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vrsub_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vrsub_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vrsub_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vrsub_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vrsub_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vrsub_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vrsub_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vrsub_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vrsub_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vrsub_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vrsub_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vrsub_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vrsub_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vrsub_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vrsub_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vrsub_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vrsub_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vrsub_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vrsub_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vrsub_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vrsub_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vrsub_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vadd_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                                   size_t vl);
vint8mf8_t __riscv_vadd_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf4_t __riscv_vadd_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                                   size_t vl);
vint8mf4_t __riscv_vadd_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf2_t __riscv_vadd_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                                   size_t vl);
vint8mf2_t __riscv_vadd_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m1_t __riscv_vadd_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                 size_t vl);
vint8m1_t __riscv_vadd_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                 size_t vl);
vint8m2_t __riscv_vadd_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vadd_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vadd_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vadd_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vadd_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                 size_t vl);
vint8m8_t __riscv_vadd_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vadd_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                     vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vadd_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                                     size_t vl);
vint16mf2_t __riscv_vadd_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                     vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vadd_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vadd_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
```

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                                    size_t vl);
vint16m1_t __riscv_vadd_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vadd_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vadd_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vadd_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vadd_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vadd_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vadd_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vadd_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vadd_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                      size_t vl);
vint32m1_t __riscv_vadd_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vadd_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vadd_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                                    size_t vl);
vint32m2_t __riscv_vadd_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vadd_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vadd_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vadd_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vadd_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vadd_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vadd_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vadd_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vadd_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vadd_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vadd_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vadd_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vadd_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vsub_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                                    size_t vl);
vint8mf8_t __riscv_vsub_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vsub_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                                    size_t vl);
vint8mf4_t __riscv_vsub_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vsub_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                                    size_t vl);
vint8mf2_t __riscv_vsub_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vsub_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vsub_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
```

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vint8m2_t __riscv_vsub_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vsub_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vsub_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vsub_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vsub_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                 size_t vl);
vint8m8_t __riscv_vsub_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vsub_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                     vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsub_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                                     size_t vl);
vint16mf2_t __riscv_vsub_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                     vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsub_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vsub_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                                   size_t vl);
vint16m1_t __riscv_vsub_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                   size_t vl);
vint16m2_t __riscv_vsub_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                   size_t vl);
vint16m2_t __riscv_vsub_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                   size_t vl);
vint16m4_t __riscv_vsub_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                   size_t vl);
vint16m4_t __riscv_vsub_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                   size_t vl);
vint16m8_t __riscv_vsub_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                   size_t vl);
vint16m8_t __riscv_vsub_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                   size_t vl);
vint32mf2_t __riscv_vsub_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                     vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsub_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                     size_t vl);
vint32m1_t __riscv_vsub_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                                   size_t vl);
vint32m1_t __riscv_vsub_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                   size_t vl);
vint32m2_t __riscv_vsub_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                                   size_t vl);
vint32m2_t __riscv_vsub_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                   size_t vl);
vint32m4_t __riscv_vsub_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                   size_t vl);
vint32m4_t __riscv_vsub_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                   size_t vl);
vint32m8_t __riscv_vsub_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                   size_t vl);
vint32m8_t __riscv_vsub_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                   size_t vl);
vint64m1_t __riscv_vsub_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                                   size_t vl);
vint64m1_t __riscv_vsub_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                   size_t vl);
vint64m2_t __riscv_vsub_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                                   size_t vl);
vint64m2_t __riscv_vsub_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                   size_t vl);
vint64m4_t __riscv_vsub_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                                   size_t vl);
vint64m4_t __riscv_vsub_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
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                                    size_t vl);
vint64m8_t __riscv_vsub_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vsub_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vrsub_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                     size_t vl);
vint8mf4_t __riscv_vrsub_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                     size_t vl);
vint8mf2_t __riscv_vrsub_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                     size_t vl);
vint8m1_t __riscv_vrsub_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                   size_t vl);
vint8m2_t __riscv_vrsub_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m4_t __riscv_vrsub_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                   size_t vl);
vint8m8_t __riscv_vrsub_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                   size_t vl);
vint16mf4_t __riscv_vrsub_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrsub_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vrsub_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vrsub_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vrsub_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vrsub_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vrsub_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vrsub_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vrsub_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vrsub_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vrsub_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vrsub_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vrsub_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vrsub_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vrsub_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vneg_v_i8mf8_m(vbool64_t vm, vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vneg_v_i8mf4_m(vbool32_t vm, vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vneg_v_i8mf2_m(vbool16_t vm, vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vneg_v_i8m1_m(vbool8_t vm, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vneg_v_i8m2_m(vbool4_t vm, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vneg_v_i8m4_m(vbool2_t vm, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vneg_v_i8m8_m(vbool1_t vm, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vneg_v_i16mf4_m(vbool64_t vm, vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vneg_v_i16mf2_m(vbool32_t vm, vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vneg_v_i16m1_m(vbool16_t vm, vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vneg_v_i16m2_m(vbool8_t vm, vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vneg_v_i16m4_m(vbool4_t vm, vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vneg_v_i16m8_m(vbool2_t vm, vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vneg_v_i32mf2_m(vbool64_t vm, vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vneg_v_i32m1_m(vbool32_t vm, vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vneg_v_i32m2_m(vbool16_t vm, vint32m2_t vs, size_t vl);
vint32m4_t __riscv_vneg_v_i32m4_m(vbool8_t vm, vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vneg_v_i32m8_m(vbool4_t vm, vint32m8_t vs, size_t vl);
```

```
vint64m1_t __riscv_vneg_v_i64m1_m(vbool64_t vm, vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vneg_v_i64m2_m(vbool32_t vm, vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vneg_v_i64m4_m(vbool16_t vm, vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vneg_v_i64m8_m(vbool8_t vm, vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vadd_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                    vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vadd_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8mf4_t __riscv_vadd_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                    vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vadd_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8mf2_t __riscv_vadd_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vadd_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m1_t __riscv_vadd_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                  size_t vl);
vuint8m1_t __riscv_vadd_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m2_t __riscv_vadd_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                  size_t vl);
vuint8m2_t __riscv_vadd_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m4_t __riscv_vadd_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                  size_t vl);
vuint8m4_t __riscv_vadd_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m8_t __riscv_vadd_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                  size_t vl);
vuint8m8_t __riscv_vadd_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                  size_t vl);
vuint16mf4_t __riscv_vadd_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vadd_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vadd_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vadd_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vadd_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vadd_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m2_t __riscv_vadd_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vadd_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m4_t __riscv_vadd_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vadd_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vadd_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vadd_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vadd_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vadd_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vadd_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vadd_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vadd_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vadd_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
```

```
                                    size_t vl);
vuint32m4_t __riscv_vadd_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vadd_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vadd_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vadd_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vadd_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vadd_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vadd_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vadd_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vadd_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vadd_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vadd_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vadd_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vsub_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                    vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsub_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8mf4_t __riscv_vsub_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                    vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsub_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8mf2_t __riscv_vsub_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsub_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m1_t __riscv_vsub_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                  size_t vl);
vuint8m1_t __riscv_vsub_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m2_t __riscv_vsub_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                  size_t vl);
vuint8m2_t __riscv_vsub_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m4_t __riscv_vsub_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                  size_t vl);
vuint8m4_t __riscv_vsub_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m8_t __riscv_vsub_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                  size_t vl);
vuint8m8_t __riscv_vsub_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                  size_t vl);
vuint16mf4_t __riscv_vsub_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsub_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsub_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsub_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsub_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsub_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m2_t __riscv_vsub_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
```

```
vuint16m2_t __riscv_vsub_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m4_t __riscv_vsub_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsub_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vsub_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsub_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vsub_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsub_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsub_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsub_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vsub_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsub_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m4_t __riscv_vsub_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsub_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vsub_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsub_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vsub_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsub_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vsub_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsub_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vsub_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsub_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vsub_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsub_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vrsub_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf4_t __riscv_vrsub_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf2_t __riscv_vrsub_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m1_t __riscv_vrsub_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vrsub_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vrsub_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vrsub_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vrsub_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vrsub_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vrsub_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vrsub_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
```

```
                                    size_t vl);
vuint16m4_t __riscv_vrsub_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vrsub_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vrsub_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vrsub_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vrsub_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vrsub_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vrsub_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vrsub_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vrsub_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vrsub_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vrsub_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
```

A.3.2. Vector Widening Integer Add/Subtract Intrinsics

```
vint16mf4_t __riscv_vwadd_vv_i16mf4(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_vx_i16mf4(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwadd_wv_i16mf4(vint16mf4_t vs2, vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_wx_i16mf4(vint16mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_vv_i16mf2(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_vx_i16mf2(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_wv_i16mf2(vint16mf2_t vs2, vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_wx_i16mf2(vint16mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_vv_i16m1(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_vx_i16m1(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_wv_i16m1(vint16m1_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_wx_i16m1(vint16m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_vv_i16m2(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_vx_i16m2(vint8m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_wv_i16m2(vint16m2_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_wx_i16m2(vint16m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_vv_i16m4(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_vx_i16m4(vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_wv_i16m4(vint16m4_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_wx_i16m4(vint16m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_vv_i16m8(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_vx_i16m8(vint8m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_wv_i16m8(vint16m8_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_wx_i16m8(vint16m8_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_vv_i32mf2(vint16mf4_t vs2, vint16mf4_t vs1,
                                   size_t vl);
vint32mf2_t __riscv_vwadd_vx_i32mf2(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_wv_i32mf2(vint32mf2_t vs2, vint16mf4_t vs1,
                                   size_t vl);
vint32mf2_t __riscv_vwadd_wx_i32mf2(vint32mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_vv_i32m1(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_vx_i32m1(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_wv_i32m1(vint32m1_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_wx_i32m1(vint32m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_vv_i32m2(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_vx_i32m2(vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_wv_i32m2(vint32m2_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_wx_i32m2(vint32m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_vv_i32m4(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
```

```
vint32m4_t __riscv_vwadd_vx_i32m4(vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_wv_i32m4(vint32m4_t vs2, vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_wx_i32m4(vint32m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_vv_i32m8(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_vx_i32m8(vint16m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_wv_i32m8(vint32m8_t vs2, vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_wx_i32m8(vint32m8_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_vv_i64m1(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_vx_i64m1(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_wv_i64m1(vint64m1_t vs2, vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_wx_i64m1(vint64m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_vv_i64m2(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_vx_i64m2(vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_wv_i64m2(vint64m2_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_wx_i64m2(vint64m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_vv_i64m4(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_vx_i64m4(vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_wv_i64m4(vint64m4_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_wx_i64m4(vint64m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_vv_i64m8(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_vx_i64m8(vint32m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_wv_i64m8(vint64m8_t vs2, vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_wx_i64m8(vint64m8_t vs2, int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_vv_i16mf4(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_vx_i16mf4(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_wv_i16mf4(vint16mf4_t vs2, vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_wx_i16mf4(vint16mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_vv_i16mf2(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_vx_i16mf2(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_wv_i16mf2(vint16mf2_t vs2, vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_wx_i16mf2(vint16mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_vv_i16m1(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_vx_i16m1(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_wv_i16m1(vint16m1_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_wx_i16m1(vint16m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_vv_i16m2(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_vx_i16m2(vint8m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_wv_i16m2(vint16m2_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_wx_i16m2(vint16m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_vv_i16m4(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_vx_i16m4(vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_wv_i16m4(vint16m4_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_wx_i16m4(vint16m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_vv_i16m8(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_vx_i16m8(vint8m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_wv_i16m8(vint16m8_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_wx_i16m8(vint16m8_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_vv_i32mf2(vint16mf4_t vs2, vint16mf4_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vwsub_vx_i32mf2(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_wv_i32mf2(vint32mf2_t vs2, vint16mf4_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vwsub_wx_i32mf2(vint32mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_vv_i32m1(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_vx_i32m1(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_wv_i32m1(vint32m1_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_wx_i32m1(vint32m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_vv_i32m2(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_vx_i32m2(vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_wv_i32m2(vint32m2_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_wx_i32m2(vint32m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_vv_i32m4(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_vx_i32m4(vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_wv_i32m4(vint32m4_t vs2, vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_wx_i32m4(vint32m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_vv_i32m8(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_vx_i32m8(vint16m4_t vs2, int16_t rs1, size_t vl);
```

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vint32m8_t __riscv_vwsub_wv_i32m8(vint32m8_t vs2, vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_wx_i32m8(vint32m8_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_vv_i64m1(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_vx_i64m1(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_wv_i64m1(vint64m1_t vs2, vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_wx_i64m1(vint64m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_vv_i64m2(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_vx_i64m2(vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_wv_i64m2(vint64m2_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_wx_i64m2(vint64m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_vv_i64m4(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_vx_i64m4(vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_wv_i64m4(vint64m4_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_wx_i64m4(vint64m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_vv_i64m8(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_vx_i64m8(vint32m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_wv_i64m8(vint64m8_t vs2, vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_wx_i64m8(vint64m8_t vs2, int32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vv_u16mf4(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vwaddu_vx_u16mf4(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wv_u16mf4(vuint16mf4_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vwaddu_wx_u16mf4(vuint16mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vv_u16mf2(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vwaddu_vx_u16mf2(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wv_u16mf2(vuint16mf2_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vwaddu_wx_u16mf2(vuint16mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vv_u16m1(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vwaddu_vx_u16m1(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wv_u16m1(vuint16m1_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vwaddu_wx_u16m1(vuint16m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vv_u16m2(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vx_u16m2(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wv_u16m2(vuint16m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wx_u16m2(vuint16m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vv_u16m4(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vx_u16m4(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wv_u16m4(vuint16m4_t vs2, vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wx_u16m4(vuint16m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vv_u16m8(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vx_u16m8(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wv_u16m8(vuint16m8_t vs2, vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wx_u16m8(vuint16m8_t vs2, uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_vv_u32mf2(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwaddu_vx_u32mf2(vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwaddu_wv_u32mf2(vuint32mf2_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwaddu_wx_u32mf2(vuint32mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vwaddu_vv_u32m1(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vwaddu_vx_u32m1(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wv_u32m1(vuint32m1_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vwaddu_wx_u32m1(vuint32m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vv_u32m2(vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vwaddu_vx_u32m2(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wv_u32m2(vuint32m2_t vs2, vuint16m1_t vs1,
                                    size_t vl);
```

```
vuint32m2_t __riscv_vwaddu_wx_u32m2(vuint32m2_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vv_u32m4(vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vwaddu_vx_u32m4(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wv_u32m4(vuint32m4_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vwaddu_wx_u32m4(vuint32m4_t vs2, uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vv_u32m8(vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vwaddu_vx_u32m8(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wv_u32m8(vuint32m8_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vwaddu_wx_u32m8(vuint32m8_t vs2, uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vv_u64m1(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vwaddu_vx_u64m1(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wv_u64m1(vuint64m1_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vwaddu_wx_u64m1(vuint64m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vv_u64m2(vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vwaddu_vx_u64m2(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wv_u64m2(vuint64m2_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vwaddu_wx_u64m2(vuint64m2_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vv_u64m4(vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vwaddu_vx_u64m4(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wv_u64m4(vuint64m4_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vwaddu_wx_u64m4(vuint64m4_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vv_u64m8(vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vwaddu_vx_u64m8(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wv_u64m8(vuint64m8_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vwaddu_wx_u64m8(vuint64m8_t vs2, uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vv_u16mf4(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vwsubu_vx_u16mf4(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wv_u16mf4(vuint16mf4_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vwsubu_wx_u16mf4(vuint16mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vv_u16mf2(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vwsubu_vx_u16mf2(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wv_u16mf2(vuint16mf2_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vwsubu_wx_u16mf2(vuint16mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vv_u16m1(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vwsubu_vx_u16m1(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wv_u16m1(vuint16m1_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vwsubu_wx_u16m1(vuint16m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vv_u16m2(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vx_u16m2(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wv_u16m2(vuint16m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wx_u16m2(vuint16m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vv_u16m4(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vx_u16m4(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wv_u16m4(vuint16m4_t vs2, vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wx_u16m4(vuint16m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vv_u16m8(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vx_u16m8(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wv_u16m8(vuint16m8_t vs2, vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wx_u16m8(vuint16m8_t vs2, uint8_t rs1, size_t vl);
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vuint32mf2_t __riscv_vwsubu_vv_u32mf2(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwsubu_vx_u32mf2(vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwsubu_wv_u32mf2(vuint32mf2_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwsubu_wx_u32mf2(vuint32mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vwsubu_vv_u32m1(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vwsubu_vx_u32m1(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wv_u32m1(vuint32m1_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vwsubu_wx_u32m1(vuint32m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vv_u32m2(vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vwsubu_vx_u32m2(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wv_u32m2(vuint32m2_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vwsubu_wx_u32m2(vuint32m2_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vv_u32m4(vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vwsubu_vx_u32m4(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wv_u32m4(vuint32m4_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vwsubu_wx_u32m4(vuint32m4_t vs2, uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vv_u32m8(vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vwsubu_vx_u32m8(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wv_u32m8(vuint32m8_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vwsubu_wx_u32m8(vuint32m8_t vs2, uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_vv_u64m1(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vwsubu_vx_u64m1(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_wv_u64m1(vuint64m1_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vwsubu_wx_u64m1(vuint64m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_vv_u64m2(vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vwsubu_vx_u64m2(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wv_u64m2(vuint64m2_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vwsubu_wx_u64m2(vuint64m2_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vv_u64m4(vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vwsubu_vx_u64m4(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wv_u64m4(vuint64m4_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vwsubu_wx_u64m4(vuint64m4_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vv_u64m8(vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vwsubu_vx_u64m8(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wv_u64m8(vuint64m8_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vwsubu_wx_u64m8(vuint64m8_t vs2, uint32_t rs1, size_t vl);
// masked functions
vint16mf4_t __riscv_vwadd_vv_i16mf4_m(vbool64_t vm, vint8mf8_t vs2,
                                      vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_vx_i16mf4_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                      size_t vl);
vint16mf4_t __riscv_vwadd_wv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_wx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int8_t rs1,
                                      size_t vl);
vint16mf2_t __riscv_vwadd_vv_i16mf2_m(vbool32_t vm, vint8mf4_t vs2,
                                      vint8mf4_t vs1, size_t vl);
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vint16mf2_t __riscv_vwadd_vx_i16mf2_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                      size_t vl);
vint16mf2_t __riscv_vwadd_wv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_wx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int8_t rs1,
                                      size_t vl);
vint16m1_t __riscv_vwadd_vv_i16m1_m(vbool16_t vm, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_vx_i16m1_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint16m1_t __riscv_vwadd_wv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_wx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int8_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vwadd_vv_i16m2_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vwadd_vx_i16m2_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vwadd_wv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint8m1_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vwadd_wx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int8_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vwadd_vv_i16m4_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vwadd_vx_i16m4_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vwadd_wv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint8m2_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vwadd_wx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int8_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vwadd_vv_i16m8_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vwadd_vx_i16m8_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vwadd_wv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint8m4_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vwadd_wx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int8_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vwadd_vv_i32mf2_m(vbool64_t vm, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_vx_i32mf2_m(vbool64_t vm, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_wv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_wx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_vv_i32m1_m(vbool32_t vm, vint16mf2_t vs2,
                                    vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_vx_i32m1_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m1_t __riscv_vwadd_wv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                    vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_wx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int16_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vwadd_vv_i32m2_m(vbool16_t vm, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_vx_i32m2_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vwadd_wv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_wx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vwadd_vv_i32m4_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vwadd_vx_i32m4_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vwadd_wv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint16m2_t vs1,
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                                    size_t vl);
vint32m4_t __riscv_vwadd_wx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int16_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vwadd_vv_i32m8_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vwadd_vx_i32m8_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vwadd_wv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vwadd_wx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int16_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vwadd_vv_i64m1_m(vbool64_t vm, vint32mf2_t vs2,
                                    vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_vx_i64m1_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vwadd_wv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                    vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_wx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int32_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vwadd_vv_i64m2_m(vbool32_t vm, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_vx_i64m2_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vwadd_wv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_wx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int32_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vwadd_vv_i64m4_m(vbool16_t vm, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_vx_i64m4_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vwadd_wv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_wx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int32_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vwadd_vv_i64m8_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vwadd_vx_i64m8_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vwadd_wv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vwadd_wx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int32_t rs1,
                                    size_t vl);
vint16mf4_t __riscv_vwsub_vv_i16mf4_m(vbool64_t vm, vint8mf8_t vs2,
                                      vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_vx_i16mf4_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                      size_t vl);
vint16mf4_t __riscv_vwsub_wv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_wx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int8_t rs1,
                                      size_t vl);
vint16mf2_t __riscv_vwsub_vv_i16mf2_m(vbool32_t vm, vint8mf4_t vs2,
                                      vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_vx_i16mf2_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                      size_t vl);
vint16mf2_t __riscv_vwsub_wv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_wx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int8_t rs1,
                                      size_t vl);
vint16m1_t __riscv_vwsub_vv_i16m1_m(vbool16_t vm, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_vx_i16m1_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint16m1_t __riscv_vwsub_wv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_wx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int8_t rs1,
                                    size_t vl);
```

```
vint16m2_t __riscv_vwsub_vv_i16m2_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vwsub_vx_i16m2_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vwsub_wv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint8m1_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vwsub_wx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int8_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vwsub_vv_i16m4_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vwsub_vx_i16m4_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vwsub_wv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint8m2_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vwsub_wx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int8_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vwsub_vv_i16m8_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vwsub_vx_i16m8_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vwsub_wv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint8m4_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vwsub_wx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int8_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vwsub_vv_i32mf2_m(vbool64_t vm, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_vx_i32mf2_m(vbool64_t vm, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_wv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_wx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_vv_i32m1_m(vbool32_t vm, vint16mf2_t vs2,
                                    vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_vx_i32m1_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m1_t __riscv_vwsub_wv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                    vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_wx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int16_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vwsub_vv_i32m2_m(vbool16_t vm, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_vx_i32m2_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vwsub_wv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_wx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vwsub_vv_i32m4_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vwsub_vx_i32m4_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vwsub_wv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vwsub_wx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int16_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vwsub_vv_i32m8_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vwsub_vx_i32m8_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vwsub_wv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vwsub_wx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int16_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vwsub_vv_i64m1_m(vbool64_t vm, vint32mf2_t vs2,
                                    vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_vx_i64m1_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
```

```
                                    size_t vl);
vint64m1_t __riscv_vwsub_wv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                    vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_wx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int32_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vwsub_vv_i64m2_m(vbool32_t vm, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_vx_i64m2_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vwsub_wv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_wx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int32_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vwsub_vv_i64m4_m(vbool16_t vm, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_vx_i64m4_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vwsub_wv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_wx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int32_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vwsub_vv_i64m8_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vwsub_vx_i64m8_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vwsub_wv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vwsub_wx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int32_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vwaddu_vv_u16mf4_m(vbool64_t vm, vuint8mf8_t vs2,
                                        vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vx_u16mf4_m(vbool64_t vm, vuint8mf8_t vs2,
                                        uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                        vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                        uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vv_u16mf2_m(vbool32_t vm, vuint8mf4_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vx_u16mf2_m(vbool32_t vm, vuint8mf4_t vs2,
                                        uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                        uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vv_u16m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vx_u16m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                      uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                      uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vv_u16m2_m(vbool8_t vm, vuint8m1_t vs2,
                                      vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vx_u16m2_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m2_t __riscv_vwaddu_wv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                      vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m4_t __riscv_vwaddu_vv_u16m4_m(vbool4_t vm, vuint8m2_t vs2,
                                      vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vx_u16m4_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m4_t __riscv_vwaddu_wv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                      vuint8m2_t vs1, size_t vl);
```

```
vuint16m4_t __riscv_vwaddu_wx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m8_t __riscv_vwaddu_vv_u16m8_m(vbool2_t vm, vuint8m4_t vs2,
                                      vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vx_u16m8_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m8_t __riscv_vwaddu_wv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                      vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint8_t rs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwaddu_vv_u32mf2_m(vbool64_t vm, vuint16mf4_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_vx_u32mf2_m(vbool64_t vm, vuint16mf4_t vs2,
                                        uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_wv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_wx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vv_u32m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vx_u32m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vv_u32m2_m(vbool16_t vm, vuint16m1_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vx_u32m2_m(vbool16_t vm, vuint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vv_u32m4_m(vbool8_t vm, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vx_u32m4_m(vbool8_t vm, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wx_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vv_u32m8_m(vbool4_t vm, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vx_u32m8_m(vbool4_t vm, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wx_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                      uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vv_u64m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vx_u64m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vv_u64m2_m(vbool32_t vm, vuint32m1_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vx_u64m2_m(vbool32_t vm, vuint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vv_u64m4_m(vbool16_t vm, vuint32m2_t vs2,
```

```
                                    vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vx_u64m4_m(vbool16_t vm, vuint32m2_t vs2,
                                    uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vv_u64m8_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vx_u64m8_m(vbool8_t vm, vuint32m4_t vs2,
                                    uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wx_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vv_u16mf4_m(vbool64_t vm, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vx_u16mf4_m(vbool64_t vm, vuint8mf8_t vs2,
                                      uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vv_u16mf2_m(vbool32_t vm, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vx_u16mf2_m(vbool32_t vm, vuint8mf4_t vs2,
                                      uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vv_u16m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vx_u16m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vv_u16m2_m(vbool8_t vm, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vx_u16m2_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16m2_t __riscv_vwsubu_wv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16m4_t __riscv_vwsubu_vv_u16m4_m(vbool4_t vm, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vx_u16m4_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16m4_t __riscv_vwsubu_wv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vwsubu_vv_u16m8_m(vbool2_t vm, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vx_u16m8_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vwsubu_wv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vwsubu_vv_u32mf2_m(vbool64_t vm, vuint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_vx_u32mf2_m(vbool64_t vm, vuint16mf4_t vs2,
                                      uint16_t rs1, size_t vl);
```

```
vuint32mf2_t __riscv_vwsubu_wv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_wx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vv_u32m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vx_u32m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vv_u32m2_m(vbool16_t vm, vuint16m1_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vx_u32m2_m(vbool16_t vm, vuint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vv_u32m4_m(vbool8_t vm, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vx_u32m4_m(vbool8_t vm, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wx_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vv_u32m8_m(vbool4_t vm, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vx_u32m8_m(vbool4_t vm, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wx_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                      uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_vv_u64m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwsubu_vx_u64m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_wv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwsubu_wx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_vv_u64m2_m(vbool32_t vm, vuint32m1_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_vx_u64m2_m(vbool32_t vm, vuint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vv_u64m4_m(vbool16_t vm, vuint32m2_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vx_u64m4_m(vbool16_t vm, vuint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vv_u64m8_m(vbool8_t vm, vuint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vx_u64m8_m(vbool8_t vm, vuint32m4_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wx_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
```

```
                                    uint32_t rs1, size_t vl);
```

A.3.3. Vector Integer Widening Intrinsics

```
vint16mf4_t __riscv_vwcvt_x_x_v_i16mf4(vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwcvt_x_x_v_i16mf2(vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwcvt_x_x_v_i16m1(vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwcvt_x_x_v_i16m2(vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwcvt_x_x_v_i16m4(vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwcvt_x_x_v_i16m8(vint8m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwcvtu_x_x_v_u16mf4(vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwcvtu_x_x_v_u16mf2(vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwcvtu_x_x_v_u16m1(vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwcvtu_x_x_v_u16m2(vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwcvtu_x_x_v_u16m4(vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwcvtu_x_x_v_u16m8(vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwcvt_x_x_v_i32mf2(vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwcvt_x_x_v_i32m1(vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwcvt_x_x_v_i32m2(vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwcvt_x_x_v_i32m4(vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwcvt_x_x_v_i32m8(vint16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwcvtu_x_x_v_u32mf2(vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwcvtu_x_x_v_u32m1(vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwcvtu_x_x_v_u32m2(vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwcvtu_x_x_v_u32m4(vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwcvtu_x_x_v_u32m8(vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwcvt_x_x_v_i64m1(vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwcvt_x_x_v_i64m2(vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwcvt_x_x_v_i64m4(vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwcvt_x_x_v_i64m8(vint32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwcvtu_x_x_v_u64m1(vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwcvtu_x_x_v_u64m2(vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwcvtu_x_x_v_u64m4(vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vwcvtu_x_x_v_u64m8(vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vwcvt_x_x_v_i16mf4_m(vbool64_t vm, vint8mf8_t vs2,
                                         size_t vl);
vint16mf2_t __riscv_vwcvt_x_x_v_i16mf2_m(vbool32_t vm, vint8mf4_t vs2,
                                         size_t vl);
vint16m1_t __riscv_vwcvt_x_x_v_i16m1_m(vbool16_t vm, vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwcvt_x_x_v_i16m2_m(vbool8_t vm, vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwcvt_x_x_v_i16m4_m(vbool4_t vm, vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwcvt_x_x_v_i16m8_m(vbool2_t vm, vint8m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwcvtu_x_x_v_u16mf4_m(vbool64_t vm, vuint8mf8_t vs2,
                                           size_t vl);
vuint16mf2_t __riscv_vwcvtu_x_x_v_u16mf2_m(vbool32_t vm, vuint8mf4_t vs2,
                                           size_t vl);
vuint16m1_t __riscv_vwcvtu_x_x_v_u16m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                         size_t vl);
vuint16m2_t __riscv_vwcvtu_x_x_v_u16m2_m(vbool8_t vm, vuint8m1_t vs2,
                                         size_t vl);
vuint16m4_t __riscv_vwcvtu_x_x_v_u16m4_m(vbool4_t vm, vuint8m2_t vs2,
                                         size_t vl);
vuint16m8_t __riscv_vwcvtu_x_x_v_u16m8_m(vbool2_t vm, vuint8m4_t vs2,
                                         size_t vl);
vint32mf2_t __riscv_vwcvt_x_x_v_i32mf2_m(vbool64_t vm, vint16mf4_t vs2,
                                         size_t vl);
vint32m1_t __riscv_vwcvt_x_x_v_i32m1_m(vbool32_t vm, vint16mf2_t vs2,
                                       size_t vl);
vint32m2_t __riscv_vwcvt_x_x_v_i32m2_m(vbool16_t vm, vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwcvt_x_x_v_i32m4_m(vbool8_t vm, vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwcvt_x_x_v_i32m8_m(vbool4_t vm, vint16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwcvtu_x_x_v_u32mf2_m(vbool64_t vm, vuint16mf4_t vs2,
                                           size_t vl);
vuint32m1_t __riscv_vwcvtu_x_x_v_u32m1_m(vbool32_t vm, vuint16mf2_t vs2,
```

```
                                        size_t vl);
vuint32m2_t __riscv_vwcvtu_x_x_v_u32m2_m(vbool16_t vm, vuint16m1_t vs2,
                                        size_t vl);
vuint32m4_t __riscv_vwcvtu_x_x_v_u32m4_m(vbool8_t vm, vuint16m2_t vs2,
                                        size_t vl);
vuint32m8_t __riscv_vwcvtu_x_x_v_u32m8_m(vbool4_t vm, vuint16m4_t vs2,
                                        size_t vl);
vint64m1_t __riscv_vwcvt_x_x_v_i64m1_m(vbool64_t vm, vint32mf2_t vs2,
                                      size_t vl);
vint64m2_t __riscv_vwcvt_x_x_v_i64m2_m(vbool32_t vm, vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwcvt_x_x_v_i64m4_m(vbool16_t vm, vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwcvt_x_x_v_i64m8_m(vbool8_t vm, vint32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwcvtu_x_x_v_u64m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vwcvtu_x_x_v_u64m2_m(vbool32_t vm, vuint32m1_t vs2,
                                        size_t vl);
vuint64m4_t __riscv_vwcvtu_x_x_v_u64m4_m(vbool16_t vm, vuint32m2_t vs2,
                                        size_t vl);
vuint64m8_t __riscv_vwcvtu_x_x_v_u64m8_m(vbool8_t vm, vuint32m4_t vs2,
                                        size_t vl);
```

A.3.4. Vector Integer Extension Intrinsics

```
vint16mf4_t __riscv_vsext_vf2_i16mf4(vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vsext_vf2_i16mf2(vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vsext_vf2_i16m1(vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vsext_vf2_i16m2(vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vsext_vf2_i16m4(vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vsext_vf2_i16m8(vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf4_i32mf2(vint8mf8_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf4_i32m1(vint8mf4_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf4_i32m2(vint8mf2_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf4_i32m4(vint8m1_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf4_i32m8(vint8m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf8_i64m1(vint8mf8_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf8_i64m2(vint8mf4_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf8_i64m4(vint8mf2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf8_i64m8(vint8m1_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf2_i32mf2(vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf2_i32m1(vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf2_i32m2(vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf2_i32m4(vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf2_i32m8(vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf4_i64m1(vint16mf4_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf4_i64m2(vint16mf2_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf4_i64m4(vint16m1_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf4_i64m8(vint16m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf2_i64m1(vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf2_i64m2(vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf2_i64m4(vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf2_i64m8(vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vzext_vf2_u16mf4(vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vzext_vf2_u16mf2(vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vzext_vf2_u16m1(vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vzext_vf2_u16m2(vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vzext_vf2_u16m4(vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vzext_vf2_u16m8(vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf4_u32mf2(vuint8mf8_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf4_u32m1(vuint8mf4_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf4_u32m2(vuint8mf2_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf4_u32m4(vuint8m1_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf4_u32m8(vuint8m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf8_u64m1(vuint8mf8_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf8_u64m2(vuint8mf4_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf8_u64m4(vuint8mf2_t vs2, size_t vl);
```

```
vuint64m8_t __riscv_vzext_vf8_u64m8(vuint8m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf2_u32mf2(vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf2_u32m1(vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf2_u32m2(vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf2_u32m4(vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf2_u32m8(vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf4_u64m1(vuint16mf4_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf4_u64m2(vuint16mf2_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf4_u64m4(vuint16m1_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf4_u64m8(vuint16m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf2_u64m1(vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf2_u64m2(vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf2_u64m4(vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf2_u64m8(vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vsext_vf2_i16mf4_m(vbool64_t vm, vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vsext_vf2_i16mf2_m(vbool32_t vm, vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vsext_vf2_i16m1_m(vbool16_t vm, vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vsext_vf2_i16m2_m(vbool8_t vm, vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vsext_vf2_i16m4_m(vbool4_t vm, vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vsext_vf2_i16m8_m(vbool2_t vm, vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf4_i32mf2_m(vbool64_t vm, vint8mf8_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf4_i32m1_m(vbool32_t vm, vint8mf4_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf4_i32m2_m(vbool16_t vm, vint8mf2_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf4_i32m4_m(vbool8_t vm, vint8m1_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf4_i32m8_m(vbool4_t vm, vint8m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf8_i64m1_m(vbool64_t vm, vint8mf8_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf8_i64m2_m(vbool32_t vm, vint8mf4_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf8_i64m4_m(vbool16_t vm, vint8mf2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf8_i64m8_m(vbool8_t vm, vint8m1_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf2_i32mf2_m(vbool64_t vm, vint16mf4_t vs2,
                                       size_t vl);
vint32m1_t __riscv_vsext_vf2_i32m1_m(vbool32_t vm, vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf2_i32m2_m(vbool16_t vm, vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf2_i32m4_m(vbool8_t vm, vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf2_i32m8_m(vbool4_t vm, vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf4_i64m1_m(vbool64_t vm, vint16mf4_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf4_i64m2_m(vbool32_t vm, vint16mf2_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf4_i64m4_m(vbool16_t vm, vint16m1_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf4_i64m8_m(vbool8_t vm, vint16m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf2_i64m1_m(vbool64_t vm, vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf2_i64m2_m(vbool32_t vm, vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf2_i64m4_m(vbool16_t vm, vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf2_i64m8_m(vbool8_t vm, vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vzext_vf2_u16mf4_m(vbool64_t vm, vuint8mf8_t vs2,
                                        size_t vl);
vuint16mf2_t __riscv_vzext_vf2_u16mf2_m(vbool32_t vm, vuint8mf4_t vs2,
                                        size_t vl);
vuint16m1_t __riscv_vzext_vf2_u16m1_m(vbool16_t vm, vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vzext_vf2_u16m2_m(vbool8_t vm, vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vzext_vf2_u16m4_m(vbool4_t vm, vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vzext_vf2_u16m8_m(vbool2_t vm, vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf4_u32mf2_m(vbool64_t vm, vuint8mf8_t vs2,
                                        size_t vl);
vuint32m1_t __riscv_vzext_vf4_u32m1_m(vbool32_t vm, vuint8mf4_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf4_u32m2_m(vbool16_t vm, vuint8mf2_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf4_u32m4_m(vbool8_t vm, vuint8m1_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf4_u32m8_m(vbool4_t vm, vuint8m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf8_u64m1_m(vbool64_t vm, vuint8mf8_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf8_u64m2_m(vbool32_t vm, vuint8mf4_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf8_u64m4_m(vbool16_t vm, vuint8mf2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf8_u64m8_m(vbool8_t vm, vuint8m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf2_u32mf2_m(vbool64_t vm, vuint16mf4_t vs2,
                                        size_t vl);
vuint32m1_t __riscv_vzext_vf2_u32m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                      size_t vl);
vuint32m2_t __riscv_vzext_vf2_u32m2_m(vbool16_t vm, vuint16m1_t vs2, size_t vl);
```

```
vuint32m4_t __riscv_vzext_vf2_u32m4_m(vbool8_t vm, vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf2_u32m8_m(vbool4_t vm, vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf4_u64m1_m(vbool64_t vm, vuint16mf4_t vs2,
                                      size_t vl);
vuint64m2_t __riscv_vzext_vf4_u64m2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vzext_vf4_u64m4_m(vbool16_t vm, vuint16m1_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf4_u64m8_m(vbool8_t vm, vuint16m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf2_u64m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                      size_t vl);
vuint64m2_t __riscv_vzext_vf2_u64m2_m(vbool32_t vm, vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf2_u64m4_m(vbool16_t vm, vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf2_u64m8_m(vbool8_t vm, vuint32m4_t vs2, size_t vl);
```

A.3.5. Vector Integer Add-with-Carry / Subtract-with-Borrow Intrinsics

```
vint8mf8_t __riscv_vadc_vvm_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, vbool64_t v0,
                                  size_t vl);
vint8mf8_t __riscv_vadc_vxm_i8mf8(vint8mf8_t vs2, int8_t rs1, vbool64_t v0,
                                  size_t vl);
vint8mf4_t __riscv_vadc_vvm_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, vbool32_t v0,
                                  size_t vl);
vint8mf4_t __riscv_vadc_vxm_i8mf4(vint8mf4_t vs2, int8_t rs1, vbool32_t v0,
                                  size_t vl);
vint8mf2_t __riscv_vadc_vvm_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, vbool16_t v0,
                                  size_t vl);
vint8mf2_t __riscv_vadc_vxm_i8mf2(vint8mf2_t vs2, int8_t rs1, vbool16_t v0,
                                  size_t vl);
vint8m1_t __riscv_vadc_vvm_i8m1(vint8m1_t vs2, vint8m1_t vs1, vbool8_t v0,
                                size_t vl);
vint8m1_t __riscv_vadc_vxm_i8m1(vint8m1_t vs2, int8_t rs1, vbool8_t v0,
                                size_t vl);
vint8m2_t __riscv_vadc_vvm_i8m2(vint8m2_t vs2, vint8m2_t vs1, vbool4_t v0,
                                size_t vl);
vint8m2_t __riscv_vadc_vxm_i8m2(vint8m2_t vs2, int8_t rs1, vbool4_t v0,
                                size_t vl);
vint8m4_t __riscv_vadc_vvm_i8m4(vint8m4_t vs2, vint8m4_t vs1, vbool2_t v0,
                                size_t vl);
vint8m4_t __riscv_vadc_vxm_i8m4(vint8m4_t vs2, int8_t rs1, vbool2_t v0,
                                size_t vl);
vint8m8_t __riscv_vadc_vvm_i8m8(vint8m8_t vs2, vint8m8_t vs1, vbool1_t v0,
                                size_t vl);
vint8m8_t __riscv_vadc_vxm_i8m8(vint8m8_t vs2, int8_t rs1, vbool1_t v0,
                                size_t vl);
vint16mf4_t __riscv_vadc_vvm_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1,
                                    vbool64_t v0, size_t vl);
vint16mf4_t __riscv_vadc_vxm_i16mf4(vint16mf4_t vs2, int16_t rs1, vbool64_t v0,
                                    size_t vl);
vint16mf2_t __riscv_vadc_vvm_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1,
                                    vbool32_t v0, size_t vl);
vint16mf2_t __riscv_vadc_vxm_i16mf2(vint16mf2_t vs2, int16_t rs1, vbool32_t v0,
                                    size_t vl);
vint16m1_t __riscv_vadc_vvm_i16m1(vint16m1_t vs2, vint16m1_t vs1, vbool16_t v0,
                                  size_t vl);
vint16m1_t __riscv_vadc_vxm_i16m1(vint16m1_t vs2, int16_t rs1, vbool16_t v0,
                                  size_t vl);
vint16m2_t __riscv_vadc_vvm_i16m2(vint16m2_t vs2, vint16m2_t vs1, vbool8_t v0,
                                  size_t vl);
vint16m2_t __riscv_vadc_vxm_i16m2(vint16m2_t vs2, int16_t rs1, vbool8_t v0,
                                  size_t vl);
vint16m4_t __riscv_vadc_vvm_i16m4(vint16m4_t vs2, vint16m4_t vs1, vbool4_t v0,
                                  size_t vl);
vint16m4_t __riscv_vadc_vxm_i16m4(vint16m4_t vs2, int16_t rs1, vbool4_t v0,
                                  size_t vl);
vint16m8_t __riscv_vadc_vvm_i16m8(vint16m8_t vs2, vint16m8_t vs1, vbool2_t v0,
```

```
                                    size_t vl);
vint16m8_t __riscv_vadc_vxm_i16m8(vint16m8_t vs2, int16_t rs1, vbool2_t v0,
                                    size_t vl);
vint32mf2_t __riscv_vadc_vvm_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1,
                                      vbool64_t v0, size_t vl);
vint32mf2_t __riscv_vadc_vxm_i32mf2(vint32mf2_t vs2, int32_t rs1, vbool64_t v0,
                                      size_t vl);
vint32m1_t __riscv_vadc_vvm_i32m1(vint32m1_t vs2, vint32m1_t vs1, vbool32_t v0,
                                    size_t vl);
vint32m1_t __riscv_vadc_vxm_i32m1(vint32m1_t vs2, int32_t rs1, vbool32_t v0,
                                    size_t vl);
vint32m2_t __riscv_vadc_vvm_i32m2(vint32m2_t vs2, vint32m2_t vs1, vbool16_t v0,
                                    size_t vl);
vint32m2_t __riscv_vadc_vxm_i32m2(vint32m2_t vs2, int32_t rs1, vbool16_t v0,
                                    size_t vl);
vint32m4_t __riscv_vadc_vvm_i32m4(vint32m4_t vs2, vint32m4_t vs1, vbool8_t v0,
                                    size_t vl);
vint32m4_t __riscv_vadc_vxm_i32m4(vint32m4_t vs2, int32_t rs1, vbool8_t v0,
                                    size_t vl);
vint32m8_t __riscv_vadc_vvm_i32m8(vint32m8_t vs2, vint32m8_t vs1, vbool4_t v0,
                                    size_t vl);
vint32m8_t __riscv_vadc_vxm_i32m8(vint32m8_t vs2, int32_t rs1, vbool4_t v0,
                                    size_t vl);
vint64m1_t __riscv_vadc_vvm_i64m1(vint64m1_t vs2, vint64m1_t vs1, vbool64_t v0,
                                    size_t vl);
vint64m1_t __riscv_vadc_vxm_i64m1(vint64m1_t vs2, int64_t rs1, vbool64_t v0,
                                    size_t vl);
vint64m2_t __riscv_vadc_vvm_i64m2(vint64m2_t vs2, vint64m2_t vs1, vbool32_t v0,
                                    size_t vl);
vint64m2_t __riscv_vadc_vxm_i64m2(vint64m2_t vs2, int64_t rs1, vbool32_t v0,
                                    size_t vl);
vint64m4_t __riscv_vadc_vvm_i64m4(vint64m4_t vs2, vint64m4_t vs1, vbool16_t v0,
                                    size_t vl);
vint64m4_t __riscv_vadc_vxm_i64m4(vint64m4_t vs2, int64_t rs1, vbool16_t v0,
                                    size_t vl);
vint64m8_t __riscv_vadc_vvm_i64m8(vint64m8_t vs2, vint64m8_t vs1, vbool8_t v0,
                                    size_t vl);
vint64m8_t __riscv_vadc_vxm_i64m8(vint64m8_t vs2, int64_t rs1, vbool8_t v0,
                                    size_t vl);
vint8mf8_t __riscv_vsbc_vvm_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, vbool64_t v0,
                                    size_t vl);
vint8mf8_t __riscv_vsbc_vxm_i8mf8(vint8mf8_t vs2, int8_t rs1, vbool64_t v0,
                                    size_t vl);
vint8mf4_t __riscv_vsbc_vvm_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, vbool32_t v0,
                                    size_t vl);
vint8mf4_t __riscv_vsbc_vxm_i8mf4(vint8mf4_t vs2, int8_t rs1, vbool32_t v0,
                                    size_t vl);
vint8mf2_t __riscv_vsbc_vvm_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, vbool16_t v0,
                                    size_t vl);
vint8mf2_t __riscv_vsbc_vxm_i8mf2(vint8mf2_t vs2, int8_t rs1, vbool16_t v0,
                                    size_t vl);
vint8m1_t __riscv_vsbc_vvm_i8m1(vint8m1_t vs2, vint8m1_t vs1, vbool8_t v0,
                                  size_t vl);
vint8m1_t __riscv_vsbc_vxm_i8m1(vint8m1_t vs2, int8_t rs1, vbool8_t v0,
                                  size_t vl);
vint8m2_t __riscv_vsbc_vvm_i8m2(vint8m2_t vs2, vint8m2_t vs1, vbool4_t v0,
                                  size_t vl);
vint8m2_t __riscv_vsbc_vxm_i8m2(vint8m2_t vs2, int8_t rs1, vbool4_t v0,
                                  size_t vl);
vint8m4_t __riscv_vsbc_vvm_i8m4(vint8m4_t vs2, vint8m4_t vs1, vbool2_t v0,
                                  size_t vl);
vint8m4_t __riscv_vsbc_vxm_i8m4(vint8m4_t vs2, int8_t rs1, vbool2_t v0,
                                  size_t vl);
vint8m8_t __riscv_vsbc_vvm_i8m8(vint8m8_t vs2, vint8m8_t vs1, vbool1_t v0,
                                  size_t vl);
vint8m8_t __riscv_vsbc_vxm_i8m8(vint8m8_t vs2, int8_t rs1, vbool1_t v0,
                                  size_t vl);
```

```
vint16mf4_t __riscv_vsbc_vvm_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1,
                                    vbool64_t v0, size_t vl);
vint16mf4_t __riscv_vsbc_vxm_i16mf4(vint16mf4_t vs2, int16_t rs1, vbool64_t v0,
                                    size_t vl);
vint16mf2_t __riscv_vsbc_vvm_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1,
                                    vbool32_t v0, size_t vl);
vint16mf2_t __riscv_vsbc_vxm_i16mf2(vint16mf2_t vs2, int16_t rs1, vbool32_t v0,
                                    size_t vl);
vint16m1_t __riscv_vsbc_vvm_i16m1(vint16m1_t vs2, vint16m1_t vs1, vbool16_t v0,
                                  size_t vl);
vint16m1_t __riscv_vsbc_vxm_i16m1(vint16m1_t vs2, int16_t rs1, vbool16_t v0,
                                  size_t vl);
vint16m2_t __riscv_vsbc_vvm_i16m2(vint16m2_t vs2, vint16m2_t vs1, vbool8_t v0,
                                  size_t vl);
vint16m2_t __riscv_vsbc_vxm_i16m2(vint16m2_t vs2, int16_t rs1, vbool8_t v0,
                                  size_t vl);
vint16m4_t __riscv_vsbc_vvm_i16m4(vint16m4_t vs2, vint16m4_t vs1, vbool4_t v0,
                                  size_t vl);
vint16m4_t __riscv_vsbc_vxm_i16m4(vint16m4_t vs2, int16_t rs1, vbool4_t v0,
                                  size_t vl);
vint16m8_t __riscv_vsbc_vvm_i16m8(vint16m8_t vs2, vint16m8_t vs1, vbool2_t v0,
                                  size_t vl);
vint16m8_t __riscv_vsbc_vxm_i16m8(vint16m8_t vs2, int16_t rs1, vbool2_t v0,
                                  size_t vl);
vint32mf2_t __riscv_vsbc_vvm_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1,
                                    vbool64_t v0, size_t vl);
vint32mf2_t __riscv_vsbc_vxm_i32mf2(vint32mf2_t vs2, int32_t rs1, vbool64_t v0,
                                    size_t vl);
vint32m1_t __riscv_vsbc_vvm_i32m1(vint32m1_t vs2, vint32m1_t vs1, vbool32_t v0,
                                  size_t vl);
vint32m1_t __riscv_vsbc_vxm_i32m1(vint32m1_t vs2, int32_t rs1, vbool32_t v0,
                                  size_t vl);
vint32m2_t __riscv_vsbc_vvm_i32m2(vint32m2_t vs2, vint32m2_t vs1, vbool16_t v0,
                                  size_t vl);
vint32m2_t __riscv_vsbc_vxm_i32m2(vint32m2_t vs2, int32_t rs1, vbool16_t v0,
                                  size_t vl);
vint32m4_t __riscv_vsbc_vvm_i32m4(vint32m4_t vs2, vint32m4_t vs1, vbool8_t v0,
                                  size_t vl);
vint32m4_t __riscv_vsbc_vxm_i32m4(vint32m4_t vs2, int32_t rs1, vbool8_t v0,
                                  size_t vl);
vint32m8_t __riscv_vsbc_vvm_i32m8(vint32m8_t vs2, vint32m8_t vs1, vbool4_t v0,
                                  size_t vl);
vint32m8_t __riscv_vsbc_vxm_i32m8(vint32m8_t vs2, int32_t rs1, vbool4_t v0,
                                  size_t vl);
vint64m1_t __riscv_vsbc_vvm_i64m1(vint64m1_t vs2, vint64m1_t vs1, vbool64_t v0,
                                  size_t vl);
vint64m1_t __riscv_vsbc_vxm_i64m1(vint64m1_t vs2, int64_t rs1, vbool64_t v0,
                                  size_t vl);
vint64m2_t __riscv_vsbc_vvm_i64m2(vint64m2_t vs2, vint64m2_t vs1, vbool32_t v0,
                                  size_t vl);
vint64m2_t __riscv_vsbc_vxm_i64m2(vint64m2_t vs2, int64_t rs1, vbool32_t v0,
                                  size_t vl);
vint64m4_t __riscv_vsbc_vvm_i64m4(vint64m4_t vs2, vint64m4_t vs1, vbool16_t v0,
                                  size_t vl);
vint64m4_t __riscv_vsbc_vxm_i64m4(vint64m4_t vs2, int64_t rs1, vbool16_t v0,
                                  size_t vl);
vint64m8_t __riscv_vsbc_vvm_i64m8(vint64m8_t vs2, vint64m8_t vs1, vbool8_t v0,
                                  size_t vl);
vint64m8_t __riscv_vsbc_vxm_i64m8(vint64m8_t vs2, int64_t rs1, vbool8_t v0,
                                  size_t vl);
vuint8mf8_t __riscv_vadc_vvm_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                   vbool64_t v0, size_t vl);
vuint8mf8_t __riscv_vadc_vxm_u8mf8(vuint8mf8_t vs2, uint8_t rs1, vbool64_t v0,
                                   size_t vl);
vuint8mf4_t __riscv_vadc_vvm_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                   vbool32_t v0, size_t vl);
vuint8mf4_t __riscv_vadc_vxm_u8mf4(vuint8mf4_t vs2, uint8_t rs1, vbool32_t v0,
```

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                                  size_t vl);
vuint8mf2_t __riscv_vadc_vvm_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                  vbool16_t v0, size_t vl);
vuint8mf2_t __riscv_vadc_vxm_u8mf2(vuint8mf2_t vs2, uint8_t rs1, vbool16_t v0,
                                  size_t vl);
vuint8m1_t __riscv_vadc_vvm_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, vbool8_t v0,
                                 size_t vl);
vuint8m1_t __riscv_vadc_vxm_u8m1(vuint8m1_t vs2, uint8_t rs1, vbool8_t v0,
                                 size_t vl);
vuint8m2_t __riscv_vadc_vvm_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, vbool4_t v0,
                                 size_t vl);
vuint8m2_t __riscv_vadc_vxm_u8m2(vuint8m2_t vs2, uint8_t rs1, vbool4_t v0,
                                 size_t vl);
vuint8m4_t __riscv_vadc_vvm_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, vbool2_t v0,
                                 size_t vl);
vuint8m4_t __riscv_vadc_vxm_u8m4(vuint8m4_t vs2, uint8_t rs1, vbool2_t v0,
                                 size_t vl);
vuint8m8_t __riscv_vadc_vvm_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, vbool1_t v0,
                                 size_t vl);
vuint8m8_t __riscv_vadc_vxm_u8m8(vuint8m8_t vs2, uint8_t rs1, vbool1_t v0,
                                 size_t vl);
vuint16mf4_t __riscv_vadc_vvm_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    vbool64_t v0, size_t vl);
vuint16mf4_t __riscv_vadc_vxm_u16mf4(vuint16mf4_t vs2, uint16_t rs1,
                                    vbool64_t v0, size_t vl);
vuint16mf2_t __riscv_vadc_vvm_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    vbool32_t v0, size_t vl);
vuint16mf2_t __riscv_vadc_vxm_u16mf2(vuint16mf2_t vs2, uint16_t rs1,
                                    vbool32_t v0, size_t vl);
vuint16m1_t __riscv_vadc_vvm_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                   vbool16_t v0, size_t vl);
vuint16m1_t __riscv_vadc_vxm_u16m1(vuint16m1_t vs2, uint16_t rs1, vbool16_t v0,
                                   size_t vl);
vuint16m2_t __riscv_vadc_vvm_u16m2(vuint16m2_t vs2, vuint16m2_t vs1,
                                   vbool8_t v0, size_t vl);
vuint16m2_t __riscv_vadc_vxm_u16m2(vuint16m2_t vs2, uint16_t rs1, vbool8_t v0,
                                   size_t vl);
vuint16m4_t __riscv_vadc_vvm_u16m4(vuint16m4_t vs2, vuint16m4_t vs1,
                                   vbool4_t v0, size_t vl);
vuint16m4_t __riscv_vadc_vxm_u16m4(vuint16m4_t vs2, uint16_t rs1, vbool4_t v0,
                                   size_t vl);
vuint16m8_t __riscv_vadc_vvm_u16m8(vuint16m8_t vs2, vuint16m8_t vs1,
                                   vbool2_t v0, size_t vl);
vuint16m8_t __riscv_vadc_vxm_u16m8(vuint16m8_t vs2, uint16_t rs1, vbool2_t v0,
                                   size_t vl);
vuint32mf2_t __riscv_vadc_vvm_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    vbool64_t v0, size_t vl);
vuint32mf2_t __riscv_vadc_vxm_u32mf2(vuint32mf2_t vs2, uint32_t rs1,
                                    vbool64_t v0, size_t vl);
vuint32m1_t __riscv_vadc_vvm_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                   vbool32_t v0, size_t vl);
vuint32m1_t __riscv_vadc_vxm_u32m1(vuint32m1_t vs2, uint32_t rs1, vbool32_t v0,
                                   size_t vl);
vuint32m2_t __riscv_vadc_vvm_u32m2(vuint32m2_t vs2, vuint32m2_t vs1,
                                   vbool16_t v0, size_t vl);
vuint32m2_t __riscv_vadc_vxm_u32m2(vuint32m2_t vs2, uint32_t rs1, vbool16_t v0,
                                   size_t vl);
vuint32m4_t __riscv_vadc_vvm_u32m4(vuint32m4_t vs2, vuint32m4_t vs1,
                                   vbool8_t v0, size_t vl);
vuint32m4_t __riscv_vadc_vxm_u32m4(vuint32m4_t vs2, uint32_t rs1, vbool8_t v0,
                                   size_t vl);
vuint32m8_t __riscv_vadc_vvm_u32m8(vuint32m8_t vs2, vuint32m8_t vs1,
                                   vbool4_t v0, size_t vl);
vuint32m8_t __riscv_vadc_vxm_u32m8(vuint32m8_t vs2, uint32_t rs1, vbool4_t v0,
                                   size_t vl);
vuint64m1_t __riscv_vadc_vvm_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                   vbool64_t v0, size_t vl);
```

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vuint64m1_t __riscv_vadc_vxm_u64m1(vuint64m1_t vs2, uint64_t rs1, vbool64_t v0,
                                   size_t vl);
vuint64m2_t __riscv_vadc_vvm_u64m2(vuint64m2_t vs2, vuint64m2_t vs1,
                                   vbool32_t v0, size_t vl);
vuint64m2_t __riscv_vadc_vxm_u64m2(vuint64m2_t vs2, uint64_t rs1, vbool32_t v0,
                                   size_t vl);
vuint64m4_t __riscv_vadc_vvm_u64m4(vuint64m4_t vs2, vuint64m4_t vs1,
                                   vbool16_t v0, size_t vl);
vuint64m4_t __riscv_vadc_vxm_u64m4(vuint64m4_t vs2, uint64_t rs1, vbool16_t v0,
                                   size_t vl);
vuint64m8_t __riscv_vadc_vvm_u64m8(vuint64m8_t vs2, vuint64m8_t vs1,
                                   vbool8_t v0, size_t vl);
vuint64m8_t __riscv_vadc_vxm_u64m8(vuint64m8_t vs2, uint64_t rs1, vbool8_t v0,
                                   size_t vl);
vuint8mf8_t __riscv_vsbc_vvm_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                   vbool64_t v0, size_t vl);
vuint8mf8_t __riscv_vsbc_vxm_u8mf8(vuint8mf8_t vs2, uint8_t rs1, vbool64_t v0,
                                   size_t vl);
vuint8mf4_t __riscv_vsbc_vvm_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                   vbool32_t v0, size_t vl);
vuint8mf4_t __riscv_vsbc_vxm_u8mf4(vuint8mf4_t vs2, uint8_t rs1, vbool32_t v0,
                                   size_t vl);
vuint8mf2_t __riscv_vsbc_vvm_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                   vbool16_t v0, size_t vl);
vuint8mf2_t __riscv_vsbc_vxm_u8mf2(vuint8mf2_t vs2, uint8_t rs1, vbool16_t v0,
                                   size_t vl);
vuint8m1_t __riscv_vsbc_vvm_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, vbool8_t v0,
                                 size_t vl);
vuint8m1_t __riscv_vsbc_vxm_u8m1(vuint8m1_t vs2, uint8_t rs1, vbool8_t v0,
                                 size_t vl);
vuint8m2_t __riscv_vsbc_vvm_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, vbool4_t v0,
                                 size_t vl);
vuint8m2_t __riscv_vsbc_vxm_u8m2(vuint8m2_t vs2, uint8_t rs1, vbool4_t v0,
                                 size_t vl);
vuint8m4_t __riscv_vsbc_vvm_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, vbool2_t v0,
                                 size_t vl);
vuint8m4_t __riscv_vsbc_vxm_u8m4(vuint8m4_t vs2, uint8_t rs1, vbool2_t v0,
                                 size_t vl);
vuint8m8_t __riscv_vsbc_vvm_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, vbool1_t v0,
                                 size_t vl);
vuint8m8_t __riscv_vsbc_vxm_u8m8(vuint8m8_t vs2, uint8_t rs1, vbool1_t v0,
                                 size_t vl);
vuint16mf4_t __riscv_vsbc_vvm_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                     vbool64_t v0, size_t vl);
vuint16mf4_t __riscv_vsbc_vxm_u16mf4(vuint16mf4_t vs2, uint16_t rs1,
                                     vbool64_t v0, size_t vl);
vuint16mf2_t __riscv_vsbc_vvm_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                     vbool32_t v0, size_t vl);
vuint16mf2_t __riscv_vsbc_vxm_u16mf2(vuint16mf2_t vs2, uint16_t rs1,
                                     vbool32_t v0, size_t vl);
vuint16m1_t __riscv_vsbc_vvm_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                   vbool16_t v0, size_t vl);
vuint16m1_t __riscv_vsbc_vxm_u16m1(vuint16m1_t vs2, uint16_t rs1, vbool16_t v0,
                                   size_t vl);
vuint16m2_t __riscv_vsbc_vvm_u16m2(vuint16m2_t vs2, vuint16m2_t vs1,
                                   vbool8_t v0, size_t vl);
vuint16m2_t __riscv_vsbc_vxm_u16m2(vuint16m2_t vs2, uint16_t rs1, vbool8_t v0,
                                   size_t vl);
vuint16m4_t __riscv_vsbc_vvm_u16m4(vuint16m4_t vs2, vuint16m4_t vs1,
                                   vbool4_t v0, size_t vl);
vuint16m4_t __riscv_vsbc_vxm_u16m4(vuint16m4_t vs2, uint16_t rs1, vbool4_t v0,
                                   size_t vl);
vuint16m8_t __riscv_vsbc_vvm_u16m8(vuint16m8_t vs2, vuint16m8_t vs1,
                                   vbool2_t v0, size_t vl);
vuint16m8_t __riscv_vsbc_vxm_u16m8(vuint16m8_t vs2, uint16_t rs1, vbool2_t v0,
                                   size_t vl);
vuint32mf2_t __riscv_vsbc_vvm_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
```

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                                    vbool64_t v0, size_t vl);
vuint32mf2_t __riscv_vsbc_vxm_u32mf2(vuint32mf2_t vs2, uint32_t rs1,
                                    vbool64_t v0, size_t vl);
vuint32m1_t __riscv_vsbc_vvm_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                   vbool32_t v0, size_t vl);
vuint32m1_t __riscv_vsbc_vxm_u32m1(vuint32m1_t vs2, uint32_t rs1, vbool32_t v0,
                                   size_t vl);
vuint32m2_t __riscv_vsbc_vvm_u32m2(vuint32m2_t vs2, vuint32m2_t vs1,
                                   vbool16_t v0, size_t vl);
vuint32m2_t __riscv_vsbc_vxm_u32m2(vuint32m2_t vs2, uint32_t rs1, vbool16_t v0,
                                   size_t vl);
vuint32m4_t __riscv_vsbc_vvm_u32m4(vuint32m4_t vs2, vuint32m4_t vs1,
                                   vbool8_t v0, size_t vl);
vuint32m4_t __riscv_vsbc_vxm_u32m4(vuint32m4_t vs2, uint32_t rs1, vbool8_t v0,
                                   size_t vl);
vuint32m8_t __riscv_vsbc_vvm_u32m8(vuint32m8_t vs2, vuint32m8_t vs1,
                                   vbool4_t v0, size_t vl);
vuint32m8_t __riscv_vsbc_vxm_u32m8(vuint32m8_t vs2, uint32_t rs1, vbool4_t v0,
                                   size_t vl);
vuint64m1_t __riscv_vsbc_vvm_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                   vbool64_t v0, size_t vl);
vuint64m1_t __riscv_vsbc_vxm_u64m1(vuint64m1_t vs2, uint64_t rs1, vbool64_t v0,
                                   size_t vl);
vuint64m2_t __riscv_vsbc_vvm_u64m2(vuint64m2_t vs2, vuint64m2_t vs1,
                                   vbool32_t v0, size_t vl);
vuint64m2_t __riscv_vsbc_vxm_u64m2(vuint64m2_t vs2, uint64_t rs1, vbool32_t v0,
                                   size_t vl);
vuint64m4_t __riscv_vsbc_vvm_u64m4(vuint64m4_t vs2, vuint64m4_t vs1,
                                   vbool16_t v0, size_t vl);
vuint64m4_t __riscv_vsbc_vxm_u64m4(vuint64m4_t vs2, uint64_t rs1, vbool16_t v0,
                                   size_t vl);
vuint64m8_t __riscv_vsbc_vvm_u64m8(vuint64m8_t vs2, vuint64m8_t vs1,
                                   vbool8_t v0, size_t vl);
vuint64m8_t __riscv_vsbc_vxm_u64m8(vuint64m8_t vs2, uint64_t rs1, vbool8_t v0,
                                   size_t vl);
vbool64_t __riscv_vmadc_vvm_i8mf8_b64(vint8mf8_t vs2, vint8mf8_t vs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vxm_i8mf8_b64(vint8mf8_t vs2, int8_t rs1, vbool64_t v0,
                                      size_t vl);
vbool64_t __riscv_vmadc_vv_i8mf8_b64(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmadc_vx_i8mf8_b64(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmadc_vvm_i8mf4_b32(vint8mf4_t vs2, vint8mf4_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vxm_i8mf4_b32(vint8mf4_t vs2, int8_t rs1, vbool32_t v0,
                                      size_t vl);
vbool32_t __riscv_vmadc_vv_i8mf4_b32(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmadc_vx_i8mf4_b32(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmadc_vvm_i8mf2_b16(vint8mf2_t vs2, vint8mf2_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vxm_i8mf2_b16(vint8mf2_t vs2, int8_t rs1, vbool16_t v0,
                                      size_t vl);
vbool16_t __riscv_vmadc_vv_i8mf2_b16(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmadc_vx_i8mf2_b16(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmadc_vvm_i8m1_b8(vint8m1_t vs2, vint8m1_t vs1, vbool8_t v0,
                                   size_t vl);
vbool8_t __riscv_vmadc_vxm_i8m1_b8(vint8m1_t vs2, int8_t rs1, vbool8_t v0,
                                   size_t vl);
vbool8_t __riscv_vmadc_vv_i8m1_b8(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmadc_vx_i8m1_b8(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmadc_vvm_i8m2_b4(vint8m2_t vs2, vint8m2_t vs1, vbool4_t v0,
                                   size_t vl);
vbool4_t __riscv_vmadc_vxm_i8m2_b4(vint8m2_t vs2, int8_t rs1, vbool4_t v0,
                                   size_t vl);
vbool4_t __riscv_vmadc_vv_i8m2_b4(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmadc_vx_i8m2_b4(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmadc_vvm_i8m4_b2(vint8m4_t vs2, vint8m4_t vs1, vbool2_t v0,
                                   size_t vl);
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vbool2_t __riscv_vmadc_vxm_i8m4_b2(vint8m4_t vs2, int8_t rs1, vbool2_t v0,
                                   size_t vl);
vbool2_t __riscv_vmadc_vv_i8m4_b2(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmadc_vx_i8m4_b2(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmadc_vvm_i8m8_b1(vint8m8_t vs2, vint8m8_t vs1, vbool1_t v0,
                                   size_t vl);
vbool1_t __riscv_vmadc_vxm_i8m8_b1(vint8m8_t vs2, int8_t rs1, vbool1_t v0,
                                   size_t vl);
vbool1_t __riscv_vmadc_vv_i8m8_b1(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmadc_vx_i8m8_b1(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmadc_vvm_i16mf4_b64(vint16mf4_t vs2, vint16mf4_t vs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vxm_i16mf4_b64(vint16mf4_t vs2, int16_t rs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vv_i16mf4_b64(vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmadc_vx_i16mf4_b64(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmadc_vvm_i16mf2_b32(vint16mf2_t vs2, vint16mf2_t vs1,
                                       vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vxm_i16mf2_b32(vint16mf2_t vs2, int16_t rs1,
                                       vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vv_i16mf2_b32(vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmadc_vx_i16mf2_b32(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmadc_vvm_i16m1_b16(vint16m1_t vs2, vint16m1_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vxm_i16m1_b16(vint16m1_t vs2, int16_t rs1, vbool16_t v0,
                                      size_t vl);
vbool16_t __riscv_vmadc_vv_i16m1_b16(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmadc_vx_i16m1_b16(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmadc_vvm_i16m2_b8(vint16m2_t vs2, vint16m2_t vs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmadc_vxm_i16m2_b8(vint16m2_t vs2, int16_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmadc_vv_i16m2_b8(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmadc_vx_i16m2_b8(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmadc_vvm_i16m4_b4(vint16m4_t vs2, vint16m4_t vs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmadc_vxm_i16m4_b4(vint16m4_t vs2, int16_t rs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmadc_vv_i16m4_b4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmadc_vx_i16m4_b4(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmadc_vvm_i16m8_b2(vint16m8_t vs2, vint16m8_t vs1, vbool2_t v0,
                                    size_t vl);
vbool2_t __riscv_vmadc_vxm_i16m8_b2(vint16m8_t vs2, int16_t rs1, vbool2_t v0,
                                    size_t vl);
vbool2_t __riscv_vmadc_vv_i16m8_b2(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmadc_vx_i16m8_b2(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmadc_vvm_i32mf2_b64(vint32mf2_t vs2, vint32mf2_t vs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vxm_i32mf2_b64(vint32mf2_t vs2, int32_t rs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vv_i32mf2_b64(vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmadc_vx_i32mf2_b64(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmadc_vvm_i32m1_b32(vint32m1_t vs2, vint32m1_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vxm_i32m1_b32(vint32m1_t vs2, int32_t rs1, vbool32_t v0,
                                      size_t vl);
vbool32_t __riscv_vmadc_vv_i32m1_b32(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmadc_vx_i32m1_b32(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmadc_vvm_i32m2_b16(vint32m2_t vs2, vint32m2_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vxm_i32m2_b16(vint32m2_t vs2, int32_t rs1, vbool16_t v0,
                                      size_t vl);
vbool16_t __riscv_vmadc_vv_i32m2_b16(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmadc_vx_i32m2_b16(vint32m2_t vs2, int32_t rs1, size_t vl);
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vbool8_t __riscv_vmadc_vvm_i32m4_b8(vint32m4_t vs2, vint32m4_t vs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmadc_vxm_i32m4_b8(vint32m4_t vs2, int32_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmadc_vv_i32m4_b8(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmadc_vx_i32m4_b8(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmadc_vvm_i32m8_b4(vint32m8_t vs2, vint32m8_t vs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmadc_vxm_i32m8_b4(vint32m8_t vs2, int32_t rs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmadc_vv_i32m8_b4(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmadc_vx_i32m8_b4(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmadc_vvm_i64m1_b64(vint64m1_t vs2, vint64m1_t vs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vxm_i64m1_b64(vint64m1_t vs2, int64_t rs1, vbool64_t v0,
                                      size_t vl);
vbool64_t __riscv_vmadc_vv_i64m1_b64(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmadc_vx_i64m1_b64(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmadc_vvm_i64m2_b32(vint64m2_t vs2, vint64m2_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vxm_i64m2_b32(vint64m2_t vs2, int64_t rs1, vbool32_t v0,
                                      size_t vl);
vbool32_t __riscv_vmadc_vv_i64m2_b32(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmadc_vx_i64m2_b32(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmadc_vvm_i64m4_b16(vint64m4_t vs2, vint64m4_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vxm_i64m4_b16(vint64m4_t vs2, int64_t rs1, vbool16_t v0,
                                      size_t vl);
vbool16_t __riscv_vmadc_vv_i64m4_b16(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmadc_vx_i64m4_b16(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmadc_vvm_i64m8_b8(vint64m8_t vs2, vint64m8_t vs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmadc_vxm_i64m8_b8(vint64m8_t vs2, int64_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmadc_vv_i64m8_b8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmadc_vx_i64m8_b8(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsbc_vvm_i8mf8_b64(vint8mf8_t vs2, vint8mf8_t vs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vxm_i8mf8_b64(vint8mf8_t vs2, int8_t rs1, vbool64_t v0,
                                      size_t vl);
vbool64_t __riscv_vmsbc_vv_i8mf8_b64(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsbc_vx_i8mf8_b64(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsbc_vvm_i8mf4_b32(vint8mf4_t vs2, vint8mf4_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vxm_i8mf4_b32(vint8mf4_t vs2, int8_t rs1, vbool32_t v0,
                                      size_t vl);
vbool32_t __riscv_vmsbc_vv_i8mf4_b32(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsbc_vx_i8mf4_b32(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsbc_vvm_i8mf2_b16(vint8mf2_t vs2, vint8mf2_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vxm_i8mf2_b16(vint8mf2_t vs2, int8_t rs1, vbool16_t v0,
                                      size_t vl);
vbool16_t __riscv_vmsbc_vv_i8mf2_b16(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsbc_vx_i8mf2_b16(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsbc_vvm_i8m1_b8(vint8m1_t vs2, vint8m1_t vs1, vbool8_t v0,
                                   size_t vl);
vbool8_t __riscv_vmsbc_vxm_i8m1_b8(vint8m1_t vs2, int8_t rs1, vbool8_t v0,
                                   size_t vl);
vbool8_t __riscv_vmsbc_vv_i8m1_b8(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsbc_vx_i8m1_b8(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsbc_vvm_i8m2_b4(vint8m2_t vs2, vint8m2_t vs1, vbool4_t v0,
                                   size_t vl);
vbool4_t __riscv_vmsbc_vxm_i8m2_b4(vint8m2_t vs2, int8_t rs1, vbool4_t v0,
                                   size_t vl);
vbool4_t __riscv_vmsbc_vv_i8m2_b4(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsbc_vx_i8m2_b4(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsbc_vvm_i8m4_b2(vint8m4_t vs2, vint8m4_t vs1, vbool2_t v0,
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                                    size_t vl);
vbool2_t __riscv_vmsbc_vxm_i8m4_b2(vint8m4_t vs2, int8_t rs1, vbool2_t v0,
                                    size_t vl);
vbool2_t __riscv_vmsbc_vv_i8m4_b2(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsbc_vx_i8m4_b2(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsbc_vvm_i8m8_b1(vint8m8_t vs2, vint8m8_t vs1, vbool1_t v0,
                                    size_t vl);
vbool1_t __riscv_vmsbc_vxm_i8m8_b1(vint8m8_t vs2, int8_t rs1, vbool1_t v0,
                                    size_t vl);
vbool1_t __riscv_vmsbc_vv_i8m8_b1(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsbc_vx_i8m8_b1(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsbc_vvm_i16mf4_b64(vint16mf4_t vs2, vint16mf4_t vs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vxm_i16mf4_b64(vint16mf4_t vs2, int16_t rs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vv_i16mf4_b64(vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsbc_vx_i16mf4_b64(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsbc_vvm_i16mf2_b32(vint16mf2_t vs2, vint16mf2_t vs1,
                                       vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vxm_i16mf2_b32(vint16mf2_t vs2, int16_t rs1,
                                       vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vv_i16mf2_b32(vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsbc_vx_i16mf2_b32(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsbc_vvm_i16m1_b16(vint16m1_t vs2, vint16m1_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vxm_i16m1_b16(vint16m1_t vs2, int16_t rs1, vbool16_t v0,
                                      size_t vl);
vbool16_t __riscv_vmsbc_vv_i16m1_b16(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsbc_vx_i16m1_b16(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsbc_vvm_i16m2_b8(vint16m2_t vs2, vint16m2_t vs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmsbc_vxm_i16m2_b8(vint16m2_t vs2, int16_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmsbc_vv_i16m2_b8(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsbc_vx_i16m2_b8(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsbc_vvm_i16m4_b4(vint16m4_t vs2, vint16m4_t vs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmsbc_vxm_i16m4_b4(vint16m4_t vs2, int16_t rs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmsbc_vv_i16m4_b4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsbc_vx_i16m4_b4(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsbc_vvm_i16m8_b2(vint16m8_t vs2, vint16m8_t vs1, vbool2_t v0,
                                    size_t vl);
vbool2_t __riscv_vmsbc_vxm_i16m8_b2(vint16m8_t vs2, int16_t rs1, vbool2_t v0,
                                    size_t vl);
vbool2_t __riscv_vmsbc_vv_i16m8_b2(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsbc_vx_i16m8_b2(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsbc_vvm_i32mf2_b64(vint32mf2_t vs2, vint32mf2_t vs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vxm_i32mf2_b64(vint32mf2_t vs2, int32_t rs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vv_i32mf2_b64(vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsbc_vx_i32mf2_b64(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsbc_vvm_i32m1_b32(vint32m1_t vs2, vint32m1_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vxm_i32m1_b32(vint32m1_t vs2, int32_t rs1, vbool32_t v0,
                                      size_t vl);
vbool32_t __riscv_vmsbc_vv_i32m1_b32(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsbc_vx_i32m1_b32(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsbc_vvm_i32m2_b16(vint32m2_t vs2, vint32m2_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vxm_i32m2_b16(vint32m2_t vs2, int32_t rs1, vbool16_t v0,
                                      size_t vl);
vbool16_t __riscv_vmsbc_vv_i32m2_b16(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
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vbool16_t __riscv_vmsbc_vx_i32m2_b16(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsbc_vvm_i32m4_b8(vint32m4_t vs2, vint32m4_t vs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmsbc_vxm_i32m4_b8(vint32m4_t vs2, int32_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmsbc_vv_i32m4_b8(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsbc_vx_i32m4_b8(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsbc_vvm_i32m8_b4(vint32m8_t vs2, vint32m8_t vs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmsbc_vxm_i32m8_b4(vint32m8_t vs2, int32_t rs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmsbc_vv_i32m8_b4(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsbc_vx_i32m8_b4(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsbc_vvm_i64m1_b64(vint64m1_t vs2, vint64m1_t vs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vxm_i64m1_b64(vint64m1_t vs2, int64_t rs1, vbool64_t v0,
                                      size_t vl);
vbool64_t __riscv_vmsbc_vv_i64m1_b64(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsbc_vx_i64m1_b64(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsbc_vvm_i64m2_b32(vint64m2_t vs2, vint64m2_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vxm_i64m2_b32(vint64m2_t vs2, int64_t rs1, vbool32_t v0,
                                      size_t vl);
vbool32_t __riscv_vmsbc_vv_i64m2_b32(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsbc_vx_i64m2_b32(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsbc_vvm_i64m4_b16(vint64m4_t vs2, vint64m4_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vxm_i64m4_b16(vint64m4_t vs2, int64_t rs1, vbool16_t v0,
                                      size_t vl);
vbool16_t __riscv_vmsbc_vv_i64m4_b16(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsbc_vx_i64m4_b16(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsbc_vvm_i64m8_b8(vint64m8_t vs2, vint64m8_t vs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmsbc_vxm_i64m8_b8(vint64m8_t vs2, int64_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmsbc_vv_i64m8_b8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsbc_vx_i64m8_b8(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmadc_vvm_u8mf8_b64(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vxm_u8mf8_b64(vuint8mf8_t vs2, uint8_t rs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vv_u8mf8_b64(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmadc_vx_u8mf8_b64(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmadc_vvm_u8mf4_b32(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vxm_u8mf4_b32(vuint8mf4_t vs2, uint8_t rs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vv_u8mf4_b32(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmadc_vx_u8mf4_b32(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmadc_vvm_u8mf2_b16(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vxm_u8mf2_b16(vuint8mf2_t vs2, uint8_t rs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vv_u8mf2_b16(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmadc_vx_u8mf2_b16(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmadc_vvm_u8m1_b8(vuint8m1_t vs2, vuint8m1_t vs1, vbool8_t v0,
                                   size_t vl);
vbool8_t __riscv_vmadc_vxm_u8m1_b8(vuint8m1_t vs2, uint8_t rs1, vbool8_t v0,
                                   size_t vl);
vbool8_t __riscv_vmadc_vv_u8m1_b8(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmadc_vx_u8m1_b8(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmadc_vvm_u8m2_b4(vuint8m2_t vs2, vuint8m2_t vs1, vbool4_t v0,
                                   size_t vl);
vbool4_t __riscv_vmadc_vxm_u8m2_b4(vuint8m2_t vs2, uint8_t rs1, vbool4_t v0,
```

```
                                    size_t vl);
vbool4_t __riscv_vmadc_vv_u8m2_b4(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmadc_vx_u8m2_b4(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmadc_vvm_u8m4_b2(vuint8m4_t vs2, vuint8m4_t vs1, vbool2_t v0,
                                    size_t vl);
vbool2_t __riscv_vmadc_vxm_u8m4_b2(vuint8m4_t vs2, uint8_t rs1, vbool2_t v0,
                                    size_t vl);
vbool2_t __riscv_vmadc_vv_u8m4_b2(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmadc_vx_u8m4_b2(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmadc_vvm_u8m8_b1(vuint8m8_t vs2, vuint8m8_t vs1, vbool1_t v0,
                                    size_t vl);
vbool1_t __riscv_vmadc_vxm_u8m8_b1(vuint8m8_t vs2, uint8_t rs1, vbool1_t v0,
                                    size_t vl);
vbool1_t __riscv_vmadc_vv_u8m8_b1(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmadc_vx_u8m8_b1(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmadc_vvm_u16mf4_b64(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vxm_u16mf4_b64(vuint16mf4_t vs2, uint16_t rs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vv_u16mf4_b64(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmadc_vx_u16mf4_b64(vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmadc_vvm_u16mf2_b32(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vxm_u16mf2_b32(vuint16mf2_t vs2, uint16_t rs1,
                                       vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vv_u16mf2_b32(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmadc_vx_u16mf2_b32(vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vbool16_t __riscv_vmadc_vvm_u16m1_b16(vuint16m1_t vs2, vuint16m1_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vxm_u16m1_b16(vuint16m1_t vs2, uint16_t rs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vv_u16m1_b16(vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmadc_vx_u16m1_b16(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmadc_vvm_u16m2_b8(vuint16m2_t vs2, vuint16m2_t vs1,
                                    vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc_vxm_u16m2_b8(vuint16m2_t vs2, uint16_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmadc_vv_u16m2_b8(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmadc_vx_u16m2_b8(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmadc_vvm_u16m4_b4(vuint16m4_t vs2, vuint16m4_t vs1,
                                    vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc_vxm_u16m4_b4(vuint16m4_t vs2, uint16_t rs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmadc_vv_u16m4_b4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmadc_vx_u16m4_b4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmadc_vvm_u16m8_b2(vuint16m8_t vs2, vuint16m8_t vs1,
                                    vbool2_t v0, size_t vl);
vbool2_t __riscv_vmadc_vxm_u16m8_b2(vuint16m8_t vs2, uint16_t rs1, vbool2_t v0,
                                    size_t vl);
vbool2_t __riscv_vmadc_vv_u16m8_b2(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmadc_vx_u16m8_b2(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmadc_vvm_u32mf2_b64(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vxm_u32mf2_b64(vuint32mf2_t vs2, uint32_t rs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vv_u32mf2_b64(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmadc_vx_u32mf2_b64(vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmadc_vvm_u32m1_b32(vuint32m1_t vs2, vuint32m1_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vxm_u32m1_b32(vuint32m1_t vs2, uint32_t rs1,
```

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                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vv_u32m1_b32(vuint32m1_t vs2, vuint32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmadc_vx_u32m1_b32(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmadc_vvm_u32m2_b16(vuint32m2_t vs2, vuint32m2_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vxm_u32m2_b16(vuint32m2_t vs2, uint32_t rs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vv_u32m2_b16(vuint32m2_t vs2, vuint32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmadc_vx_u32m2_b16(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmadc_vvm_u32m4_b8(vuint32m4_t vs2, vuint32m4_t vs1,
                                    vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc_vxm_u32m4_b8(vuint32m4_t vs2, uint32_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmadc_vv_u32m4_b8(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmadc_vx_u32m4_b8(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmadc_vvm_u32m8_b4(vuint32m8_t vs2, vuint32m8_t vs1,
                                    vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc_vxm_u32m8_b4(vuint32m8_t vs2, uint32_t rs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmadc_vv_u32m8_b4(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmadc_vx_u32m8_b4(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmadc_vvm_u64m1_b64(vuint64m1_t vs2, vuint64m1_t vs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vxm_u64m1_b64(vuint64m1_t vs2, uint64_t rs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc_vv_u64m1_b64(vuint64m1_t vs2, vuint64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmadc_vx_u64m1_b64(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmadc_vvm_u64m2_b32(vuint64m2_t vs2, vuint64m2_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vxm_u64m2_b32(vuint64m2_t vs2, uint64_t rs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc_vv_u64m2_b32(vuint64m2_t vs2, vuint64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmadc_vx_u64m2_b32(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmadc_vvm_u64m4_b16(vuint64m4_t vs2, vuint64m4_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vxm_u64m4_b16(vuint64m4_t vs2, uint64_t rs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc_vv_u64m4_b16(vuint64m4_t vs2, vuint64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmadc_vx_u64m4_b16(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmadc_vvm_u64m8_b8(vuint64m8_t vs2, vuint64m8_t vs1,
                                    vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc_vxm_u64m8_b8(vuint64m8_t vs2, uint64_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmadc_vv_u64m8_b8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmadc_vx_u64m8_b8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsbc_vvm_u8mf8_b64(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vxm_u8mf8_b64(vuint8mf8_t vs2, uint8_t rs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vv_u8mf8_b64(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmsbc_vx_u8mf8_b64(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsbc_vvm_u8mf4_b32(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vxm_u8mf4_b32(vuint8mf4_t vs2, uint8_t rs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vv_u8mf4_b32(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmsbc_vx_u8mf4_b32(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsbc_vvm_u8mf2_b16(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vxm_u8mf2_b16(vuint8mf2_t vs2, uint8_t rs1,
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                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vv_u8mf2_b16(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsbc_vx_u8mf2_b16(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsbc_vvm_u8m1_b8(vuint8m1_t vs2, vuint8m1_t vs1, vbool8_t v0,
                                   size_t vl);
vbool8_t __riscv_vmsbc_vxm_u8m1_b8(vuint8m1_t vs2, uint8_t rs1, vbool8_t v0,
                                   size_t vl);
vbool8_t __riscv_vmsbc_vv_u8m1_b8(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsbc_vx_u8m1_b8(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsbc_vvm_u8m2_b4(vuint8m2_t vs2, vuint8m2_t vs1, vbool4_t v0,
                                   size_t vl);
vbool4_t __riscv_vmsbc_vxm_u8m2_b4(vuint8m2_t vs2, uint8_t rs1, vbool4_t v0,
                                   size_t vl);
vbool4_t __riscv_vmsbc_vv_u8m2_b4(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsbc_vx_u8m2_b4(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsbc_vvm_u8m4_b2(vuint8m4_t vs2, vuint8m4_t vs1, vbool2_t v0,
                                   size_t vl);
vbool2_t __riscv_vmsbc_vxm_u8m4_b2(vuint8m4_t vs2, uint8_t rs1, vbool2_t v0,
                                   size_t vl);
vbool2_t __riscv_vmsbc_vv_u8m4_b2(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsbc_vx_u8m4_b2(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsbc_vvm_u8m8_b1(vuint8m8_t vs2, vuint8m8_t vs1, vbool1_t v0,
                                   size_t vl);
vbool1_t __riscv_vmsbc_vxm_u8m8_b1(vuint8m8_t vs2, uint8_t rs1, vbool1_t v0,
                                   size_t vl);
vbool1_t __riscv_vmsbc_vv_u8m8_b1(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsbc_vx_u8m8_b1(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsbc_vvm_u16mf4_b64(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vxm_u16mf4_b64(vuint16mf4_t vs2, uint16_t rs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vv_u16mf4_b64(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsbc_vx_u16mf4_b64(vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmsbc_vvm_u16mf2_b32(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vxm_u16mf2_b32(vuint16mf2_t vs2, uint16_t rs1,
                                       vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vv_u16mf2_b32(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsbc_vx_u16mf2_b32(vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vbool16_t __riscv_vmsbc_vvm_u16m1_b16(vuint16m1_t vs2, vuint16m1_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vxm_u16m1_b16(vuint16m1_t vs2, uint16_t rs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vv_u16m1_b16(vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsbc_vx_u16m1_b16(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsbc_vvm_u16m2_b8(vuint16m2_t vs2, vuint16m2_t vs1,
                                    vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc_vxm_u16m2_b8(vuint16m2_t vs2, uint16_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmsbc_vv_u16m2_b8(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsbc_vx_u16m2_b8(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsbc_vvm_u16m4_b4(vuint16m4_t vs2, vuint16m4_t vs1,
                                    vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc_vxm_u16m4_b4(vuint16m4_t vs2, uint16_t rs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmsbc_vv_u16m4_b4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsbc_vx_u16m4_b4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsbc_vvm_u16m8_b2(vuint16m8_t vs2, vuint16m8_t vs1,
                                    vbool2_t v0, size_t vl);
vbool2_t __riscv_vmsbc_vxm_u16m8_b2(vuint16m8_t vs2, uint16_t rs1, vbool2_t v0,
                                    size_t vl);
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vbool2_t __riscv_vmsbc_vv_u16m8_b2(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsbc_vx_u16m8_b2(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsbc_vvm_u32mf2_b64(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vxm_u32mf2_b64(vuint32mf2_t vs2, uint32_t rs1,
                                       vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vv_u32mf2_b64(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsbc_vx_u32mf2_b64(vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmsbc_vvm_u32m1_b32(vuint32m1_t vs2, vuint32m1_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vxm_u32m1_b32(vuint32m1_t vs2, uint32_t rs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vv_u32m1_b32(vuint32m1_t vs2, vuint32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmsbc_vx_u32m1_b32(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsbc_vvm_u32m2_b16(vuint32m2_t vs2, vuint32m2_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vxm_u32m2_b16(vuint32m2_t vs2, uint32_t rs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vv_u32m2_b16(vuint32m2_t vs2, vuint32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsbc_vx_u32m2_b16(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsbc_vvm_u32m4_b8(vuint32m4_t vs2, vuint32m4_t vs1,
                                    vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc_vxm_u32m4_b8(vuint32m4_t vs2, uint32_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmsbc_vv_u32m4_b8(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsbc_vx_u32m4_b8(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsbc_vvm_u32m8_b4(vuint32m8_t vs2, vuint32m8_t vs1,
                                    vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc_vxm_u32m8_b4(vuint32m8_t vs2, uint32_t rs1, vbool4_t v0,
                                    size_t vl);
vbool4_t __riscv_vmsbc_vv_u32m8_b4(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsbc_vx_u32m8_b4(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsbc_vvm_u64m1_b64(vuint64m1_t vs2, vuint64m1_t vs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vxm_u64m1_b64(vuint64m1_t vs2, uint64_t rs1,
                                      vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc_vv_u64m1_b64(vuint64m1_t vs2, vuint64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmsbc_vx_u64m1_b64(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsbc_vvm_u64m2_b32(vuint64m2_t vs2, vuint64m2_t vs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vxm_u64m2_b32(vuint64m2_t vs2, uint64_t rs1,
                                      vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc_vv_u64m2_b32(vuint64m2_t vs2, vuint64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmsbc_vx_u64m2_b32(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsbc_vvm_u64m4_b16(vuint64m4_t vs2, vuint64m4_t vs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vxm_u64m4_b16(vuint64m4_t vs2, uint64_t rs1,
                                      vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc_vv_u64m4_b16(vuint64m4_t vs2, vuint64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsbc_vx_u64m4_b16(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsbc_vvm_u64m8_b8(vuint64m8_t vs2, vuint64m8_t vs1,
                                    vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc_vxm_u64m8_b8(vuint64m8_t vs2, uint64_t rs1, vbool8_t v0,
                                    size_t vl);
vbool8_t __riscv_vmsbc_vv_u64m8_b8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsbc_vx_u64m8_b8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
```

A.3.6. Vector Bitwise Binary Logical Intrinsics

```
vint8mf8_t __riscv_vand_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vand_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vand_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vand_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vand_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vand_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vand_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vand_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vand_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vand_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vand_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vand_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vand_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vand_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vand_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vand_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vand_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vand_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vand_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vand_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vand_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vand_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vand_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vand_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vand_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vand_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vand_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vand_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vand_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vand_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vand_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vand_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vand_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vand_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vand_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vand_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vand_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vand_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vand_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vand_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vand_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vand_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vand_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vand_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vor_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vor_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vor_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vor_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vor_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vor_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vor_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vor_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vor_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vor_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vor_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vor_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vor_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vor_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vor_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vor_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vor_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vor_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vor_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vor_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
```

```
vint16m2_t __riscv_vor_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vor_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vor_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vor_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vor_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vor_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vor_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vor_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vor_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vor_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vor_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vor_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vor_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vor_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vor_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vor_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vor_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vor_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vor_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vor_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vor_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vor_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vor_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vor_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vxor_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vxor_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vxor_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vxor_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vxor_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vxor_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vxor_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vxor_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vxor_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vxor_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vxor_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vxor_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vxor_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vxor_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vxor_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vxor_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vxor_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vxor_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vxor_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vxor_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vxor_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vxor_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vxor_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vxor_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vxor_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vxor_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vxor_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vxor_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vxor_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vxor_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vxor_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vxor_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vxor_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vxor_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vxor_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vxor_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vxor_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vxor_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vxor_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vxor_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vxor_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vxor_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vxor_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
```

```
vint64m8_t __riscv_vxor_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vand_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vand_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vand_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vand_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vand_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vand_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vand_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vand_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vand_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vand_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vand_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vand_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vand_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vand_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vand_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vand_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vand_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vand_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vand_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vand_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vand_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vand_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vand_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vand_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vand_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vand_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vand_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vand_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vand_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vand_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vand_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vand_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vand_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vand_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vand_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vand_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vand_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vand_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vand_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vand_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vand_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vand_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vand_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vand_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vor_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vor_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vor_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vor_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vor_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vor_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vor_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vor_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vor_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vor_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vor_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vor_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vor_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vor_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vor_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                   size_t vl);
vuint16mf4_t __riscv_vor_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vor_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                   size_t vl);
```

```
vuint16mf2_t __riscv_vor_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vor_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vor_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vor_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vor_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vor_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vor_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vor_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vor_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vor_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                   size_t vl);
vuint32mf2_t __riscv_vor_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vor_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vor_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vor_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vor_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vor_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vor_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vor_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vor_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vor_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vor_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vor_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vor_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vor_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vor_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vor_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vor_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vxor_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vxor_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vxor_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vxor_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vxor_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vxor_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vxor_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vxor_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vxor_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vxor_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vxor_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vxor_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vxor_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vxor_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vxor_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vxor_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vxor_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vxor_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vxor_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vxor_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vxor_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vxor_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vxor_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vxor_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vxor_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vxor_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vxor_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vxor_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vxor_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vxor_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vxor_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vxor_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vxor_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vxor_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vxor_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vxor_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
```

```
vuint64m1_t __riscv_vxor_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vxor_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vxor_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vxor_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vxor_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vxor_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vxor_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vxor_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vand_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                                   size_t vl);
vint8mf8_t __riscv_vand_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf4_t __riscv_vand_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                                   size_t vl);
vint8mf4_t __riscv_vand_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf2_t __riscv_vand_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                                   size_t vl);
vint8mf2_t __riscv_vand_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m1_t __riscv_vand_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                 size_t vl);
vint8m1_t __riscv_vand_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                 size_t vl);
vint8m2_t __riscv_vand_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vand_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vand_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vand_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vand_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                 size_t vl);
vint8m8_t __riscv_vand_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vand_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                     vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vand_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                                     size_t vl);
vint16mf2_t __riscv_vand_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                     vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vand_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vand_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                                   size_t vl);
vint16m1_t __riscv_vand_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                   size_t vl);
vint16m2_t __riscv_vand_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                   size_t vl);
vint16m2_t __riscv_vand_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                   size_t vl);
vint16m4_t __riscv_vand_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                   size_t vl);
vint16m4_t __riscv_vand_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                   size_t vl);
vint16m8_t __riscv_vand_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                   size_t vl);
vint16m8_t __riscv_vand_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                   size_t vl);
vint32mf2_t __riscv_vand_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                     vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vand_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                     size_t vl);
vint32m1_t __riscv_vand_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                                   size_t vl);
```

```
vint32m1_t __riscv_vand_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                   size_t vl);
vint32m2_t __riscv_vand_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                                   size_t vl);
vint32m2_t __riscv_vand_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                   size_t vl);
vint32m4_t __riscv_vand_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                   size_t vl);
vint32m4_t __riscv_vand_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                   size_t vl);
vint32m8_t __riscv_vand_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                   size_t vl);
vint32m8_t __riscv_vand_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                   size_t vl);
vint64m1_t __riscv_vand_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                                   size_t vl);
vint64m1_t __riscv_vand_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                   size_t vl);
vint64m2_t __riscv_vand_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                                   size_t vl);
vint64m2_t __riscv_vand_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                   size_t vl);
vint64m4_t __riscv_vand_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                                   size_t vl);
vint64m4_t __riscv_vand_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                   size_t vl);
vint64m8_t __riscv_vand_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                   size_t vl);
vint64m8_t __riscv_vand_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                   size_t vl);
vint8mf8_t __riscv_vor_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                                  size_t vl);
vint8mf8_t __riscv_vor_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                  size_t vl);
vint8mf4_t __riscv_vor_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                                  size_t vl);
vint8mf4_t __riscv_vor_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                  size_t vl);
vint8mf2_t __riscv_vor_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                                  size_t vl);
vint8mf2_t __riscv_vor_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m1_t __riscv_vor_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                size_t vl);
vint8m1_t __riscv_vor_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                size_t vl);
vint8m2_t __riscv_vor_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                size_t vl);
vint8m2_t __riscv_vor_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                size_t vl);
vint8m4_t __riscv_vor_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                size_t vl);
vint8m4_t __riscv_vor_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                size_t vl);
vint8m8_t __riscv_vor_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                size_t vl);
vint8m8_t __riscv_vor_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                size_t vl);
vint16mf4_t __riscv_vor_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                    vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vor_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                                    size_t vl);
vint16mf2_t __riscv_vor_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                    vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vor_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m1_t __riscv_vor_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
```

```
                                  size_t vl);
vint16m1_t __riscv_vor_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                  size_t vl);
vint16m2_t __riscv_vor_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                  size_t vl);
vint16m2_t __riscv_vor_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                  size_t vl);
vint16m4_t __riscv_vor_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                  size_t vl);
vint16m4_t __riscv_vor_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                  size_t vl);
vint16m8_t __riscv_vor_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                  size_t vl);
vint16m8_t __riscv_vor_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                  size_t vl);
vint32mf2_t __riscv_vor_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                    vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vor_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m1_t __riscv_vor_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                                  size_t vl);
vint32m1_t __riscv_vor_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                  size_t vl);
vint32m2_t __riscv_vor_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                                  size_t vl);
vint32m2_t __riscv_vor_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                  size_t vl);
vint32m4_t __riscv_vor_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                  size_t vl);
vint32m4_t __riscv_vor_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                  size_t vl);
vint32m8_t __riscv_vor_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                  size_t vl);
vint32m8_t __riscv_vor_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                  size_t vl);
vint64m1_t __riscv_vor_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                                  size_t vl);
vint64m1_t __riscv_vor_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                  size_t vl);
vint64m2_t __riscv_vor_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                                  size_t vl);
vint64m2_t __riscv_vor_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                  size_t vl);
vint64m4_t __riscv_vor_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                                  size_t vl);
vint64m4_t __riscv_vor_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                  size_t vl);
vint64m8_t __riscv_vor_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                  size_t vl);
vint64m8_t __riscv_vor_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                  size_t vl);
vint8mf8_t __riscv_vxor_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                                   size_t vl);
vint8mf8_t __riscv_vxor_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf4_t __riscv_vxor_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                                   size_t vl);
vint8mf4_t __riscv_vxor_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf2_t __riscv_vxor_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                                   size_t vl);
vint8mf2_t __riscv_vxor_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m1_t __riscv_vxor_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                 size_t vl);
vint8m1_t __riscv_vxor_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                 size_t vl);
```

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vint8m2_t __riscv_vxor_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vxor_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vxor_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vxor_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vxor_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                 size_t vl);
vint8m8_t __riscv_vxor_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vxor_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                     vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vxor_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                                     size_t vl);
vint16mf2_t __riscv_vxor_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                     vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vxor_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vxor_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                                   size_t vl);
vint16m1_t __riscv_vxor_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                   size_t vl);
vint16m2_t __riscv_vxor_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                   size_t vl);
vint16m2_t __riscv_vxor_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                   size_t vl);
vint16m4_t __riscv_vxor_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                   size_t vl);
vint16m4_t __riscv_vxor_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                   size_t vl);
vint16m8_t __riscv_vxor_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                   size_t vl);
vint16m8_t __riscv_vxor_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                   size_t vl);
vint32mf2_t __riscv_vxor_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                     vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vxor_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                     size_t vl);
vint32m1_t __riscv_vxor_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                                   size_t vl);
vint32m1_t __riscv_vxor_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                   size_t vl);
vint32m2_t __riscv_vxor_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                                   size_t vl);
vint32m2_t __riscv_vxor_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                   size_t vl);
vint32m4_t __riscv_vxor_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                   size_t vl);
vint32m4_t __riscv_vxor_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                   size_t vl);
vint32m8_t __riscv_vxor_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                   size_t vl);
vint32m8_t __riscv_vxor_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                   size_t vl);
vint64m1_t __riscv_vxor_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                                   size_t vl);
vint64m1_t __riscv_vxor_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                   size_t vl);
vint64m2_t __riscv_vxor_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                                   size_t vl);
vint64m2_t __riscv_vxor_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                   size_t vl);
vint64m4_t __riscv_vxor_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                                   size_t vl);
vint64m4_t __riscv_vxor_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
```

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                                    size_t vl);
vint64m8_t __riscv_vxor_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vxor_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vand_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vand_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf4_t __riscv_vand_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vand_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf2_t __riscv_vand_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vand_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m1_t __riscv_vand_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                   size_t vl);
vuint8m1_t __riscv_vand_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vand_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                   size_t vl);
vuint8m2_t __riscv_vand_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vand_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                   size_t vl);
vuint8m4_t __riscv_vand_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vand_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                   size_t vl);
vuint8m8_t __riscv_vand_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vand_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vand_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vand_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vand_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vand_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vand_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m2_t __riscv_vand_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vand_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m4_t __riscv_vand_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vand_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vand_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vand_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vand_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vand_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vand_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vand_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vand_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
```

```
vuint32m2_t __riscv_vand_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m4_t __riscv_vand_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vand_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vand_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vand_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vand_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vand_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vand_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vand_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vand_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vand_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vand_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vand_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vor_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                   vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vor_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8mf4_t __riscv_vor_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                   vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vor_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8mf2_t __riscv_vor_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                   vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vor_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m1_t __riscv_vor_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                 size_t vl);
vuint8m1_t __riscv_vor_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                 size_t vl);
vuint8m2_t __riscv_vor_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                 size_t vl);
vuint8m2_t __riscv_vor_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                 size_t vl);
vuint8m4_t __riscv_vor_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                 size_t vl);
vuint8m4_t __riscv_vor_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                 size_t vl);
vuint8m8_t __riscv_vor_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                 size_t vl);
vuint8m8_t __riscv_vor_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16mf4_t __riscv_vor_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                     vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vor_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vor_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                     vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vor_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vor_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vor_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                                   size_t vl);
vuint16m2_t __riscv_vor_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
```

```
                                    vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vor_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m4_t __riscv_vor_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vor_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vor_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vor_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vor_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vor_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vor_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vor_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vor_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vor_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m4_t __riscv_vor_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vor_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vor_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vor_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vor_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vor_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vor_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vor_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vor_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vor_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vor_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vor_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vxor_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vxor_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf4_t __riscv_vxor_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vxor_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf2_t __riscv_vxor_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vxor_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m1_t __riscv_vxor_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                  size_t vl);
vuint8m1_t __riscv_vxor_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m2_t __riscv_vxor_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                  size_t vl);
vuint8m2_t __riscv_vxor_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                  size_t vl);
```

```
vuint8m4_t __riscv_vxor_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                  size_t vl);
vuint8m4_t __riscv_vxor_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m8_t __riscv_vxor_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                  size_t vl);
vuint8m8_t __riscv_vxor_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                  size_t vl);
vuint16mf4_t __riscv_vxor_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vxor_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vxor_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vxor_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vxor_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vxor_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m2_t __riscv_vxor_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vxor_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m4_t __riscv_vxor_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vxor_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vxor_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vxor_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vxor_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vxor_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vxor_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vxor_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vxor_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vxor_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m4_t __riscv_vxor_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vxor_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vxor_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vxor_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vxor_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vxor_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vxor_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vxor_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vxor_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vxor_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vxor_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vxor_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
```

```
                                    size_t vl);
```

A.3.7. Vector Bitwise Unary Logical Intrinsics

```
vint8mf8_t __riscv_vnot_v_i8mf8(vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vnot_v_i8mf4(vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vnot_v_i8mf2(vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vnot_v_i8m1(vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vnot_v_i8m2(vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vnot_v_i8m4(vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vnot_v_i8m8(vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vnot_v_i16mf4(vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vnot_v_i16mf2(vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vnot_v_i16m1(vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vnot_v_i16m2(vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vnot_v_i16m4(vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vnot_v_i16m8(vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vnot_v_i32mf2(vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vnot_v_i32m1(vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vnot_v_i32m2(vint32m2_t vs, size_t vl);
vint32m4_t __riscv_vnot_v_i32m4(vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vnot_v_i32m8(vint32m8_t vs, size_t vl);
vint64m1_t __riscv_vnot_v_i64m1(vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vnot_v_i64m2(vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vnot_v_i64m4(vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vnot_v_i64m8(vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vnot_v_u8mf8(vuint8mf8_t vs, size_t vl);
vuint8mf4_t __riscv_vnot_v_u8mf4(vuint8mf4_t vs, size_t vl);
vuint8mf2_t __riscv_vnot_v_u8mf2(vuint8mf2_t vs, size_t vl);
vuint8m1_t __riscv_vnot_v_u8m1(vuint8m1_t vs, size_t vl);
vuint8m2_t __riscv_vnot_v_u8m2(vuint8m2_t vs, size_t vl);
vuint8m4_t __riscv_vnot_v_u8m4(vuint8m4_t vs, size_t vl);
vuint8m8_t __riscv_vnot_v_u8m8(vuint8m8_t vs, size_t vl);
vuint16mf4_t __riscv_vnot_v_u16mf4(vuint16mf4_t vs, size_t vl);
vuint16mf2_t __riscv_vnot_v_u16mf2(vuint16mf2_t vs, size_t vl);
vuint16m1_t __riscv_vnot_v_u16m1(vuint16m1_t vs, size_t vl);
vuint16m2_t __riscv_vnot_v_u16m2(vuint16m2_t vs, size_t vl);
vuint16m4_t __riscv_vnot_v_u16m4(vuint16m4_t vs, size_t vl);
vuint16m8_t __riscv_vnot_v_u16m8(vuint16m8_t vs, size_t vl);
vuint32mf2_t __riscv_vnot_v_u32mf2(vuint32mf2_t vs, size_t vl);
vuint32m1_t __riscv_vnot_v_u32m1(vuint32m1_t vs, size_t vl);
vuint32m2_t __riscv_vnot_v_u32m2(vuint32m2_t vs, size_t vl);
vuint32m4_t __riscv_vnot_v_u32m4(vuint32m4_t vs, size_t vl);
vuint32m8_t __riscv_vnot_v_u32m8(vuint32m8_t vs, size_t vl);
vuint64m1_t __riscv_vnot_v_u64m1(vuint64m1_t vs, size_t vl);
vuint64m2_t __riscv_vnot_v_u64m2(vuint64m2_t vs, size_t vl);
vuint64m4_t __riscv_vnot_v_u64m4(vuint64m4_t vs, size_t vl);
vuint64m8_t __riscv_vnot_v_u64m8(vuint64m8_t vs, size_t vl);
// masked functions
vint8mf8_t __riscv_vnot_v_i8mf8_m(vbool64_t vm, vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vnot_v_i8mf4_m(vbool32_t vm, vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vnot_v_i8mf2_m(vbool16_t vm, vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vnot_v_i8m1_m(vbool8_t vm, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vnot_v_i8m2_m(vbool4_t vm, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vnot_v_i8m4_m(vbool2_t vm, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vnot_v_i8m8_m(vbool1_t vm, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vnot_v_i16mf4_m(vbool64_t vm, vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vnot_v_i16mf2_m(vbool32_t vm, vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vnot_v_i16m1_m(vbool16_t vm, vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vnot_v_i16m2_m(vbool8_t vm, vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vnot_v_i16m4_m(vbool4_t vm, vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vnot_v_i16m8_m(vbool2_t vm, vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vnot_v_i32mf2_m(vbool64_t vm, vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vnot_v_i32m1_m(vbool32_t vm, vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vnot_v_i32m2_m(vbool16_t vm, vint32m2_t vs, size_t vl);
```

```
vint32m4_t __riscv_vnot_v_i32m4_m(vbool8_t vm, vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vnot_v_i32m8_m(vbool4_t vm, vint32m8_t vs, size_t vl);
vint64m1_t __riscv_vnot_v_i64m1_m(vbool64_t vm, vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vnot_v_i64m2_m(vbool32_t vm, vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vnot_v_i64m4_m(vbool16_t vm, vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vnot_v_i64m8_m(vbool8_t vm, vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vnot_v_u8mf8_m(vbool64_t vm, vuint8mf8_t vs, size_t vl);
vuint8mf4_t __riscv_vnot_v_u8mf4_m(vbool32_t vm, vuint8mf4_t vs, size_t vl);
vuint8mf2_t __riscv_vnot_v_u8mf2_m(vbool16_t vm, vuint8mf2_t vs, size_t vl);
vuint8m1_t __riscv_vnot_v_u8m1_m(vbool8_t vm, vuint8m1_t vs, size_t vl);
vuint8m2_t __riscv_vnot_v_u8m2_m(vbool4_t vm, vuint8m2_t vs, size_t vl);
vuint8m4_t __riscv_vnot_v_u8m4_m(vbool2_t vm, vuint8m4_t vs, size_t vl);
vuint8m8_t __riscv_vnot_v_u8m8_m(vbool1_t vm, vuint8m8_t vs, size_t vl);
vuint16mf4_t __riscv_vnot_v_u16mf4_m(vbool64_t vm, vuint16mf4_t vs, size_t vl);
vuint16mf2_t __riscv_vnot_v_u16mf2_m(vbool32_t vm, vuint16mf2_t vs, size_t vl);
vuint16m1_t __riscv_vnot_v_u16m1_m(vbool16_t vm, vuint16m1_t vs, size_t vl);
vuint16m2_t __riscv_vnot_v_u16m2_m(vbool8_t vm, vuint16m2_t vs, size_t vl);
vuint16m4_t __riscv_vnot_v_u16m4_m(vbool4_t vm, vuint16m4_t vs, size_t vl);
vuint16m8_t __riscv_vnot_v_u16m8_m(vbool2_t vm, vuint16m8_t vs, size_t vl);
vuint32mf2_t __riscv_vnot_v_u32mf2_m(vbool64_t vm, vuint32mf2_t vs, size_t vl);
vuint32m1_t __riscv_vnot_v_u32m1_m(vbool32_t vm, vuint32m1_t vs, size_t vl);
vuint32m2_t __riscv_vnot_v_u32m2_m(vbool16_t vm, vuint32m2_t vs, size_t vl);
vuint32m4_t __riscv_vnot_v_u32m4_m(vbool8_t vm, vuint32m4_t vs, size_t vl);
vuint32m8_t __riscv_vnot_v_u32m8_m(vbool4_t vm, vuint32m8_t vs, size_t vl);
vuint64m1_t __riscv_vnot_v_u64m1_m(vbool64_t vm, vuint64m1_t vs, size_t vl);
vuint64m2_t __riscv_vnot_v_u64m2_m(vbool32_t vm, vuint64m2_t vs, size_t vl);
vuint64m4_t __riscv_vnot_v_u64m4_m(vbool16_t vm, vuint64m4_t vs, size_t vl);
vuint64m8_t __riscv_vnot_v_u64m8_m(vbool8_t vm, vuint64m8_t vs, size_t vl);
```

A.3.8. Vector Single-Width Bit Shift Intrinsics

```
vint8mf8_t __riscv_vsll_vv_i8mf8(vint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsll_vx_i8mf8(vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vsll_vv_i8mf4(vint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsll_vx_i8mf4(vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vsll_vv_i8mf2(vint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsll_vx_i8mf2(vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vsll_vv_i8m1(vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsll_vx_i8m1(vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vsll_vv_i8m2(vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsll_vx_i8m2(vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vsll_vv_i8m4(vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsll_vx_i8m4(vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vsll_vv_i8m8(vint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsll_vx_i8m8(vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vsll_vv_i16mf4(vint16mf4_t vs2, vuint16mf4_t vs1,
                                   size_t vl);
vint16mf4_t __riscv_vsll_vx_i16mf4(vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsll_vv_i16mf2(vint16mf2_t vs2, vuint16mf2_t vs1,
                                   size_t vl);
vint16mf2_t __riscv_vsll_vx_i16mf2(vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsll_vv_i16m1(vint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsll_vx_i16m1(vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vsll_vv_i16m2(vint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsll_vx_i16m2(vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vsll_vv_i16m4(vint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsll_vx_i16m4(vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vsll_vv_i16m8(vint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsll_vx_i16m8(vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vsll_vv_i32mf2(vint32mf2_t vs2, vuint32mf2_t vs1,
                                   size_t vl);
vint32mf2_t __riscv_vsll_vx_i32mf2(vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vsll_vv_i32m1(vint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsll_vx_i32m1(vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vsll_vv_i32m2(vint32m2_t vs2, vuint32m2_t vs1, size_t vl);
```

```
vint32m2_t __riscv_vsll_vx_i32m2(vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vsll_vv_i32m4(vint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsll_vx_i32m4(vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vsll_vv_i32m8(vint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsll_vx_i32m8(vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vsll_vv_i64m1(vint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsll_vx_i64m1(vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vsll_vv_i64m2(vint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsll_vx_i64m2(vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vsll_vv_i64m4(vint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsll_vx_i64m4(vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vsll_vv_i64m8(vint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsll_vx_i64m8(vint64m8_t vs2, size_t rs1, size_t vl);
vint8mf8_t __riscv_vsra_vv_i8mf8(vint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsra_vx_i8mf8(vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vsra_vv_i8mf4(vint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsra_vx_i8mf4(vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vsra_vv_i8mf2(vint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsra_vx_i8mf2(vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vsra_vv_i8m1(vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsra_vx_i8m1(vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vsra_vv_i8m2(vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsra_vx_i8m2(vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vsra_vv_i8m4(vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsra_vx_i8m4(vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vsra_vv_i8m8(vint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsra_vx_i8m8(vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vsra_vv_i16mf4(vint16mf4_t vs2, vuint16mf4_t vs1,
                                   size_t vl);
vint16mf4_t __riscv_vsra_vx_i16mf4(vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsra_vv_i16mf2(vint16mf2_t vs2, vuint16mf2_t vs1,
                                   size_t vl);
vint16mf2_t __riscv_vsra_vx_i16mf2(vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsra_vv_i16m1(vint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsra_vx_i16m1(vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vsra_vv_i16m2(vint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsra_vx_i16m2(vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vsra_vv_i16m4(vint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsra_vx_i16m4(vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vsra_vv_i16m8(vint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsra_vx_i16m8(vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vsra_vv_i32mf2(vint32mf2_t vs2, vuint32mf2_t vs1,
                                   size_t vl);
vint32mf2_t __riscv_vsra_vx_i32mf2(vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vsra_vv_i32m1(vint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsra_vx_i32m1(vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vsra_vv_i32m2(vint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsra_vx_i32m2(vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vsra_vv_i32m4(vint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsra_vx_i32m4(vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vsra_vv_i32m8(vint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsra_vx_i32m8(vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vsra_vv_i64m1(vint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsra_vx_i64m1(vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vsra_vv_i64m2(vint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsra_vx_i64m2(vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vsra_vv_i64m4(vint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsra_vx_i64m4(vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vsra_vv_i64m8(vint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsra_vx_i64m8(vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsll_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsll_vx_u8mf8(vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsll_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsll_vx_u8mf4(vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsll_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsll_vx_u8mf2(vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsll_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
```

```
vuint8m1_t __riscv_vsll_vx_u8m1(vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vsll_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsll_vx_u8m2(vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vsll_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsll_vx_u8m4(vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vsll_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsll_vx_u8m8(vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsll_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vsll_vx_u16mf4(vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsll_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vsll_vx_u16mf2(vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vsll_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsll_vx_u16m1(vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsll_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsll_vx_u16m2(vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsll_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsll_vx_u16m4(vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsll_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsll_vx_u16m8(vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsll_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vsll_vx_u32mf2(vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vsll_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsll_vx_u32m1(vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vsll_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsll_vx_u32m2(vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsll_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsll_vx_u32m4(vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsll_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsll_vx_u32m8(vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsll_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsll_vx_u64m1(vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsll_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsll_vx_u64m2(vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsll_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsll_vx_u64m4(vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsll_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsll_vx_u64m8(vuint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsrl_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsrl_vx_u8mf8(vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsrl_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsrl_vx_u8mf4(vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsrl_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsrl_vx_u8mf2(vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsrl_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsrl_vx_u8m1(vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vsrl_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsrl_vx_u8m2(vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vsrl_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsrl_vx_u8m4(vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vsrl_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsrl_vx_u8m8(vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsrl_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vsrl_vx_u16mf4(vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsrl_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vsrl_vx_u16mf2(vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vsrl_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsrl_vx_u16m1(vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsrl_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsrl_vx_u16m2(vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsrl_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsrl_vx_u16m4(vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsrl_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
```

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vuint16m8_t __riscv_vsrl_vx_u16m8(vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsrl_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vsrl_vx_u32mf2(vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vsrl_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsrl_vx_u32m1(vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vsrl_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsrl_vx_u32m2(vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsrl_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsrl_vx_u32m4(vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsrl_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsrl_vx_u32m8(vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsrl_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsrl_vx_u64m1(vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsrl_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsrl_vx_u64m2(vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsrl_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsrl_vx_u64m4(vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsrl_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsrl_vx_u64m8(vuint64m8_t vs2, size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsll_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                   vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsll_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, size_t rs1,
                                   size_t vl);
vint8mf4_t __riscv_vsll_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                   vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsll_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, size_t rs1,
                                   size_t vl);
vint8mf2_t __riscv_vsll_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                   vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsll_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, size_t rs1,
                                   size_t vl);
vint8m1_t __riscv_vsll_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vuint8m1_t vs1,
                                 size_t vl);
vint8m1_t __riscv_vsll_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, size_t rs1,
                                 size_t vl);
vint8m2_t __riscv_vsll_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vuint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vsll_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, size_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vsll_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vuint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vsll_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, size_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vsll_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vuint8m8_t vs1,
                                 size_t vl);
vint8m8_t __riscv_vsll_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, size_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vsll_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                     vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsll_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, size_t rs1,
                                     size_t vl);
vint16mf2_t __riscv_vsll_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                     vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsll_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, size_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vsll_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsll_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, size_t rs1,
                                   size_t vl);
vint16m2_t __riscv_vsll_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vuint16m2_t vs1,
                                   size_t vl);
vint16m2_t __riscv_vsll_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, size_t rs1,
                                   size_t vl);
vint16m4_t __riscv_vsll_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vuint16m4_t vs1,
                                   size_t vl);
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vint16m4_t __riscv_vsll_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, size_t rs1,
                                   size_t vl);
vint16m8_t __riscv_vsll_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vuint16m8_t vs1,
                                   size_t vl);
vint16m8_t __riscv_vsll_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, size_t rs1,
                                   size_t vl);
vint32mf2_t __riscv_vsll_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                     vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsll_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, size_t rs1,
                                     size_t vl);
vint32m1_t __riscv_vsll_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                   vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsll_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, size_t rs1,
                                   size_t vl);
vint32m2_t __riscv_vsll_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                   vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsll_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, size_t rs1,
                                   size_t vl);
vint32m4_t __riscv_vsll_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vuint32m4_t vs1,
                                   size_t vl);
vint32m4_t __riscv_vsll_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, size_t rs1,
                                   size_t vl);
vint32m8_t __riscv_vsll_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vuint32m8_t vs1,
                                   size_t vl);
vint32m8_t __riscv_vsll_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, size_t rs1,
                                   size_t vl);
vint64m1_t __riscv_vsll_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                   vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsll_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, size_t rs1,
                                   size_t vl);
vint64m2_t __riscv_vsll_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                   vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsll_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, size_t rs1,
                                   size_t vl);
vint64m4_t __riscv_vsll_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                   vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsll_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, size_t rs1,
                                   size_t vl);
vint64m8_t __riscv_vsll_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vuint64m8_t vs1,
                                   size_t vl);
vint64m8_t __riscv_vsll_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, size_t rs1,
                                   size_t vl);
vint8mf8_t __riscv_vsra_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                   vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsra_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, size_t rs1,
                                   size_t vl);
vint8mf4_t __riscv_vsra_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                   vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsra_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, size_t rs1,
                                   size_t vl);
vint8mf2_t __riscv_vsra_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                   vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsra_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, size_t rs1,
                                   size_t vl);
vint8m1_t __riscv_vsra_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vuint8m1_t vs1,
                                 size_t vl);
vint8m1_t __riscv_vsra_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, size_t rs1,
                                 size_t vl);
vint8m2_t __riscv_vsra_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vuint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vsra_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, size_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vsra_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vuint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vsra_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, size_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vsra_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vuint8m8_t vs1,
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                                  size_t vl);
vint8m8_t __riscv_vsra_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, size_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vsra_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                     vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsra_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, size_t rs1,
                                     size_t vl);
vint16mf2_t __riscv_vsra_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                     vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsra_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, size_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vsra_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsra_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, size_t rs1,
                                   size_t vl);
vint16m2_t __riscv_vsra_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vuint16m2_t vs1,
                                   size_t vl);
vint16m2_t __riscv_vsra_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, size_t rs1,
                                   size_t vl);
vint16m4_t __riscv_vsra_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vuint16m4_t vs1,
                                   size_t vl);
vint16m4_t __riscv_vsra_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, size_t rs1,
                                   size_t vl);
vint16m8_t __riscv_vsra_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vuint16m8_t vs1,
                                   size_t vl);
vint16m8_t __riscv_vsra_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, size_t rs1,
                                   size_t vl);
vint32mf2_t __riscv_vsra_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                     vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsra_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, size_t rs1,
                                     size_t vl);
vint32m1_t __riscv_vsra_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                   vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsra_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, size_t rs1,
                                   size_t vl);
vint32m2_t __riscv_vsra_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                   vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsra_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, size_t rs1,
                                   size_t vl);
vint32m4_t __riscv_vsra_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vuint32m4_t vs1,
                                   size_t vl);
vint32m4_t __riscv_vsra_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, size_t rs1,
                                   size_t vl);
vint32m8_t __riscv_vsra_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vuint32m8_t vs1,
                                   size_t vl);
vint32m8_t __riscv_vsra_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, size_t rs1,
                                   size_t vl);
vint64m1_t __riscv_vsra_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                   vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsra_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, size_t rs1,
                                   size_t vl);
vint64m2_t __riscv_vsra_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                   vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsra_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, size_t rs1,
                                   size_t vl);
vint64m4_t __riscv_vsra_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                   vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsra_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, size_t rs1,
                                   size_t vl);
vint64m8_t __riscv_vsra_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vuint64m8_t vs1,
                                   size_t vl);
vint64m8_t __riscv_vsra_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, size_t rs1,
                                   size_t vl);
vuint8mf8_t __riscv_vsll_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                    vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsll_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, size_t rs1,
                                    size_t vl);
```

```
vuint8mf4_t __riscv_vsll_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                    vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsll_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, size_t rs1,
                                    size_t vl);
vuint8mf2_t __riscv_vsll_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsll_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, size_t rs1,
                                    size_t vl);
vuint8m1_t __riscv_vsll_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                  size_t vl);
vuint8m1_t __riscv_vsll_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, size_t rs1,
                                  size_t vl);
vuint8m2_t __riscv_vsll_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                  size_t vl);
vuint8m2_t __riscv_vsll_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, size_t rs1,
                                  size_t vl);
vuint8m4_t __riscv_vsll_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                  size_t vl);
vuint8m4_t __riscv_vsll_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, size_t rs1,
                                  size_t vl);
vuint8m8_t __riscv_vsll_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                  size_t vl);
vuint8m8_t __riscv_vsll_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, size_t rs1,
                                  size_t vl);
vuint16mf4_t __riscv_vsll_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsll_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsll_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsll_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      size_t rs1, size_t vl);
vuint16m1_t __riscv_vsll_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsll_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2, size_t rs1,
                                    size_t vl);
vuint16m2_t __riscv_vsll_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsll_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, size_t rs1,
                                    size_t vl);
vuint16m4_t __riscv_vsll_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsll_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, size_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vsll_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsll_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, size_t rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vsll_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsll_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      size_t rs1, size_t vl);
vuint32m1_t __riscv_vsll_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsll_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2, size_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vsll_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsll_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2, size_t rs1,
                                    size_t vl);
vuint32m4_t __riscv_vsll_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsll_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, size_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vsll_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsll_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, size_t rs1,
```

```
                                    size_t vl);
vuint64m1_t __riscv_vsll_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsll_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2, size_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vsll_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsll_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2, size_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vsll_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsll_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2, size_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vsll_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsll_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, size_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vsrl_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                    vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsrl_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, size_t rs1,
                                    size_t vl);
vuint8mf4_t __riscv_vsrl_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                    vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsrl_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, size_t rs1,
                                    size_t vl);
vuint8mf2_t __riscv_vsrl_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsrl_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, size_t rs1,
                                    size_t vl);
vuint8m1_t __riscv_vsrl_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                  size_t vl);
vuint8m1_t __riscv_vsrl_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, size_t rs1,
                                  size_t vl);
vuint8m2_t __riscv_vsrl_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                  size_t vl);
vuint8m2_t __riscv_vsrl_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, size_t rs1,
                                  size_t vl);
vuint8m4_t __riscv_vsrl_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                  size_t vl);
vuint8m4_t __riscv_vsrl_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, size_t rs1,
                                  size_t vl);
vuint8m8_t __riscv_vsrl_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                  size_t vl);
vuint8m8_t __riscv_vsrl_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, size_t rs1,
                                  size_t vl);
vuint16mf4_t __riscv_vsrl_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsrl_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                      size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsrl_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsrl_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      size_t rs1, size_t vl);
vuint16m1_t __riscv_vsrl_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsrl_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2, size_t rs1,
                                    size_t vl);
vuint16m2_t __riscv_vsrl_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsrl_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, size_t rs1,
                                    size_t vl);
vuint16m4_t __riscv_vsrl_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsrl_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, size_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vsrl_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
```

```
vuint16m8_t __riscv_vsrl_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, size_t rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vsrl_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsrl_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      size_t rs1, size_t vl);
vuint32m1_t __riscv_vsrl_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsrl_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2, size_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vsrl_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsrl_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2, size_t rs1,
                                    size_t vl);
vuint32m4_t __riscv_vsrl_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsrl_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, size_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vsrl_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsrl_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, size_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vsrl_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsrl_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2, size_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vsrl_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsrl_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2, size_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vsrl_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsrl_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2, size_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vsrl_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsrl_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, size_t rs1,
                                    size_t vl);
```

A.3.9. Vector Narrowing Integer Right Shift Intrinsics

```
vint8mf8_t __riscv_vnsra_wv_i8mf8(vint16mf4_t vs2, vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vnsra_wx_i8mf8(vint16mf4_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vnsra_wv_i8mf4(vint16mf2_t vs2, vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vnsra_wx_i8mf4(vint16mf2_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vnsra_wv_i8mf2(vint16m1_t vs2, vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vnsra_wx_i8mf2(vint16m1_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vnsra_wv_i8m1(vint16m2_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vnsra_wx_i8m1(vint16m2_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vnsra_wv_i8m2(vint16m4_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vnsra_wx_i8m2(vint16m4_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vnsra_wv_i8m4(vint16m8_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vnsra_wx_i8m4(vint16m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vnsra_wv_i16mf4(vint32mf2_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vint16mf4_t __riscv_vnsra_wx_i16mf4(vint32mf2_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vnsra_wv_i16mf2(vint32m1_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vnsra_wx_i16mf2(vint32m1_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vnsra_wv_i16m1(vint32m2_t vs2, vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vnsra_wx_i16m1(vint32m2_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vnsra_wv_i16m2(vint32m4_t vs2, vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vnsra_wx_i16m2(vint32m4_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vnsra_wv_i16m4(vint32m8_t vs2, vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vnsra_wx_i16m4(vint32m8_t vs2, size_t rs1, size_t vl);
```

```
vint32mf2_t __riscv_vnsra_wv_i32mf2(vint64m1_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vnsra_wx_i32mf2(vint64m1_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vnsra_wv_i32m1(vint64m2_t vs2, vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vnsra_wx_i32m1(vint64m2_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vnsra_wv_i32m2(vint64m4_t vs2, vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vnsra_wx_i32m2(vint64m4_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vnsra_wv_i32m4(vint64m8_t vs2, vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vnsra_wx_i32m4(vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_wv_u8mf8(vuint16mf4_t vs2, vuint8mf8_t vs1,
                                   size_t vl);
vuint8mf8_t __riscv_vnsrl_wx_u8mf8(vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_wv_u8mf4(vuint16mf2_t vs2, vuint8mf4_t vs1,
                                   size_t vl);
vuint8mf4_t __riscv_vnsrl_wx_u8mf4(vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_wv_u8mf2(vuint16m1_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_wx_u8mf2(vuint16m1_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vnsrl_wv_u8m1(vuint16m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vnsrl_wx_u8m1(vuint16m2_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vnsrl_wv_u8m2(vuint16m4_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vnsrl_wx_u8m2(vuint16m4_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vnsrl_wv_u8m4(vuint16m8_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vnsrl_wx_u8m4(vuint16m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vnsrl_wv_u16mf4(vuint32mf2_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vuint16mf4_t __riscv_vnsrl_wx_u16mf4(vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_wv_u16mf2(vuint32m1_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vuint16mf2_t __riscv_vnsrl_wx_u16mf2(vuint32m1_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vnsrl_wv_u16m1(vuint32m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vnsrl_wx_u16m1(vuint32m2_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vnsrl_wv_u16m2(vuint32m4_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vnsrl_wx_u16m2(vuint32m4_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vnsrl_wv_u16m4(vuint32m8_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vnsrl_wx_u16m4(vuint32m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_wv_u32mf2(vuint64m1_t vs2, vuint32mf2_t vs1,
                                     size_t vl);
vuint32mf2_t __riscv_vnsrl_wx_u32mf2(vuint64m1_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vnsrl_wv_u32m1(vuint64m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vnsrl_wx_u32m1(vuint64m2_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vnsrl_wv_u32m2(vuint64m4_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vnsrl_wx_u32m2(vuint64m4_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vnsrl_wv_u32m4(vuint64m8_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vnsrl_wx_u32m4(vuint64m8_t vs2, size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vnsra_wv_i8mf8_m(vbool64_t vm, vint16mf4_t vs2,
                                    vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vnsra_wx_i8mf8_m(vbool64_t vm, vint16mf4_t vs2, size_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vnsra_wv_i8mf4_m(vbool32_t vm, vint16mf2_t vs2,
                                    vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vnsra_wx_i8mf4_m(vbool32_t vm, vint16mf2_t vs2, size_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vnsra_wv_i8mf2_m(vbool16_t vm, vint16m1_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vnsra_wx_i8mf2_m(vbool16_t vm, vint16m1_t vs2, size_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vnsra_wv_i8m1_m(vbool8_t vm, vint16m2_t vs2, vuint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vnsra_wx_i8m1_m(vbool8_t vm, vint16m2_t vs2, size_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vnsra_wv_i8m2_m(vbool4_t vm, vint16m4_t vs2, vuint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vnsra_wx_i8m2_m(vbool4_t vm, vint16m4_t vs2, size_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vnsra_wv_i8m4_m(vbool2_t vm, vint16m8_t vs2, vuint8m4_t vs1,
                                  size_t vl);
```

```
vint8m4_t __riscv_vnsra_wx_i8m4_m(vbool2_t vm, vint16m8_t vs2, size_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vnsra_wv_i16mf4_m(vbool64_t vm, vint32mf2_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vnsra_wx_i16mf4_m(vbool64_t vm, vint32mf2_t vs2, size_t rs1,
                                      size_t vl);
vint16mf2_t __riscv_vnsra_wv_i16mf2_m(vbool32_t vm, vint32m1_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vnsra_wx_i16mf2_m(vbool32_t vm, vint32m1_t vs2, size_t rs1,
                                      size_t vl);
vint16m1_t __riscv_vnsra_wv_i16m1_m(vbool16_t vm, vint32m2_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vnsra_wx_i16m1_m(vbool16_t vm, vint32m2_t vs2, size_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vnsra_wv_i16m2_m(vbool8_t vm, vint32m4_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vnsra_wx_i16m2_m(vbool8_t vm, vint32m4_t vs2, size_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vnsra_wv_i16m4_m(vbool4_t vm, vint32m8_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vnsra_wx_i16m4_m(vbool4_t vm, vint32m8_t vs2, size_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vnsra_wv_i32mf2_m(vbool64_t vm, vint64m1_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vnsra_wx_i32mf2_m(vbool64_t vm, vint64m1_t vs2, size_t rs1,
                                      size_t vl);
vint32m1_t __riscv_vnsra_wv_i32m1_m(vbool32_t vm, vint64m2_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vnsra_wx_i32m1_m(vbool32_t vm, vint64m2_t vs2, size_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vnsra_wv_i32m2_m(vbool16_t vm, vint64m4_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vnsra_wx_i32m2_m(vbool16_t vm, vint64m4_t vs2, size_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vnsra_wv_i32m4_m(vbool8_t vm, vint64m8_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vnsra_wx_i32m4_m(vbool8_t vm, vint64m8_t vs2, size_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vnsrl_wv_u8mf8_m(vbool64_t vm, vuint16mf4_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_wx_u8mf8_m(vbool64_t vm, vuint16mf4_t vs2, size_t rs1,
                                     size_t vl);
vuint8mf4_t __riscv_vnsrl_wv_u8mf4_m(vbool32_t vm, vuint16mf2_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_wx_u8mf4_m(vbool32_t vm, vuint16mf2_t vs2, size_t rs1,
                                     size_t vl);
vuint8mf2_t __riscv_vnsrl_wv_u8mf2_m(vbool16_t vm, vuint16m1_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_wx_u8mf2_m(vbool16_t vm, vuint16m1_t vs2, size_t rs1,
                                     size_t vl);
vuint8m1_t __riscv_vnsrl_wv_u8m1_m(vbool8_t vm, vuint16m2_t vs2, vuint8m1_t vs1,
                                   size_t vl);
vuint8m1_t __riscv_vnsrl_wx_u8m1_m(vbool8_t vm, vuint16m2_t vs2, size_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vnsrl_wv_u8m2_m(vbool4_t vm, vuint16m4_t vs2, vuint8m2_t vs1,
                                   size_t vl);
vuint8m2_t __riscv_vnsrl_wx_u8m2_m(vbool4_t vm, vuint16m4_t vs2, size_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vnsrl_wv_u8m4_m(vbool2_t vm, vuint16m8_t vs2, vuint8m4_t vs1,
                                   size_t vl);
vuint8m4_t __riscv_vnsrl_wx_u8m4_m(vbool2_t vm, vuint16m8_t vs2, size_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vnsrl_wv_u16mf4_m(vbool64_t vm, vuint32mf2_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vnsrl_wx_u16mf4_m(vbool64_t vm, vuint32mf2_t vs2,
                                       size_t rs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_wv_u16mf2_m(vbool32_t vm, vuint32m1_t vs2,
```

```
                                      vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_wx_u16mf2_m(vbool32_t vm, vuint32m1_t vs2,
                                       size_t rs1, size_t vl);
vuint16m1_t __riscv_vnsrl_wv_u16m1_m(vbool16_t vm, vuint32m2_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vnsrl_wx_u16m1_m(vbool16_t vm, vuint32m2_t vs2, size_t rs1,
                                     size_t vl);
vuint16m2_t __riscv_vnsrl_wv_u16m2_m(vbool8_t vm, vuint32m4_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vnsrl_wx_u16m2_m(vbool8_t vm, vuint32m4_t vs2, size_t rs1,
                                     size_t vl);
vuint16m4_t __riscv_vnsrl_wv_u16m4_m(vbool4_t vm, vuint32m8_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vnsrl_wx_u16m4_m(vbool4_t vm, vuint32m8_t vs2, size_t rs1,
                                     size_t vl);
vuint32mf2_t __riscv_vnsrl_wv_u32mf2_m(vbool64_t vm, vuint64m1_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_wx_u32mf2_m(vbool64_t vm, vuint64m1_t vs2,
                                       size_t rs1, size_t vl);
vuint32m1_t __riscv_vnsrl_wv_u32m1_m(vbool32_t vm, vuint64m2_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vnsrl_wx_u32m1_m(vbool32_t vm, vuint64m2_t vs2, size_t rs1,
                                     size_t vl);
vuint32m2_t __riscv_vnsrl_wv_u32m2_m(vbool16_t vm, vuint64m4_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vnsrl_wx_u32m2_m(vbool16_t vm, vuint64m4_t vs2, size_t rs1,
                                     size_t vl);
vuint32m4_t __riscv_vnsrl_wv_u32m4_m(vbool8_t vm, vuint64m8_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vnsrl_wx_u32m4_m(vbool8_t vm, vuint64m8_t vs2, size_t rs1,
                                     size_t vl);
```

A.3.10. Vector Integer Narrowing Intrinsics

```
vint8mf8_t __riscv_vncvt_x_x_w_i8mf8(vint16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vncvt_x_x_w_i8mf4(vint16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vncvt_x_x_w_i8mf2(vint16m1_t vs2, size_t vl);
vint8m1_t __riscv_vncvt_x_x_w_i8m1(vint16m2_t vs2, size_t vl);
vint8m2_t __riscv_vncvt_x_x_w_i8m2(vint16m4_t vs2, size_t vl);
vint8m4_t __riscv_vncvt_x_x_w_i8m4(vint16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vncvt_x_x_w_u8mf8(vuint16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vncvt_x_x_w_u8mf4(vuint16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vncvt_x_x_w_u8mf2(vuint16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vncvt_x_x_w_u8m1(vuint16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vncvt_x_x_w_u8m2(vuint16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vncvt_x_x_w_u8m4(vuint16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vncvt_x_x_w_i16mf4(vint32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vncvt_x_x_w_i16mf2(vint32m1_t vs2, size_t vl);
vint16m1_t __riscv_vncvt_x_x_w_i16m1(vint32m2_t vs2, size_t vl);
vint16m2_t __riscv_vncvt_x_x_w_i16m2(vint32m4_t vs2, size_t vl);
vint16m4_t __riscv_vncvt_x_x_w_i16m4(vint32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vncvt_x_x_w_u16mf4(vuint32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vncvt_x_x_w_u16mf2(vuint32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vncvt_x_x_w_u16m1(vuint32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vncvt_x_x_w_u16m2(vuint32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vncvt_x_x_w_u16m4(vuint32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vncvt_x_x_w_i32mf2(vint64m1_t vs2, size_t vl);
vint32m1_t __riscv_vncvt_x_x_w_i32m1(vint64m2_t vs2, size_t vl);
vint32m2_t __riscv_vncvt_x_x_w_i32m2(vint64m4_t vs2, size_t vl);
vint32m4_t __riscv_vncvt_x_x_w_i32m4(vint64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vncvt_x_x_w_u32mf2(vuint64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vncvt_x_x_w_u32m1(vuint64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vncvt_x_x_w_u32m2(vuint64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vncvt_x_x_w_u32m4(vuint64m8_t vs2, size_t vl);
// masked functions
```

```
vint8mf8_t __riscv_vncvt_x_x_w_i8mf8_m(vbool64_t vm, vint16mf4_t vs2,
                                       size_t vl);
vint8mf4_t __riscv_vncvt_x_x_w_i8mf4_m(vbool32_t vm, vint16mf2_t vs2,
                                       size_t vl);
vint8mf2_t __riscv_vncvt_x_x_w_i8mf2_m(vbool16_t vm, vint16m1_t vs2, size_t vl);
vint8m1_t __riscv_vncvt_x_x_w_i8m1_m(vbool8_t vm, vint16m2_t vs2, size_t vl);
vint8m2_t __riscv_vncvt_x_x_w_i8m2_m(vbool4_t vm, vint16m4_t vs2, size_t vl);
vint8m4_t __riscv_vncvt_x_x_w_i8m4_m(vbool2_t vm, vint16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vncvt_x_x_w_u8mf8_m(vbool64_t vm, vuint16mf4_t vs2,
                                        size_t vl);
vuint8mf4_t __riscv_vncvt_x_x_w_u8mf4_m(vbool32_t vm, vuint16mf2_t vs2,
                                        size_t vl);
vuint8mf2_t __riscv_vncvt_x_x_w_u8mf2_m(vbool16_t vm, vuint16m1_t vs2,
                                        size_t vl);
vuint8m1_t __riscv_vncvt_x_x_w_u8m1_m(vbool8_t vm, vuint16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vncvt_x_x_w_u8m2_m(vbool4_t vm, vuint16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vncvt_x_x_w_u8m4_m(vbool2_t vm, vuint16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vncvt_x_x_w_i16mf4_m(vbool64_t vm, vint32mf2_t vs2,
                                         size_t vl);
vint16mf2_t __riscv_vncvt_x_x_w_i16mf2_m(vbool32_t vm, vint32m1_t vs2,
                                         size_t vl);
vint16m1_t __riscv_vncvt_x_x_w_i16m1_m(vbool16_t vm, vint32m2_t vs2, size_t vl);
vint16m2_t __riscv_vncvt_x_x_w_i16m2_m(vbool8_t vm, vint32m4_t vs2, size_t vl);
vint16m4_t __riscv_vncvt_x_x_w_i16m4_m(vbool4_t vm, vint32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vncvt_x_x_w_u16mf4_m(vbool64_t vm, vuint32mf2_t vs2,
                                          size_t vl);
vuint16mf2_t __riscv_vncvt_x_x_w_u16mf2_m(vbool32_t vm, vuint32m1_t vs2,
                                          size_t vl);
vuint16m1_t __riscv_vncvt_x_x_w_u16m1_m(vbool16_t vm, vuint32m2_t vs2,
                                        size_t vl);
vuint16m2_t __riscv_vncvt_x_x_w_u16m2_m(vbool8_t vm, vuint32m4_t vs2,
                                        size_t vl);
vuint16m4_t __riscv_vncvt_x_x_w_u16m4_m(vbool4_t vm, vuint32m8_t vs2,
                                        size_t vl);
vint32mf2_t __riscv_vncvt_x_x_w_i32mf2_m(vbool64_t vm, vint64m1_t vs2,
                                         size_t vl);
vint32m1_t __riscv_vncvt_x_x_w_i32m1_m(vbool32_t vm, vint64m2_t vs2, size_t vl);
vint32m2_t __riscv_vncvt_x_x_w_i32m2_m(vbool16_t vm, vint64m4_t vs2, size_t vl);
vint32m4_t __riscv_vncvt_x_x_w_i32m4_m(vbool8_t vm, vint64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vncvt_x_x_w_u32mf2_m(vbool64_t vm, vuint64m1_t vs2,
                                          size_t vl);
vuint32m1_t __riscv_vncvt_x_x_w_u32m1_m(vbool32_t vm, vuint64m2_t vs2,
                                        size_t vl);
vuint32m2_t __riscv_vncvt_x_x_w_u32m2_m(vbool16_t vm, vuint64m4_t vs2,
                                        size_t vl);
vuint32m4_t __riscv_vncvt_x_x_w_u32m4_m(vbool8_t vm, vuint64m8_t vs2,
                                        size_t vl);
```

A.3.11. Vector Integer Compare Intrinsics

```
vbool64_t __riscv_vmseq_vv_i8mf8_b64(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmseq_vx_i8mf8_b64(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_i8mf4_b32(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmseq_vx_i8mf4_b32(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_i8mf2_b16(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_i8mf2_b16(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_i8m1_b8(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_i8m1_b8(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmseq_vv_i8m2_b4(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_i8m2_b4(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmseq_vv_i8m4_b2(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmseq_vx_i8m4_b2(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmseq_vv_i8m8_b1(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmseq_vx_i8m8_b1(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_i16mf4_b64(vint16mf4_t vs2, vint16mf4_t vs1,
```

```
                                    size_t vl);
vbool64_t __riscv_vmseq_vx_i16mf4_b64(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_i16mf2_b32(vint16mf2_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vbool32_t __riscv_vmseq_vx_i16mf2_b32(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_i16m1_b16(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_i16m1_b16(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_i16m2_b8(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_i16m2_b8(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmseq_vv_i16m4_b4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_i16m4_b4(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmseq_vv_i16m8_b2(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmseq_vx_i16m8_b2(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_i32mf2_b64(vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vbool64_t __riscv_vmseq_vx_i32mf2_b64(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_i32m1_b32(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmseq_vx_i32m1_b32(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_i32m2_b16(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_i32m2_b16(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_i32m4_b8(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_i32m4_b8(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmseq_vv_i32m8_b4(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_i32m8_b4(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_i64m1_b64(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmseq_vx_i64m1_b64(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_i64m2_b32(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmseq_vx_i64m2_b32(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_i64m4_b16(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_i64m4_b16(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_i64m8_b8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_i64m8_b8(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_i8mf8_b64(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsne_vx_i8mf8_b64(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_i8mf4_b32(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsne_vx_i8mf4_b32(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_i8mf2_b16(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_i8mf2_b16(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_i8m1_b8(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_i8m1_b8(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_i8m2_b4(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_i8m2_b4(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsne_vv_i8m4_b2(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsne_vx_i8m4_b2(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsne_vv_i8m8_b1(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsne_vx_i8m8_b1(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_i16mf4_b64(vint16mf4_t vs2, vint16mf4_t vs1,
                                    size_t vl);
vbool64_t __riscv_vmsne_vx_i16mf4_b64(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_i16mf2_b32(vint16mf2_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vbool32_t __riscv_vmsne_vx_i16mf2_b32(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_i16m1_b16(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_i16m1_b16(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_i16m2_b8(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_i16m2_b8(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_i16m4_b4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_i16m4_b4(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsne_vv_i16m8_b2(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsne_vx_i16m8_b2(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_i32mf2_b64(vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vbool64_t __riscv_vmsne_vx_i32mf2_b64(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_i32m1_b32(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsne_vx_i32m1_b32(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_i32m2_b16(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_i32m2_b16(vint32m2_t vs2, int32_t rs1, size_t vl);
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```
vbool8_t __riscv_vmsne_vv_i32m4_b8(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_i32m4_b8(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_i32m8_b4(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_i32m8_b4(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_i64m1_b64(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsne_vx_i64m1_b64(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_i64m2_b32(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsne_vx_i64m2_b32(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_i64m4_b16(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_i64m4_b16(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_i64m8_b8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_i64m8_b8(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmslt_vv_i8mf8_b64(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmslt_vx_i8mf8_b64(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmslt_vv_i8mf4_b32(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmslt_vx_i8mf4_b32(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmslt_vv_i8mf2_b16(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmslt_vx_i8mf2_b16(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmslt_vv_i8m1_b8(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmslt_vx_i8m1_b8(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmslt_vv_i8m2_b4(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmslt_vx_i8m2_b4(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmslt_vv_i8m4_b2(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmslt_vx_i8m4_b2(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmslt_vv_i8m8_b1(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmslt_vx_i8m8_b1(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmslt_vv_i16mf4_b64(vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmslt_vx_i16mf4_b64(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmslt_vv_i16mf2_b32(vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmslt_vx_i16mf2_b32(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmslt_vv_i16m1_b16(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmslt_vx_i16m1_b16(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmslt_vv_i16m2_b8(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmslt_vx_i16m2_b8(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmslt_vv_i16m4_b4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmslt_vx_i16m4_b4(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmslt_vv_i16m8_b2(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmslt_vx_i16m8_b2(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmslt_vv_i32mf2_b64(vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmslt_vx_i32mf2_b64(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmslt_vv_i32m1_b32(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmslt_vx_i32m1_b32(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmslt_vv_i32m2_b16(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmslt_vx_i32m2_b16(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmslt_vv_i32m4_b8(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmslt_vx_i32m4_b8(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmslt_vv_i32m8_b4(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmslt_vx_i32m8_b4(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmslt_vv_i64m1_b64(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmslt_vx_i64m1_b64(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmslt_vv_i64m2_b32(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmslt_vx_i64m2_b32(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmslt_vv_i64m4_b16(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmslt_vx_i64m4_b16(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmslt_vv_i64m8_b8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmslt_vx_i64m8_b8(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsle_vv_i8mf8_b64(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsle_vx_i8mf8_b64(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsle_vv_i8mf4_b32(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsle_vx_i8mf4_b32(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsle_vv_i8mf2_b16(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsle_vx_i8mf2_b16(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsle_vv_i8m1_b8(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsle_vx_i8m1_b8(vint8m1_t vs2, int8_t rs1, size_t vl);
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vbool4_t __riscv_vmsle_vv_i8m2_b4(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsle_vx_i8m2_b4(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsle_vv_i8m4_b2(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsle_vx_i8m4_b2(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsle_vv_i8m8_b1(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsle_vx_i8m8_b1(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsle_vv_i16mf4_b64(vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsle_vx_i16mf4_b64(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsle_vv_i16mf2_b32(vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsle_vx_i16mf2_b32(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsle_vv_i16m1_b16(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsle_vx_i16m1_b16(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsle_vv_i16m2_b8(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsle_vx_i16m2_b8(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsle_vv_i16m4_b4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsle_vx_i16m4_b4(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsle_vv_i16m8_b2(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsle_vx_i16m8_b2(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsle_vv_i32mf2_b64(vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsle_vx_i32mf2_b64(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsle_vv_i32m1_b32(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsle_vx_i32m1_b32(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsle_vv_i32m2_b16(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsle_vx_i32m2_b16(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsle_vv_i32m4_b8(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsle_vx_i32m4_b8(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsle_vv_i32m8_b4(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsle_vx_i32m8_b4(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsle_vv_i64m1_b64(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsle_vx_i64m1_b64(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsle_vv_i64m2_b32(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsle_vx_i64m2_b32(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsle_vv_i64m4_b16(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsle_vx_i64m4_b16(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsle_vv_i64m8_b8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsle_vx_i64m8_b8(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsgt_vv_i8mf8_b64(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsgt_vx_i8mf8_b64(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_vv_i8mf4_b32(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsgt_vx_i8mf4_b32(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_vv_i8mf2_b16(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_vx_i8mf2_b16(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_vv_i8m1_b8(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_vx_i8m1_b8(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsgt_vv_i8m2_b4(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgt_vx_i8m2_b4(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsgt_vv_i8m4_b2(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgt_vx_i8m4_b2(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsgt_vv_i8m8_b1(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgt_vx_i8m8_b1(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsgt_vv_i16mf4_b64(vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsgt_vx_i16mf4_b64(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_vv_i16mf2_b32(vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsgt_vx_i16mf2_b32(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_vv_i16m1_b16(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_vx_i16m1_b16(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_vv_i16m2_b8(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_vx_i16m2_b8(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsgt_vv_i16m4_b4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgt_vx_i16m4_b4(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsgt_vv_i16m8_b2(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgt_vx_i16m8_b2(vint16m8_t vs2, int16_t rs1, size_t vl);
```

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vbool64_t __riscv_vmsgt_vv_i32mf2_b64(vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsgt_vx_i32mf2_b64(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_vv_i32m1_b32(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsgt_vx_i32m1_b32(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_vv_i32m2_b16(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_vx_i32m2_b16(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_vv_i32m4_b8(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_vx_i32m4_b8(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsgt_vv_i32m8_b4(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgt_vx_i32m8_b4(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsgt_vv_i64m1_b64(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsgt_vx_i64m1_b64(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_vv_i64m2_b32(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsgt_vx_i64m2_b32(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_vv_i64m4_b16(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_vx_i64m4_b16(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_vv_i64m8_b8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_vx_i64m8_b8(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsge_vv_i8mf8_b64(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsge_vx_i8mf8_b64(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsge_vv_i8mf4_b32(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsge_vx_i8mf4_b32(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsge_vv_i8mf2_b16(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsge_vx_i8mf2_b16(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsge_vv_i8m1_b8(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsge_vx_i8m1_b8(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsge_vv_i8m2_b4(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsge_vx_i8m2_b4(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsge_vv_i8m4_b2(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsge_vx_i8m4_b2(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsge_vv_i8m8_b1(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsge_vx_i8m8_b1(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsge_vv_i16mf4_b64(vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsge_vx_i16mf4_b64(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsge_vv_i16mf2_b32(vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsge_vx_i16mf2_b32(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsge_vv_i16m1_b16(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsge_vx_i16m1_b16(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsge_vv_i16m2_b8(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsge_vx_i16m2_b8(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsge_vv_i16m4_b4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsge_vx_i16m4_b4(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsge_vv_i16m8_b2(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsge_vx_i16m8_b2(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsge_vv_i32mf2_b64(vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsge_vx_i32mf2_b64(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsge_vv_i32m1_b32(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsge_vx_i32m1_b32(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsge_vv_i32m2_b16(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsge_vx_i32m2_b16(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsge_vv_i32m4_b8(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsge_vx_i32m4_b8(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsge_vv_i32m8_b4(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsge_vx_i32m8_b4(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsge_vv_i64m1_b64(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsge_vx_i64m1_b64(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsge_vv_i64m2_b32(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsge_vx_i64m2_b32(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsge_vv_i64m4_b16(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsge_vx_i64m4_b16(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsge_vv_i64m8_b8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsge_vx_i64m8_b8(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_u8mf8_b64(vuint8mf8_t vs2, vuint8mf8_t vs1,
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                                    size_t vl);
vbool64_t __riscv_vmseq_vx_u8mf8_b64(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_u8mf4_b32(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vbool32_t __riscv_vmseq_vx_u8mf4_b32(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_u8mf2_b16(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vbool16_t __riscv_vmseq_vx_u8mf2_b16(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_u8m1_b8(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_u8m1_b8(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmseq_vv_u8m2_b4(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_u8m2_b4(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmseq_vv_u8m4_b2(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmseq_vx_u8m4_b2(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmseq_vv_u8m8_b1(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmseq_vx_u8m8_b1(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_u16mf4_b64(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmseq_vx_u16mf4_b64(vuint16mf4_t vs2, uint16_t rs1,
                                     size_t vl);
vbool32_t __riscv_vmseq_vv_u16mf2_b32(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmseq_vx_u16mf2_b32(vuint16mf2_t vs2, uint16_t rs1,
                                     size_t vl);
vbool16_t __riscv_vmseq_vv_u16m1_b16(vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vbool16_t __riscv_vmseq_vx_u16m1_b16(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_u16m2_b8(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_u16m2_b8(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmseq_vv_u16m4_b4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_u16m4_b4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmseq_vv_u16m8_b2(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmseq_vx_u16m8_b2(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_u32mf2_b64(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmseq_vx_u32mf2_b64(vuint32mf2_t vs2, uint32_t rs1,
                                     size_t vl);
vbool32_t __riscv_vmseq_vv_u32m1_b32(vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vbool32_t __riscv_vmseq_vx_u32m1_b32(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_u32m2_b16(vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vbool16_t __riscv_vmseq_vx_u32m2_b16(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_u32m4_b8(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_u32m4_b8(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmseq_vv_u32m8_b4(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_u32m8_b4(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_u64m1_b64(vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vbool64_t __riscv_vmseq_vx_u64m1_b64(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_u64m2_b32(vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vbool32_t __riscv_vmseq_vx_u64m2_b32(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_u64m4_b16(vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vbool16_t __riscv_vmseq_vx_u64m4_b16(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_u64m8_b8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_u64m8_b8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_u8mf8_b64(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vbool64_t __riscv_vmsne_vx_u8mf8_b64(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_u8mf4_b32(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vbool32_t __riscv_vmsne_vx_u8mf4_b32(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_u8mf2_b16(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vbool16_t __riscv_vmsne_vx_u8mf2_b16(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
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vbool8_t __riscv_vmsne_vv_u8m1_b8(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_u8m1_b8(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_u8m2_b4(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_u8m2_b4(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsne_vv_u8m4_b2(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsne_vx_u8m4_b2(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsne_vv_u8m8_b1(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsne_vx_u8m8_b1(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_u16mf4_b64(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsne_vx_u16mf4_b64(vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmsne_vv_u16mf2_b32(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsne_vx_u16mf2_b32(vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vbool16_t __riscv_vmsne_vv_u16m1_b16(vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsne_vx_u16m1_b16(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_u16m2_b8(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_u16m2_b8(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_u16m4_b4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_u16m4_b4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsne_vv_u16m8_b2(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsne_vx_u16m8_b2(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_u32mf2_b64(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsne_vx_u32mf2_b64(vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmsne_vv_u32m1_b32(vuint32m1_t vs2, vuint32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmsne_vx_u32m1_b32(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_u32m2_b16(vuint32m2_t vs2, vuint32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsne_vx_u32m2_b16(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_u32m4_b8(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_u32m4_b8(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_u32m8_b4(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_u32m8_b4(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_u64m1_b64(vuint64m1_t vs2, vuint64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmsne_vx_u64m1_b64(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_u64m2_b32(vuint64m2_t vs2, vuint64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmsne_vx_u64m2_b32(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_u64m4_b16(vuint64m4_t vs2, vuint64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsne_vx_u64m4_b16(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_u64m8_b8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_u64m8_b8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsltu_vv_u8mf8_b64(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsltu_vx_u8mf8_b64(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsltu_vv_u8mf4_b32(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsltu_vx_u8mf4_b32(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsltu_vv_u8mf2_b16(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsltu_vx_u8mf2_b16(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsltu_vv_u8m1_b8(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsltu_vx_u8m1_b8(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsltu_vv_u8m2_b4(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsltu_vx_u8m2_b4(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsltu_vv_u8m4_b2(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsltu_vx_u8m4_b2(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsltu_vv_u8m8_b1(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsltu_vx_u8m8_b1(vuint8m8_t vs2, uint8_t rs1, size_t vl);
```

```
vbool64_t __riscv_vmsltu_vv_u16mf4_b64(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmsltu_vx_u16mf4_b64(vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsltu_vv_u16mf2_b32(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vbool32_t __riscv_vmsltu_vx_u16mf2_b32(vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmsltu_vv_u16m1_b16(vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsltu_vx_u16m1_b16(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsltu_vv_u16m2_b8(vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsltu_vx_u16m2_b8(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsltu_vv_u16m4_b4(vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsltu_vx_u16m4_b4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsltu_vv_u16m8_b2(vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmsltu_vx_u16m8_b2(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsltu_vv_u32mf2_b64(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmsltu_vx_u32mf2_b64(vuint32mf2_t vs2, uint32_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsltu_vv_u32m1_b32(vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsltu_vx_u32m1_b32(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsltu_vv_u32m2_b16(vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsltu_vx_u32m2_b16(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsltu_vv_u32m4_b8(vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsltu_vx_u32m4_b8(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsltu_vv_u32m8_b4(vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsltu_vx_u32m8_b4(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsltu_vv_u64m1_b64(vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsltu_vx_u64m1_b64(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsltu_vv_u64m2_b32(vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
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vbool16_t __riscv_vmsltu_vv_u64m4_b16(vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
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vbool8_t __riscv_vmsltu_vv_u64m8_b8(vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsltu_vx_u64m8_b8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_vv_u8mf8_b64(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsleu_vx_u8mf8_b64(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsleu_vv_u8mf4_b32(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsleu_vx_u8mf4_b32(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsleu_vv_u8mf2_b16(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsleu_vx_u8mf2_b16(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_vv_u8m1_b8(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsleu_vx_u8m1_b8(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsleu_vv_u8m2_b4(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsleu_vx_u8m2_b4(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsleu_vv_u8m4_b2(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsleu_vx_u8m4_b2(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsleu_vv_u8m8_b1(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsleu_vx_u8m8_b1(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_vv_u16mf4_b64(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
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vbool64_t __riscv_vmsleu_vx_u16mf4_b64(vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsleu_vv_u16mf2_b32(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vbool32_t __riscv_vmsleu_vx_u16mf2_b32(vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmsleu_vv_u16m1_b16(vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsleu_vx_u16m1_b16(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_vv_u16m2_b8(vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsleu_vx_u16m2_b8(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsleu_vv_u16m4_b4(vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsleu_vx_u16m4_b4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsleu_vv_u16m8_b2(vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmsleu_vx_u16m8_b2(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_vv_u32mf2_b64(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmsleu_vx_u32mf2_b64(vuint32mf2_t vs2, uint32_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsleu_vv_u32m1_b32(vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsleu_vx_u32m1_b32(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsleu_vv_u32m2_b16(vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsleu_vx_u32m2_b16(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_vv_u32m4_b8(vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsleu_vx_u32m4_b8(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsleu_vv_u32m8_b4(vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsleu_vx_u32m8_b4(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_vv_u64m1_b64(vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsleu_vx_u64m1_b64(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsleu_vv_u64m2_b32(vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
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vbool16_t __riscv_vmsleu_vv_u64m4_b16(vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsleu_vx_u64m4_b16(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_vv_u64m8_b8(vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsleu_vx_u64m8_b8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu_vv_u8mf8_b64(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsgtu_vx_u8mf8_b64(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu_vv_u8mf4_b32(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsgtu_vx_u8mf4_b32(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu_vv_u8mf2_b16(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsgtu_vx_u8mf2_b16(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu_vv_u8m1_b8(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu_vx_u8m1_b8(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu_vv_u8m2_b4(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu_vx_u8m2_b4(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsgtu_vv_u8m4_b2(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgtu_vx_u8m4_b2(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsgtu_vv_u8m8_b1(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgtu_vx_u8m8_b1(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu_vv_u16mf4_b64(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmsgtu_vx_u16mf4_b64(vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
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vbool32_t __riscv_vmsgtu_vv_u16mf2_b32(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vbool32_t __riscv_vmsgtu_vx_u16mf2_b32(vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmsgtu_vv_u16m1_b16(vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsgtu_vx_u16m1_b16(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu_vv_u16m2_b8(vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsgtu_vx_u16m2_b8(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu_vv_u16m4_b4(vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsgtu_vx_u16m4_b4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsgtu_vv_u16m8_b2(vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmsgtu_vx_u16m8_b2(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu_vv_u32mf2_b64(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
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                                       size_t vl);
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                                      size_t vl);
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                                      size_t vl);
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vbool8_t __riscv_vmsgtu_vv_u32m4_b8(vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsgtu_vx_u32m4_b8(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu_vv_u32m8_b4(vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsgtu_vx_u32m8_b4(vuint32m8_t vs2, uint32_t rs1, size_t vl);
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                                      size_t vl);
vbool64_t __riscv_vmsgtu_vx_u64m1_b64(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu_vv_u64m2_b32(vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
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                                      size_t vl);
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                                    size_t vl);
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vbool64_t __riscv_vmsgeu_vv_u8mf8_b64(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsgeu_vx_u8mf8_b64(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu_vv_u8mf4_b32(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsgeu_vx_u8mf4_b32(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu_vv_u8mf2_b16(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsgeu_vx_u8mf2_b16(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_vv_u8m1_b8(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu_vx_u8m1_b8(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu_vv_u8m2_b4(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu_vx_u8m2_b4(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsgeu_vv_u8m4_b2(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgeu_vx_u8m4_b2(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsgeu_vv_u8m8_b1(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgeu_vx_u8m8_b1(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu_vv_u16mf4_b64(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmsgeu_vx_u16mf4_b64(vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsgeu_vv_u16mf2_b32(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
```

```
vbool32_t __riscv_vmsgeu_vx_u16mf2_b32(vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmsgeu_vv_u16m1_b16(vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsgeu_vx_u16m1_b16(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_vv_u16m2_b8(vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsgeu_vx_u16m2_b8(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu_vv_u16m4_b4(vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsgeu_vx_u16m4_b4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsgeu_vv_u16m8_b2(vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmsgeu_vx_u16m8_b2(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu_vv_u32mf2_b64(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmsgeu_vx_u32mf2_b64(vuint32mf2_t vs2, uint32_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsgeu_vv_u32m1_b32(vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsgeu_vx_u32m1_b32(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu_vv_u32m2_b16(vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsgeu_vx_u32m2_b16(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_vv_u32m4_b8(vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsgeu_vx_u32m4_b8(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu_vv_u32m8_b4(vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsgeu_vx_u32m8_b4(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu_vv_u64m1_b64(vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsgeu_vx_u64m1_b64(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu_vv_u64m2_b32(vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsgeu_vx_u64m2_b32(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu_vv_u64m4_b16(vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsgeu_vx_u64m4_b16(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_vv_u64m8_b8(vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsgeu_vx_u64m8_b8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vbool64_t __riscv_vmseq_vv_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2,
                                       vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmseq_vx_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmseq_vv_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2,
                                       vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmseq_vx_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmseq_vv_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2,
                                       vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                       size_t vl);
vbool8_t __riscv_vmseq_vv_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmseq_vx_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                    size_t vl);
vbool4_t __riscv_vmseq_vv_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmseq_vx_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                    size_t vl);
vbool2_t __riscv_vmseq_vv_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmseq_vx_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                    size_t vl);
```

```
vbool1_t __riscv_vmseq_vv_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                    size_t vl);
vbool1_t __riscv_vmseq_vx_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmseq_vv_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmseq_vx_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        int16_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmseq_vx_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        int16_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       int16_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmseq_vv_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                     size_t vl);
vbool2_t __riscv_vmseq_vv_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmseq_vx_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmseq_vv_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
                                        vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmseq_vx_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
                                        int32_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                       vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmseq_vx_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                       int32_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                       vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                       int32_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmseq_vv_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmseq_vv_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                       vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmseq_vx_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                       int64_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                       vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmseq_vx_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                       int64_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                       vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                       int64_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsne_vv_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2,
                                       vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsne_vx_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
```

```
                                      size_t vl);
vbool32_t __riscv_vmsne_vv_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2,
                                       vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsne_vx_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmsne_vv_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2,
                                       vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                       size_t vl);
vbool8_t __riscv_vmsne_vv_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsne_vx_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                    size_t vl);
vbool4_t __riscv_vmsne_vv_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsne_vx_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                    size_t vl);
vbool2_t __riscv_vmsne_vv_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmsne_vx_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                    size_t vl);
vbool1_t __riscv_vmsne_vv_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                    size_t vl);
vbool1_t __riscv_vmsne_vx_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmsne_vv_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsne_vx_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        int16_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsne_vx_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        int16_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       int16_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsne_vv_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                     size_t vl);
vbool2_t __riscv_vmsne_vv_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsne_vx_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsne_vv_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
                                        vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsne_vx_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
                                        int32_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                       vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsne_vx_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                       int32_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                       vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                       int32_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsne_vv_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
```

```
vbool4_t __riscv_vmsne_vx_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsne_vv_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                       vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsne_vx_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                       int64_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                       vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsne_vx_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                       int64_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                       vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                       int64_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmslt_vv_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2,
                                       vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmslt_vx_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmslt_vv_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2,
                                       vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmslt_vx_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmslt_vv_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2,
                                       vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmslt_vx_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                       size_t vl);
vbool8_t __riscv_vmslt_vv_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmslt_vx_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                    size_t vl);
vbool4_t __riscv_vmslt_vv_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmslt_vx_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                    size_t vl);
vbool2_t __riscv_vmslt_vv_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmslt_vx_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                    size_t vl);
vbool1_t __riscv_vmslt_vv_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                    size_t vl);
vbool1_t __riscv_vmslt_vx_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmslt_vv_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmslt_vx_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        int16_t rs1, size_t vl);
vbool32_t __riscv_vmslt_vv_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmslt_vx_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        int16_t rs1, size_t vl);
vbool16_t __riscv_vmslt_vv_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmslt_vx_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       int16_t rs1, size_t vl);
vbool8_t __riscv_vmslt_vv_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmslt_vx_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmslt_vv_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmslt_vx_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                     size_t vl);
vbool2_t __riscv_vmslt_vv_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2,
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                                    vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmslt_vx_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmslt_vv_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmslt_vx_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vbool32_t __riscv_vmslt_vv_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                     vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmslt_vx_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                     int32_t rs1, size_t vl);
vbool16_t __riscv_vmslt_vv_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                     vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmslt_vx_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                     int32_t rs1, size_t vl);
vbool8_t __riscv_vmslt_vv_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmslt_vx_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vbool4_t __riscv_vmslt_vv_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmslt_vx_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmslt_vv_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                     vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmslt_vx_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                     int64_t rs1, size_t vl);
vbool32_t __riscv_vmslt_vv_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                     vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmslt_vx_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                     int64_t rs1, size_t vl);
vbool16_t __riscv_vmslt_vv_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                     vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmslt_vx_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                     int64_t rs1, size_t vl);
vbool8_t __riscv_vmslt_vv_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmslt_vx_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmsle_vv_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2,
                                     vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsle_vx_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                     size_t vl);
vbool32_t __riscv_vmsle_vv_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2,
                                     vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsle_vx_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                     size_t vl);
vbool16_t __riscv_vmsle_vv_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2,
                                     vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsle_vx_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                     size_t vl);
vbool8_t __riscv_vmsle_vv_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmsle_vx_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                   size_t vl);
vbool4_t __riscv_vmsle_vv_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmsle_vx_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                   size_t vl);
vbool2_t __riscv_vmsle_vv_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                   size_t vl);
vbool2_t __riscv_vmsle_vx_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                   size_t vl);
vbool1_t __riscv_vmsle_vv_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                   size_t vl);
vbool1_t __riscv_vmsle_vx_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                   size_t vl);
```

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vbool64_t __riscv_vmsle_vv_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsle_vx_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        int16_t rs1, size_t vl);
vbool32_t __riscv_vmsle_vv_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsle_vx_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        int16_t rs1, size_t vl);
vbool16_t __riscv_vmsle_vv_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsle_vx_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       int16_t rs1, size_t vl);
vbool8_t __riscv_vmsle_vv_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsle_vx_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsle_vv_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsle_vx_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                     size_t vl);
vbool2_t __riscv_vmsle_vv_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsle_vx_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsle_vv_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
                                        vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsle_vx_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
                                        int32_t rs1, size_t vl);
vbool32_t __riscv_vmsle_vv_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                       vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsle_vx_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                       int32_t rs1, size_t vl);
vbool16_t __riscv_vmsle_vv_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                       vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsle_vx_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                       int32_t rs1, size_t vl);
vbool8_t __riscv_vmsle_vv_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsle_vx_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsle_vv_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsle_vx_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsle_vv_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                       vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsle_vx_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                       int64_t rs1, size_t vl);
vbool32_t __riscv_vmsle_vv_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                       vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsle_vx_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                       int64_t rs1, size_t vl);
vbool16_t __riscv_vmsle_vv_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                       vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsle_vx_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                       int64_t rs1, size_t vl);
vbool8_t __riscv_vmsle_vv_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsle_vx_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsgt_vv_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2,
                                       vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsgt_vx_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsgt_vv_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2,
                                       vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsgt_vx_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
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                                      size_t vl);
vbool16_t __riscv_vmsgt_vv_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2,
                                       vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_vx_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                       size_t vl);
vbool8_t __riscv_vmsgt_vv_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsgt_vx_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                    size_t vl);
vbool4_t __riscv_vmsgt_vv_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsgt_vx_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                    size_t vl);
vbool2_t __riscv_vmsgt_vv_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmsgt_vx_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                    size_t vl);
vbool1_t __riscv_vmsgt_vv_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                    size_t vl);
vbool1_t __riscv_vmsgt_vx_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmsgt_vv_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsgt_vx_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        int16_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_vv_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsgt_vx_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        int16_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_vv_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_vx_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       int16_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_vv_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_vx_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsgt_vv_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgt_vx_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                     size_t vl);
vbool2_t __riscv_vmsgt_vv_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgt_vx_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsgt_vv_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
                                        vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsgt_vx_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
                                        int32_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_vv_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                       vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsgt_vx_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                       int32_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_vv_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                       vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_vx_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                       int32_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_vv_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_vx_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsgt_vv_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgt_vx_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsgt_vv_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                       vint64m1_t vs1, size_t vl);
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```
vbool64_t __riscv_vmsgt_vx_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                       int64_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_vv_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                       vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsgt_vx_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                       int64_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_vv_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                       vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_vx_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                       int64_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_vv_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_vx_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsge_vv_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2,
                                       vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsge_vx_i8mf8_b64_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsge_vv_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2,
                                       vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsge_vx_i8mf4_b32_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmsge_vv_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2,
                                       vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsge_vx_i8mf2_b16_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                       size_t vl);
vbool8_t __riscv_vmsge_vv_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsge_vx_i8m1_b8_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                    size_t vl);
vbool4_t __riscv_vmsge_vv_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsge_vx_i8m2_b4_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                    size_t vl);
vbool2_t __riscv_vmsge_vv_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmsge_vx_i8m4_b2_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                    size_t vl);
vbool1_t __riscv_vmsge_vv_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                    size_t vl);
vbool1_t __riscv_vmsge_vx_i8m8_b1_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmsge_vv_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsge_vx_i16mf4_b64_m(vbool64_t vm, vint16mf4_t vs2,
                                        int16_t rs1, size_t vl);
vbool32_t __riscv_vmsge_vv_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsge_vx_i16mf2_b32_m(vbool32_t vm, vint16mf2_t vs2,
                                        int16_t rs1, size_t vl);
vbool16_t __riscv_vmsge_vv_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsge_vx_i16m1_b16_m(vbool16_t vm, vint16m1_t vs2,
                                       int16_t rs1, size_t vl);
vbool8_t __riscv_vmsge_vv_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsge_vx_i16m2_b8_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsge_vv_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsge_vx_i16m4_b4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                     size_t vl);
vbool2_t __riscv_vmsge_vv_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsge_vx_i16m8_b2_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsge_vv_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
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                                      vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsge_vx_i32mf2_b64_m(vbool64_t vm, vint32mf2_t vs2,
                                       int32_t rs1, size_t vl);
vbool32_t __riscv_vmsge_vv_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                      vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsge_vx_i32m1_b32_m(vbool32_t vm, vint32m1_t vs2,
                                      int32_t rs1, size_t vl);
vbool16_t __riscv_vmsge_vv_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                      vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsge_vx_i32m2_b16_m(vbool16_t vm, vint32m2_t vs2,
                                      int32_t rs1, size_t vl);
vbool8_t __riscv_vmsge_vv_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsge_vx_i32m4_b8_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsge_vv_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsge_vx_i32m8_b4_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsge_vv_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                      vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsge_vx_i64m1_b64_m(vbool64_t vm, vint64m1_t vs2,
                                      int64_t rs1, size_t vl);
vbool32_t __riscv_vmsge_vv_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                      vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsge_vx_i64m2_b32_m(vbool32_t vm, vint64m2_t vs2,
                                      int64_t rs1, size_t vl);
vbool16_t __riscv_vmsge_vv_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                      vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsge_vx_i64m4_b16_m(vbool16_t vm, vint64m4_t vs2,
                                      int64_t rs1, size_t vl);
vbool8_t __riscv_vmsge_vv_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsge_vx_i64m8_b8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmseq_vv_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmseq_vx_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                      uint8_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmseq_vx_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                      uint8_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
                                      uint8_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmseq_vx_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vbool4_t __riscv_vmseq_vv_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmseq_vx_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vbool2_t __riscv_vmseq_vv_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmseq_vx_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vbool1_t __riscv_vmseq_vv_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vbool1_t __riscv_vmseq_vx_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmseq_vv_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmseq_vx_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
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vbool32_t __riscv_vmseq_vv_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                        vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmseq_vx_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                       vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                       uint16_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmseq_vv_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                     size_t vl);
vbool2_t __riscv_vmseq_vv_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmseq_vx_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmseq_vv_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                        vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmseq_vx_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                        uint32_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
                                       vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmseq_vx_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
                                       uint32_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
                                       vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
                                       uint32_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmseq_vv_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmseq_vv_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                       vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmseq_vx_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                       uint64_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                       vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmseq_vx_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                       uint64_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                       vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmseq_vx_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                       uint64_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsne_vv_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                       vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsne_vx_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                       uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                       vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsne_vx_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                       uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
                                       vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
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                                      uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsne_vx_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vbool4_t __riscv_vmsne_vv_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsne_vx_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vbool2_t __riscv_vmsne_vv_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmsne_vx_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vbool1_t __riscv_vmsne_vv_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vbool1_t __riscv_vmsne_vx_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmsne_vv_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsne_vx_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                        uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                        vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsne_vx_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                       vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                       uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsne_vv_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                     size_t vl);
vbool2_t __riscv_vmsne_vv_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsne_vx_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsne_vv_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                        vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsne_vx_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                        uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
                                       vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsne_vx_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
                                       uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
                                       vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
                                       uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsne_vv_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsne_vv_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                       vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsne_vx_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                       uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                       vuint64m2_t vs1, size_t vl);
```

```
vbool32_t __riscv_vmsne_vx_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                       uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                       vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsne_vx_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                       uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsltu_vv_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                        vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsltu_vx_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                        uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsltu_vv_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsltu_vx_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                        uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsltu_vv_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
                                        vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsltu_vx_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
                                        uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsltu_vv_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsltu_vx_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsltu_vv_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsltu_vx_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                     size_t vl);
vbool2_t __riscv_vmsltu_vv_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsltu_vx_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                     size_t vl);
vbool1_t __riscv_vmsltu_vv_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsltu_vx_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsltu_vv_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsltu_vx_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                         uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsltu_vv_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                         vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsltu_vx_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                         uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsltu_vv_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                        vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsltu_vx_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                        uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsltu_vv_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsltu_vx_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsltu_vv_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsltu_vx_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsltu_vv_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsltu_vx_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsltu_vv_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                         vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsltu_vx_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                         uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsltu_vv_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
```

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                                        vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsltu_vx_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
                                        uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsltu_vv_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
                                        vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsltu_vx_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
                                        uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsltu_vv_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsltu_vx_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2,
                                      uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsltu_vv_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2,
                                      vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsltu_vx_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2,
                                      uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsltu_vv_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                        vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsltu_vx_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                        uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsltu_vv_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                        vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsltu_vx_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                        uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsltu_vv_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                        vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsltu_vx_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                        uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsltu_vv_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2,
                                      vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsltu_vx_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2,
                                      uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_vv_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                        vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsleu_vx_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                        uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsleu_vv_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsleu_vx_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                        uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsleu_vv_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
                                        vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsleu_vx_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
                                        uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_vv_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsleu_vx_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsleu_vv_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsleu_vx_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                     size_t vl);
vbool2_t __riscv_vmsleu_vv_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsleu_vx_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                     size_t vl);
vbool1_t __riscv_vmsleu_vv_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsleu_vx_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsleu_vv_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsleu_vx_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                         uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsleu_vv_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                         vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsleu_vx_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                         uint16_t rs1, size_t vl);
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vbool16_t __riscv_vmsleu_vv_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                        vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsleu_vx_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                        uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_vv_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsleu_vx_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsleu_vv_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsleu_vx_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsleu_vv_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsleu_vx_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_vv_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                         vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsleu_vx_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                         uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsleu_vv_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
                                        vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsleu_vx_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
                                        uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsleu_vv_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
                                        vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsleu_vx_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
                                        uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_vv_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsleu_vx_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2,
                                      uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsleu_vv_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2,
                                      vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsleu_vx_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2,
                                      uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_vv_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                        vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsleu_vx_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                        uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsleu_vv_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                        vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsleu_vx_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                        uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsleu_vv_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                        vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsleu_vx_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                        uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_vv_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2,
                                      vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsleu_vx_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2,
                                      uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu_vv_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                        vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu_vx_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                        uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu_vv_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu_vx_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                        uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu_vv_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
                                        vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsgtu_vx_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
                                        uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu_vv_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu_vx_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
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                                    size_t vl);
vbool4_t __riscv_vmsgtu_vv_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu_vx_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vbool2_t __riscv_vmsgtu_vv_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgtu_vx_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vbool1_t __riscv_vmsgtu_vv_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgtu_vx_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmsgtu_vv_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu_vx_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu_vv_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu_vx_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu_vv_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsgtu_vx_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu_vv_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu_vx_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2,
                                     uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu_vv_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu_vx_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2,
                                     uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsgtu_vv_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgtu_vx_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2,
                                     uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu_vv_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu_vx_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu_vv_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu_vx_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu_vv_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsgtu_vx_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu_vv_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu_vx_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2,
                                     uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu_vv_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu_vx_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2,
                                     uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu_vv_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                      vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu_vx_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                      uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu_vv_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                      vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu_vx_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                      uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu_vv_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                      vuint64m4_t vs1, size_t vl);
```

```
vbool16_t __riscv_vmsgtu_vx_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                        uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu_vv_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2,
                                      vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu_vx_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2,
                                      uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu_vv_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                        vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu_vx_u8mf8_b64_m(vbool64_t vm, vuint8mf8_t vs2,
                                        uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu_vv_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsgeu_vx_u8mf4_b32_m(vbool32_t vm, vuint8mf4_t vs2,
                                        uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu_vv_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
                                        vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsgeu_vx_u8mf2_b16_m(vbool16_t vm, vuint8mf2_t vs2,
                                        uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_vv_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu_vx_u8m1_b8_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsgeu_vv_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu_vx_u8m2_b4_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                     size_t vl);
vbool2_t __riscv_vmsgeu_vv_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgeu_vx_u8m4_b2_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                     size_t vl);
vbool1_t __riscv_vmsgeu_vv_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgeu_vx_u8m8_b1_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsgeu_vv_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu_vx_u16mf4_b64_m(vbool64_t vm, vuint16mf4_t vs2,
                                         uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu_vv_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                         vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsgeu_vx_u16mf2_b32_m(vbool32_t vm, vuint16mf2_t vs2,
                                         uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu_vv_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                        vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsgeu_vx_u16m1_b16_m(vbool16_t vm, vuint16m1_t vs2,
                                        uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_vv_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu_vx_u16m2_b8_m(vbool8_t vm, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu_vv_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu_vx_u16m4_b4_m(vbool4_t vm, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsgeu_vv_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgeu_vx_u16m8_b2_m(vbool2_t vm, vuint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu_vv_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                         vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu_vx_u32mf2_b64_m(vbool64_t vm, vuint32mf2_t vs2,
                                         uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu_vv_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
                                        vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsgeu_vx_u32m1_b32_m(vbool32_t vm, vuint32m1_t vs2,
                                        uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu_vv_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
```

```
                                      vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsgeu_vx_u32m2_b16_m(vbool16_t vm, vuint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_vv_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu_vx_u32m4_b8_m(vbool8_t vm, vuint32m4_t vs2,
                                    uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu_vv_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu_vx_u32m8_b4_m(vbool4_t vm, vuint32m8_t vs2,
                                    uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu_vv_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                      vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu_vx_u64m1_b64_m(vbool64_t vm, vuint64m1_t vs2,
                                      uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu_vv_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                      vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsgeu_vx_u64m2_b32_m(vbool32_t vm, vuint64m2_t vs2,
                                      uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu_vv_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                      vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsgeu_vx_u64m4_b16_m(vbool16_t vm, vuint64m4_t vs2,
                                      uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_vv_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu_vx_u64m8_b8_m(vbool8_t vm, vuint64m8_t vs2,
                                    uint64_t rs1, size_t vl);
```

A.3.12. Vector Integer Min/Max Intrinsics

```
vint8mf8_t __riscv_vmin_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmin_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmin_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmin_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmin_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmin_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmin_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmin_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmin_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmin_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmin_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmin_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmin_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmin_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmin_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmin_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmin_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmin_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmin_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmin_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmin_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmin_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmin_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmin_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmin_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmin_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmin_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmin_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmin_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmin_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmin_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmin_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmin_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmin_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmin_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
```

```
vint32m8_t __riscv_vmin_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmin_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmin_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmin_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmin_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmin_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmin_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmin_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmin_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmax_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmax_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmax_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmax_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmax_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmax_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmax_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmax_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmax_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmax_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmax_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmax_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmax_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmax_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmax_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmax_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmax_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmax_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmax_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmax_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmax_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmax_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmax_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmax_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmax_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmax_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmax_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmax_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmax_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmax_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmax_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmax_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmax_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmax_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmax_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmax_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmax_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmax_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmax_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmax_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmax_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmax_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmax_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmax_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vminu_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vminu_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vminu_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vminu_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vminu_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vminu_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vminu_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vminu_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vminu_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vminu_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vminu_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vminu_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vminu_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vminu_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
```

```
vuint16mf4_t __riscv_vminu_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vuint16mf4_t __riscv_vminu_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vminu_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vuint16mf2_t __riscv_vminu_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vminu_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vminu_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vminu_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vminu_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vminu_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vminu_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vminu_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vminu_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vminu_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                     size_t vl);
vuint32mf2_t __riscv_vminu_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vminu_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vminu_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vminu_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vminu_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vminu_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vminu_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vminu_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vminu_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vminu_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vminu_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vminu_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vminu_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vminu_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vminu_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vminu_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vminu_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmaxu_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmaxu_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmaxu_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmaxu_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmaxu_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmaxu_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmaxu_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmaxu_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vuint16mf4_t __riscv_vmaxu_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vuint16mf2_t __riscv_vmaxu_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmaxu_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmaxu_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmaxu_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmaxu_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmaxu_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmaxu_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmaxu_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmaxu_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                     size_t vl);
vuint32mf2_t __riscv_vmaxu_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmaxu_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmaxu_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmaxu_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
```

```
vuint32m2_t __riscv_vmaxu_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmaxu_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmaxu_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmaxu_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmaxu_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmaxu_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmaxu_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmaxu_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmaxu_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmaxu_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmaxu_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmaxu_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmaxu_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vmin_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                                   size_t vl);
vint8mf8_t __riscv_vmin_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf4_t __riscv_vmin_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                                   size_t vl);
vint8mf4_t __riscv_vmin_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf2_t __riscv_vmin_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                                   size_t vl);
vint8mf2_t __riscv_vmin_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m1_t __riscv_vmin_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                 size_t vl);
vint8m1_t __riscv_vmin_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                 size_t vl);
vint8m2_t __riscv_vmin_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vmin_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vmin_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vmin_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vmin_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                 size_t vl);
vint8m8_t __riscv_vmin_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vmin_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                     vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmin_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                                     size_t vl);
vint16mf2_t __riscv_vmin_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                     vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmin_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vmin_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                                   size_t vl);
vint16m1_t __riscv_vmin_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                   size_t vl);
vint16m2_t __riscv_vmin_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                   size_t vl);
vint16m2_t __riscv_vmin_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                   size_t vl);
vint16m4_t __riscv_vmin_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                   size_t vl);
vint16m4_t __riscv_vmin_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                   size_t vl);
vint16m8_t __riscv_vmin_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                   size_t vl);
vint16m8_t __riscv_vmin_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                   size_t vl);
vint32mf2_t __riscv_vmin_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
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```
                                    vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmin_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m1_t __riscv_vmin_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                                   size_t vl);
vint32m1_t __riscv_vmin_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                   size_t vl);
vint32m2_t __riscv_vmin_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                                   size_t vl);
vint32m2_t __riscv_vmin_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                   size_t vl);
vint32m4_t __riscv_vmin_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                   size_t vl);
vint32m4_t __riscv_vmin_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                   size_t vl);
vint32m8_t __riscv_vmin_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                   size_t vl);
vint32m8_t __riscv_vmin_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                   size_t vl);
vint64m1_t __riscv_vmin_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                                   size_t vl);
vint64m1_t __riscv_vmin_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                   size_t vl);
vint64m2_t __riscv_vmin_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                                   size_t vl);
vint64m2_t __riscv_vmin_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                   size_t vl);
vint64m4_t __riscv_vmin_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                                   size_t vl);
vint64m4_t __riscv_vmin_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                   size_t vl);
vint64m8_t __riscv_vmin_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                   size_t vl);
vint64m8_t __riscv_vmin_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                   size_t vl);
vint8mf8_t __riscv_vmax_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                                   size_t vl);
vint8mf8_t __riscv_vmax_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf4_t __riscv_vmax_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                                   size_t vl);
vint8mf4_t __riscv_vmax_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf2_t __riscv_vmax_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                                   size_t vl);
vint8mf2_t __riscv_vmax_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m1_t __riscv_vmax_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                 size_t vl);
vint8m1_t __riscv_vmax_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                 size_t vl);
vint8m2_t __riscv_vmax_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vmax_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vmax_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vmax_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vmax_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                 size_t vl);
vint8m8_t __riscv_vmax_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vmax_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                    vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmax_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                                    size_t vl);
```

```
vint16mf2_t __riscv_vmax_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                     vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmax_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vmax_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                                   size_t vl);
vint16m1_t __riscv_vmax_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                   size_t vl);
vint16m2_t __riscv_vmax_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                   size_t vl);
vint16m2_t __riscv_vmax_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                   size_t vl);
vint16m4_t __riscv_vmax_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                   size_t vl);
vint16m4_t __riscv_vmax_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                   size_t vl);
vint16m8_t __riscv_vmax_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                   size_t vl);
vint16m8_t __riscv_vmax_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                   size_t vl);
vint32mf2_t __riscv_vmax_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                     vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmax_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                     size_t vl);
vint32m1_t __riscv_vmax_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                                   size_t vl);
vint32m1_t __riscv_vmax_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                   size_t vl);
vint32m2_t __riscv_vmax_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                                   size_t vl);
vint32m2_t __riscv_vmax_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                   size_t vl);
vint32m4_t __riscv_vmax_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                   size_t vl);
vint32m4_t __riscv_vmax_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                   size_t vl);
vint32m8_t __riscv_vmax_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                   size_t vl);
vint32m8_t __riscv_vmax_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                   size_t vl);
vint64m1_t __riscv_vmax_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                                   size_t vl);
vint64m1_t __riscv_vmax_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                   size_t vl);
vint64m2_t __riscv_vmax_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                                   size_t vl);
vint64m2_t __riscv_vmax_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                   size_t vl);
vint64m4_t __riscv_vmax_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                                   size_t vl);
vint64m4_t __riscv_vmax_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                   size_t vl);
vint64m8_t __riscv_vmax_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                   size_t vl);
vint64m8_t __riscv_vmax_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                   size_t vl);
vuint8mf8_t __riscv_vminu_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vminu_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf4_t __riscv_vminu_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vminu_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf2_t __riscv_vminu_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vminu_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
```

```
                                    size_t vl);
vuint8m1_t __riscv_vminu_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                   size_t vl);
vuint8m1_t __riscv_vminu_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vminu_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                   size_t vl);
vuint8m2_t __riscv_vminu_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vminu_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                   size_t vl);
vuint8m4_t __riscv_vminu_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vminu_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                   size_t vl);
vuint8m8_t __riscv_vminu_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vminu_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vminu_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vminu_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vminu_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vminu_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vminu_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vminu_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vminu_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                     size_t vl);
vuint16m4_t __riscv_vminu_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vminu_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                     size_t vl);
vuint16m8_t __riscv_vminu_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vminu_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                     size_t vl);
vuint32mf2_t __riscv_vminu_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vminu_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vminu_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vminu_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vminu_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vminu_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vminu_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vminu_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                     size_t vl);
vuint32m8_t __riscv_vminu_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vminu_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                     size_t vl);
vuint64m1_t __riscv_vminu_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                     vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vminu_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vminu_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                     vuint64m2_t vs1, size_t vl);
```

```
vuint64m2_t __riscv_vminu_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vminu_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                     vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vminu_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vminu_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vminu_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                     size_t vl);
vuint8mf8_t __riscv_vmaxu_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf4_t __riscv_vmaxu_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf2_t __riscv_vmaxu_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m1_t __riscv_vmaxu_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                   size_t vl);
vuint8m1_t __riscv_vmaxu_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vmaxu_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                   size_t vl);
vuint8m2_t __riscv_vmaxu_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vmaxu_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                   size_t vl);
vuint8m4_t __riscv_vmaxu_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vmaxu_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                   size_t vl);
vuint8m8_t __riscv_vmaxu_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vmaxu_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmaxu_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmaxu_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmaxu_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmaxu_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                     size_t vl);
vuint16m4_t __riscv_vmaxu_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmaxu_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                     size_t vl);
vuint16m8_t __riscv_vmaxu_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmaxu_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                     size_t vl);
vuint32mf2_t __riscv_vmaxu_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmaxu_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
```

```
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmaxu_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmaxu_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmaxu_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmaxu_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmaxu_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vmaxu_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmaxu_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vmaxu_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmaxu_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmaxu_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmaxu_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmaxu_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmaxu_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmaxu_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmaxu_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
```

A.3.13. Vector Single-Width Integer Multiply Intrinsics

```
vint8mf8_t __riscv_vmul_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmul_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmul_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmul_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmul_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmul_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmul_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmul_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmul_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmul_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmul_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmul_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmul_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmul_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmul_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmul_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmul_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmul_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmul_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmul_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmul_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmul_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmul_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmul_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmul_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmul_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmul_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmul_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmul_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmul_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmul_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
```

```
vint32m2_t __riscv_vmul_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmul_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmul_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmul_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmul_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmul_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmul_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmul_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmul_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmul_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmul_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmul_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmul_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulh_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulh_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulh_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulh_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulh_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulh_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmulh_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulh_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmulh_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulh_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmulh_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulh_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmulh_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulh_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulh_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1,
                                    size_t vl);
vint16mf4_t __riscv_vmulh_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulh_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vmulh_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmulh_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulh_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmulh_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulh_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmulh_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulh_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmulh_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulh_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulh_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vmulh_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmulh_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulh_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmulh_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulh_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmulh_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulh_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmulh_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulh_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmulh_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulh_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmulh_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulh_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmulh_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulh_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmulh_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulh_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_vv_i8mf8(vint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_vx_i8mf8(vint8mf8_t vs2, uint8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_vv_i8mf4(vint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_vx_i8mf4(vint8mf4_t vs2, uint8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_vv_i8mf2(vint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_vx_i8mf2(vint8mf2_t vs2, uint8_t rs1, size_t vl);
vint8m1_t __riscv_vmulhsu_vv_i8m1(vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
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```
vint8m1_t __riscv_vmulhsu_vx_i8m1(vint8m1_t vs2, uint8_t rs1, size_t vl);
vint8m2_t __riscv_vmulhsu_vv_i8m2(vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulhsu_vx_i8m2(vint8m2_t vs2, uint8_t rs1, size_t vl);
vint8m4_t __riscv_vmulhsu_vv_i8m4(vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulhsu_vx_i8m4(vint8m4_t vs2, uint8_t rs1, size_t vl);
vint8m8_t __riscv_vmulhsu_vv_i8m8(vint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulhsu_vx_i8m8(vint8m8_t vs2, uint8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_vv_i16mf4(vint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vmulhsu_vx_i16mf4(vint16mf4_t vs2, uint16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_vv_i16mf2(vint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vmulhsu_vx_i16mf2(vint16mf2_t vs2, uint16_t rs1, size_t vl);
vint16m1_t __riscv_vmulhsu_vv_i16m1(vint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulhsu_vx_i16m1(vint16m1_t vs2, uint16_t rs1, size_t vl);
vint16m2_t __riscv_vmulhsu_vv_i16m2(vint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulhsu_vx_i16m2(vint16m2_t vs2, uint16_t rs1, size_t vl);
vint16m4_t __riscv_vmulhsu_vv_i16m4(vint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulhsu_vx_i16m4(vint16m4_t vs2, uint16_t rs1, size_t vl);
vint16m8_t __riscv_vmulhsu_vv_i16m8(vint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulhsu_vx_i16m8(vint16m8_t vs2, uint16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_vv_i32mf2(vint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vmulhsu_vx_i32mf2(vint32mf2_t vs2, uint32_t rs1, size_t vl);
vint32m1_t __riscv_vmulhsu_vv_i32m1(vint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulhsu_vx_i32m1(vint32m1_t vs2, uint32_t rs1, size_t vl);
vint32m2_t __riscv_vmulhsu_vv_i32m2(vint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulhsu_vx_i32m2(vint32m2_t vs2, uint32_t rs1, size_t vl);
vint32m4_t __riscv_vmulhsu_vv_i32m4(vint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulhsu_vx_i32m4(vint32m4_t vs2, uint32_t rs1, size_t vl);
vint32m8_t __riscv_vmulhsu_vv_i32m8(vint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulhsu_vx_i32m8(vint32m8_t vs2, uint32_t rs1, size_t vl);
vint64m1_t __riscv_vmulhsu_vv_i64m1(vint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulhsu_vx_i64m1(vint64m1_t vs2, uint64_t rs1, size_t vl);
vint64m2_t __riscv_vmulhsu_vv_i64m2(vint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulhsu_vx_i64m2(vint64m2_t vs2, uint64_t rs1, size_t vl);
vint64m4_t __riscv_vmulhsu_vv_i64m4(vint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulhsu_vx_i64m4(vint64m4_t vs2, uint64_t rs1, size_t vl);
vint64m8_t __riscv_vmulhsu_vv_i64m8(vint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulhsu_vx_i64m8(vint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmul_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmul_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmul_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmul_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmul_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmul_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmul_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmul_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmul_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmul_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmul_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmul_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmul_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmul_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmul_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vmul_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmul_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vmul_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmul_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmul_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmul_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmul_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmul_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmul_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmul_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
```

```
vuint16m8_t __riscv_vmul_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmul_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vmul_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmul_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmul_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmul_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmul_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmul_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmul_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmul_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmul_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmul_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmul_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmul_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmul_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmul_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmul_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmul_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmul_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vuint8mf8_t __riscv_vmulhu_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vuint8mf4_t __riscv_vmulhu_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint8mf2_t __riscv_vmulhu_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmulhu_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmulhu_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmulhu_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmulhu_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmulhu_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmulhu_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmulhu_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmulhu_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vmulhu_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16mf2_t __riscv_vmulhu_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vmulhu_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m1_t __riscv_vmulhu_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vmulhu_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmulhu_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vmulhu_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmulhu_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vmulhu_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmulhu_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vmulhu_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmulhu_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vmulhu_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vmulhu_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vmulhu_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmulhu_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vmulhu_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
```

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vuint32m4_t __riscv_vmulhu_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vmulhu_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmulhu_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vmulhu_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmulhu_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vmulhu_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmulhu_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vmulhu_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmulhu_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vmulhu_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmulhu_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vmulhu_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vmul_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                                   size_t vl);
vint8mf8_t __riscv_vmul_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf4_t __riscv_vmul_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                                   size_t vl);
vint8mf4_t __riscv_vmul_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf2_t __riscv_vmul_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                                   size_t vl);
vint8mf2_t __riscv_vmul_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m1_t __riscv_vmul_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                 size_t vl);
vint8m1_t __riscv_vmul_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                 size_t vl);
vint8m2_t __riscv_vmul_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vmul_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vmul_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vmul_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vmul_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                 size_t vl);
vint8m8_t __riscv_vmul_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vmul_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                     vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmul_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                                     size_t vl);
vint16mf2_t __riscv_vmul_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                     vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmul_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vmul_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                                   size_t vl);
vint16m1_t __riscv_vmul_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                   size_t vl);
vint16m2_t __riscv_vmul_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                   size_t vl);
vint16m2_t __riscv_vmul_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                   size_t vl);
vint16m4_t __riscv_vmul_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                   size_t vl);
vint16m4_t __riscv_vmul_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                   size_t vl);
```

```
vint16m8_t __riscv_vmul_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                   size_t vl);
vint16m8_t __riscv_vmul_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                   size_t vl);
vint32mf2_t __riscv_vmul_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                     vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmul_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                     size_t vl);
vint32m1_t __riscv_vmul_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                                   size_t vl);
vint32m1_t __riscv_vmul_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                   size_t vl);
vint32m2_t __riscv_vmul_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                                   size_t vl);
vint32m2_t __riscv_vmul_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                   size_t vl);
vint32m4_t __riscv_vmul_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                   size_t vl);
vint32m4_t __riscv_vmul_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                   size_t vl);
vint32m8_t __riscv_vmul_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                   size_t vl);
vint32m8_t __riscv_vmul_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                   size_t vl);
vint64m1_t __riscv_vmul_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                                   size_t vl);
vint64m1_t __riscv_vmul_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                   size_t vl);
vint64m2_t __riscv_vmul_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                                   size_t vl);
vint64m2_t __riscv_vmul_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                   size_t vl);
vint64m4_t __riscv_vmul_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                                   size_t vl);
vint64m4_t __riscv_vmul_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                   size_t vl);
vint64m8_t __riscv_vmul_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                   size_t vl);
vint64m8_t __riscv_vmul_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                   size_t vl);
vint8mf8_t __riscv_vmulh_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulh_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vmulh_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulh_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vmulh_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulh_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vmulh_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vmulh_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vmulh_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vmulh_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vmulh_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vmulh_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vmulh_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vmulh_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
```

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                                    size_t vl);
vint16mf4_t __riscv_vmulh_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulh_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulh_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulh_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vmulh_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulh_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vmulh_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vmulh_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vmulh_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vmulh_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vmulh_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vmulh_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vmulh_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulh_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vmulh_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulh_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vmulh_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulh_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vmulh_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vmulh_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vmulh_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vmulh_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vmulh_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulh_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vmulh_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulh_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vmulh_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulh_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vmulh_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vmulh_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vmulhsu_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, uint8_t rs1,
                                      size_t vl);
vint8mf4_t __riscv_vmulhsu_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
```

```
vint8mf4_t __riscv_vmulhsu_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vint8mf2_t __riscv_vmulhsu_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vint8m1_t __riscv_vmulhsu_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vint8m1_t __riscv_vmulhsu_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vint8m2_t __riscv_vmulhsu_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vint8m2_t __riscv_vmulhsu_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vint8m4_t __riscv_vmulhsu_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vint8m4_t __riscv_vmulhsu_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vint8m8_t __riscv_vmulhsu_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vint8m8_t __riscv_vmulhsu_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vint16mf4_t __riscv_vmulhsu_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                        uint16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                        vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vint16m1_t __riscv_vmulhsu_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulhsu_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vint16m2_t __riscv_vmulhsu_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulhsu_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, uint16_t rs1,
                                      size_t vl);
vint16m4_t __riscv_vmulhsu_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulhsu_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, uint16_t rs1,
                                      size_t vl);
vint16m8_t __riscv_vmulhsu_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulhsu_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, uint16_t rs1,
                                      size_t vl);
vint32mf2_t __riscv_vmulhsu_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                        vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                        uint32_t rs1, size_t vl);
vint32m1_t __riscv_vmulhsu_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulhsu_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vint32m2_t __riscv_vmulhsu_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulhsu_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vint32m4_t __riscv_vmulhsu_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulhsu_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, uint32_t rs1,
                                      size_t vl);
vint32m8_t __riscv_vmulhsu_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2,
                                      vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulhsu_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, uint32_t rs1,
                                      size_t vl);
vint64m1_t __riscv_vmulhsu_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
```

```
                                    vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulhsu_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                    uint64_t rs1, size_t vl);
vint64m2_t __riscv_vmulhsu_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulhsu_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                    uint64_t rs1, size_t vl);
vint64m4_t __riscv_vmulhsu_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulhsu_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                    uint64_t rs1, size_t vl);
vint64m8_t __riscv_vmulhsu_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulhsu_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vmul_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                   vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmul_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8mf4_t __riscv_vmul_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                   vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmul_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8mf2_t __riscv_vmul_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                   vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmul_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m1_t __riscv_vmul_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                  size_t vl);
vuint8m1_t __riscv_vmul_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m2_t __riscv_vmul_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                  size_t vl);
vuint8m2_t __riscv_vmul_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m4_t __riscv_vmul_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                  size_t vl);
vuint8m4_t __riscv_vmul_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m8_t __riscv_vmul_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                  size_t vl);
vuint8m8_t __riscv_vmul_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                  size_t vl);
vuint16mf4_t __riscv_vmul_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                    vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmul_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmul_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                    vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmul_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmul_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmul_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                                   size_t vl);
vuint16m2_t __riscv_vmul_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmul_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                   size_t vl);
vuint16m4_t __riscv_vmul_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmul_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                   size_t vl);
vuint16m8_t __riscv_vmul_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                   vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmul_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                   size_t vl);
```

```
vuint32mf2_t __riscv_vmul_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmul_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmul_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmul_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vmul_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmul_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m4_t __riscv_vmul_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmul_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vmul_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmul_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vmul_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmul_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vmul_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmul_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vmul_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmul_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vmul_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmul_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vmulhu_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmulhu_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vmulhu_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m2_t __riscv_vmulhu_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint8m2_t __riscv_vmulhu_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vmulhu_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint8m4_t __riscv_vmulhu_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m8_t __riscv_vmulhu_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vuint8m8_t __riscv_vmulhu_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vmulhu_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
```

```
                                      uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmulhu_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmulhu_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmulhu_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmulhu_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmulhu_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmulhu_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmulhu_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmulhu_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmulhu_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmulhu_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmulhu_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmulhu_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmulhu_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmulhu_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmulhu_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmulhu_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmulhu_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmulhu_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmulhu_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmulhu_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmulhu_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmulhu_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmulhu_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmulhu_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmulhu_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmulhu_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmulhu_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmulhu_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    uint64_t rs1, size_t vl);
```

A.3.14. Vector Integer Divide Intrinsics

```
vint8mf8_t __riscv_vdiv_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vdiv_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vdiv_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vdiv_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vdiv_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
```

```
vint8mf2_t __riscv_vdiv_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vdiv_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vdiv_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vdiv_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vdiv_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vdiv_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vdiv_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vdiv_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vdiv_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vdiv_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vdiv_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vdiv_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vdiv_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vdiv_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vdiv_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vdiv_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vdiv_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vdiv_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vdiv_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vdiv_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vdiv_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vdiv_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vdiv_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vdiv_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vdiv_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vdiv_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vdiv_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vdiv_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vdiv_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vdiv_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vdiv_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vdiv_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vdiv_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vdiv_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vdiv_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vdiv_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vdiv_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vdiv_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vdiv_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrem_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrem_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrem_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrem_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrem_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrem_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vrem_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrem_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vrem_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrem_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vrem_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrem_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vrem_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrem_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrem_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrem_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrem_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrem_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vrem_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrem_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vrem_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrem_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vrem_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrem_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vrem_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrem_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrem_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrem_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
```

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vint32m1_t __riscv_vrem_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrem_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vrem_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrem_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vrem_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrem_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vrem_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrem_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vrem_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrem_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vrem_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrem_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vrem_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrem_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vrem_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrem_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vdivu_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vdivu_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vdivu_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vdivu_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vdivu_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vdivu_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vdivu_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vdivu_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vdivu_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vdivu_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vdivu_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vdivu_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vdivu_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vdivu_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vdivu_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vuint16mf4_t __riscv_vdivu_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vdivu_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vuint16mf2_t __riscv_vdivu_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vdivu_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vdivu_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vdivu_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vdivu_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vdivu_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vdivu_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vdivu_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vdivu_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vdivu_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                     size_t vl);
vuint32mf2_t __riscv_vdivu_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vdivu_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vdivu_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vdivu_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vdivu_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vdivu_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vdivu_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vdivu_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vdivu_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vdivu_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vdivu_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vdivu_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vdivu_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vdivu_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vdivu_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vdivu_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vdivu_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vremu_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vremu_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vremu_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vremu_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
```

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vuint8mf2_t __riscv_vremu_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vremu_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vremu_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vremu_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vremu_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vremu_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vremu_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vremu_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vremu_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vremu_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vremu_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vuint16mf4_t __riscv_vremu_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vremu_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vuint16mf2_t __riscv_vremu_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vremu_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vremu_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vremu_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vremu_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vremu_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vremu_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vremu_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vremu_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vremu_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                     size_t vl);
vuint32mf2_t __riscv_vremu_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vremu_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vremu_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vremu_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vremu_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vremu_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vremu_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vremu_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vremu_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vremu_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vremu_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vremu_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vremu_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vremu_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vremu_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vremu_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vremu_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vdiv_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                                   size_t vl);
vint8mf8_t __riscv_vdiv_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf4_t __riscv_vdiv_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                                   size_t vl);
vint8mf4_t __riscv_vdiv_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf2_t __riscv_vdiv_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                                   size_t vl);
vint8mf2_t __riscv_vdiv_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m1_t __riscv_vdiv_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                 size_t vl);
vint8m1_t __riscv_vdiv_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                 size_t vl);
vint8m2_t __riscv_vdiv_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vdiv_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vdiv_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vdiv_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
```

```
                                  size_t vl);
vint8m8_t __riscv_vdiv_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vdiv_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vdiv_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                     vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vdiv_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                                     size_t vl);
vint16mf2_t __riscv_vdiv_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                     vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vdiv_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vdiv_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                                   size_t vl);
vint16m1_t __riscv_vdiv_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                   size_t vl);
vint16m2_t __riscv_vdiv_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                   size_t vl);
vint16m2_t __riscv_vdiv_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                   size_t vl);
vint16m4_t __riscv_vdiv_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                   size_t vl);
vint16m4_t __riscv_vdiv_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                   size_t vl);
vint16m8_t __riscv_vdiv_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                   size_t vl);
vint16m8_t __riscv_vdiv_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                   size_t vl);
vint32mf2_t __riscv_vdiv_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                     vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vdiv_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                     size_t vl);
vint32m1_t __riscv_vdiv_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                                   size_t vl);
vint32m1_t __riscv_vdiv_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                   size_t vl);
vint32m2_t __riscv_vdiv_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                                   size_t vl);
vint32m2_t __riscv_vdiv_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                   size_t vl);
vint32m4_t __riscv_vdiv_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                   size_t vl);
vint32m4_t __riscv_vdiv_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                   size_t vl);
vint32m8_t __riscv_vdiv_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                   size_t vl);
vint32m8_t __riscv_vdiv_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                   size_t vl);
vint64m1_t __riscv_vdiv_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                                   size_t vl);
vint64m1_t __riscv_vdiv_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                   size_t vl);
vint64m2_t __riscv_vdiv_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                                   size_t vl);
vint64m2_t __riscv_vdiv_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                   size_t vl);
vint64m4_t __riscv_vdiv_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                                   size_t vl);
vint64m4_t __riscv_vdiv_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                   size_t vl);
vint64m8_t __riscv_vdiv_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                   size_t vl);
vint64m8_t __riscv_vdiv_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                   size_t vl);
vint8mf8_t __riscv_vrem_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                                   size_t vl);
```

```
vint8mf8_t __riscv_vrem_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf4_t __riscv_vrem_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                                   size_t vl);
vint8mf4_t __riscv_vrem_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf2_t __riscv_vrem_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                                   size_t vl);
vint8mf2_t __riscv_vrem_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m1_t __riscv_vrem_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                 size_t vl);
vint8m1_t __riscv_vrem_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                 size_t vl);
vint8m2_t __riscv_vrem_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vrem_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vrem_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vrem_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vrem_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                 size_t vl);
vint8m8_t __riscv_vrem_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vrem_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                     vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrem_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                                     size_t vl);
vint16mf2_t __riscv_vrem_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                     vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrem_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vrem_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                                   size_t vl);
vint16m1_t __riscv_vrem_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                   size_t vl);
vint16m2_t __riscv_vrem_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                   size_t vl);
vint16m2_t __riscv_vrem_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                   size_t vl);
vint16m4_t __riscv_vrem_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                   size_t vl);
vint16m4_t __riscv_vrem_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                   size_t vl);
vint16m8_t __riscv_vrem_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                   size_t vl);
vint16m8_t __riscv_vrem_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                   size_t vl);
vint32mf2_t __riscv_vrem_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                     vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrem_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                     size_t vl);
vint32m1_t __riscv_vrem_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                                   size_t vl);
vint32m1_t __riscv_vrem_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                   size_t vl);
vint32m2_t __riscv_vrem_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                                   size_t vl);
vint32m2_t __riscv_vrem_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                   size_t vl);
vint32m4_t __riscv_vrem_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                   size_t vl);
vint32m4_t __riscv_vrem_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                   size_t vl);
vint32m8_t __riscv_vrem_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
```

```
                                    size_t vl);
vint32m8_t __riscv_vrem_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vrem_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vrem_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vrem_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vrem_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vrem_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vrem_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vrem_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vrem_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vdivu_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vdivu_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf4_t __riscv_vdivu_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vdivu_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf2_t __riscv_vdivu_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vdivu_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8m1_t __riscv_vdivu_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vdivu_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m2_t __riscv_vdivu_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint8m2_t __riscv_vdivu_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vdivu_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint8m4_t __riscv_vdivu_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m8_t __riscv_vdivu_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vuint8m8_t __riscv_vdivu_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vdivu_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vdivu_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vdivu_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vdivu_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vdivu_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vdivu_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vdivu_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vdivu_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                     size_t vl);
vuint16m4_t __riscv_vdivu_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vdivu_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                     size_t vl);
```

```
vuint16m8_t __riscv_vdivu_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vdivu_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                     size_t vl);
vuint32mf2_t __riscv_vdivu_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vdivu_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vdivu_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vdivu_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vdivu_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vdivu_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vdivu_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vdivu_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                     size_t vl);
vuint32m8_t __riscv_vdivu_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vdivu_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                     size_t vl);
vuint64m1_t __riscv_vdivu_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                     vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vdivu_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vdivu_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                     vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vdivu_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vdivu_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                     vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vdivu_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vdivu_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vdivu_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                     size_t vl);
vuint8mf8_t __riscv_vremu_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vremu_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf4_t __riscv_vremu_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vremu_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf2_t __riscv_vremu_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vremu_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m1_t __riscv_vremu_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                   size_t vl);
vuint8m1_t __riscv_vremu_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vremu_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                   size_t vl);
vuint8m2_t __riscv_vremu_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vremu_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                   size_t vl);
vuint8m4_t __riscv_vremu_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vremu_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                   size_t vl);
vuint8m8_t __riscv_vremu_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
```

```
                                    size_t vl);
vuint16mf4_t __riscv_vremu_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vremu_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vremu_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vremu_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vremu_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vremu_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vremu_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vremu_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                     size_t vl);
vuint16m4_t __riscv_vremu_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vremu_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                     size_t vl);
vuint16m8_t __riscv_vremu_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vremu_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                     size_t vl);
vuint32mf2_t __riscv_vremu_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vremu_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vremu_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vremu_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vremu_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vremu_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vremu_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vremu_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                     size_t vl);
vuint32m8_t __riscv_vremu_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vremu_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                     size_t vl);
vuint64m1_t __riscv_vremu_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                     vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vremu_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vremu_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                     vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vremu_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vremu_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                     vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vremu_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vremu_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vremu_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                     size_t vl);
```

A.3.15. Vector Widening Integer Multiply Intrinsics

```
vint16mf4_t __riscv_vwmul_vv_i16mf4(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
```

```
vint16mf4_t __riscv_vwmul_vx_i16mf4(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmul_vv_i16mf2(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmul_vx_i16mf2(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwmul_vv_i16m1(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmul_vx_i16m1(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwmul_vv_i16m2(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmul_vx_i16m2(vint8m1_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwmul_vv_i16m4(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmul_vx_i16m4(vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwmul_vv_i16m8(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmul_vx_i16m8(vint8m4_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmul_vv_i32mf2(vint16mf4_t vs2, vint16mf4_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vwmul_vx_i32mf2(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwmul_vv_i32m1(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmul_vx_i32m1(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwmul_vv_i32m2(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmul_vx_i32m2(vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwmul_vv_i32m4(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmul_vx_i32m4(vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwmul_vv_i32m8(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmul_vx_i32m8(vint16m4_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwmul_vv_i64m1(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmul_vx_i64m1(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwmul_vv_i64m2(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmul_vx_i64m2(vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwmul_vv_i64m4(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmul_vx_i64m4(vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwmul_vv_i64m8(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmul_vx_i64m8(vint32m4_t vs2, int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_vv_i16mf4(vint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vwmulsu_vx_i16mf4(vint8mf8_t vs2, uint8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmulsu_vv_i16mf2(vint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vwmulsu_vx_i16mf2(vint8mf4_t vs2, uint8_t rs1, size_t vl);
vint16m1_t __riscv_vwmulsu_vv_i16m1(vint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmulsu_vx_i16m1(vint8mf2_t vs2, uint8_t rs1, size_t vl);
vint16m2_t __riscv_vwmulsu_vv_i16m2(vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmulsu_vx_i16m2(vint8m1_t vs2, uint8_t rs1, size_t vl);
vint16m4_t __riscv_vwmulsu_vv_i16m4(vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmulsu_vx_i16m4(vint8m2_t vs2, uint8_t rs1, size_t vl);
vint16m8_t __riscv_vwmulsu_vv_i16m8(vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmulsu_vx_i16m8(vint8m4_t vs2, uint8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_vv_i32mf2(vint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vwmulsu_vx_i32mf2(vint16mf4_t vs2, uint16_t rs1, size_t vl);
vint32m1_t __riscv_vwmulsu_vv_i32m1(vint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vwmulsu_vx_i32m1(vint16mf2_t vs2, uint16_t rs1, size_t vl);
vint32m2_t __riscv_vwmulsu_vv_i32m2(vint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmulsu_vx_i32m2(vint16m1_t vs2, uint16_t rs1, size_t vl);
vint32m4_t __riscv_vwmulsu_vv_i32m4(vint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmulsu_vx_i32m4(vint16m2_t vs2, uint16_t rs1, size_t vl);
vint32m8_t __riscv_vwmulsu_vv_i32m8(vint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmulsu_vx_i32m8(vint16m4_t vs2, uint16_t rs1, size_t vl);
vint64m1_t __riscv_vwmulsu_vv_i64m1(vint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vwmulsu_vx_i64m1(vint32mf2_t vs2, uint32_t rs1, size_t vl);
vint64m2_t __riscv_vwmulsu_vv_i64m2(vint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmulsu_vx_i64m2(vint32m1_t vs2, uint32_t rs1, size_t vl);
vint64m4_t __riscv_vwmulsu_vv_i64m4(vint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmulsu_vx_i64m4(vint32m2_t vs2, uint32_t rs1, size_t vl);
vint64m8_t __riscv_vwmulsu_vv_i64m8(vint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmulsu_vx_i64m8(vint32m4_t vs2, uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_vv_u16mf4(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
```

```
vuint16mf4_t __riscv_vwmulu_vx_u16mf4(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_vv_u16mf2(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vwmulu_vx_u16mf2(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwmulu_vv_u16m1(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vwmulu_vx_u16m1(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwmulu_vv_u16m2(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwmulu_vx_u16m2(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwmulu_vv_u16m4(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwmulu_vx_u16m4(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwmulu_vv_u16m8(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwmulu_vx_u16m8(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_vv_u32mf2(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwmulu_vx_u32mf2(vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vwmulu_vv_u32m1(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vwmulu_vx_u32m1(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwmulu_vv_u32m2(vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vwmulu_vx_u32m2(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwmulu_vv_u32m4(vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vwmulu_vx_u32m4(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwmulu_vv_u32m8(vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vwmulu_vx_u32m8(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwmulu_vv_u64m1(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vwmulu_vx_u64m1(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwmulu_vv_u64m2(vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vwmulu_vx_u64m2(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwmulu_vv_u64m4(vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vwmulu_vx_u64m4(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwmulu_vv_u64m8(vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vwmulu_vx_u64m8(vuint32m4_t vs2, uint32_t rs1, size_t vl);
// masked functions
vint16mf4_t __riscv_vwmul_vv_i16mf4_m(vbool64_t vm, vint8mf8_t vs2,
                                      vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmul_vx_i16mf4_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                      size_t vl);
vint16mf2_t __riscv_vwmul_vv_i16mf2_m(vbool32_t vm, vint8mf4_t vs2,
                                      vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmul_vx_i16mf2_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                      size_t vl);
vint16m1_t __riscv_vwmul_vv_i16m1_m(vbool16_t vm, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmul_vx_i16m1_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vwmul_vv_i16m2_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vwmul_vx_i16m2_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vwmul_vv_i16m4_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vwmul_vx_i16m4_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vwmul_vv_i16m8_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vwmul_vx_i16m8_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vwmul_vv_i32mf2_m(vbool64_t vm, vint16mf4_t vs2,
```

```
                                      vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmul_vx_i32mf2_m(vbool64_t vm, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint32m1_t __riscv_vwmul_vv_i32m1_m(vbool32_t vm, vint16mf2_t vs2,
                                    vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmul_vx_i32m1_m(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vwmul_vv_i32m2_m(vbool16_t vm, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmul_vx_i32m2_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vwmul_vv_i32m4_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vwmul_vx_i32m4_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vwmul_vv_i32m8_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vwmul_vx_i32m8_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vwmul_vv_i64m1_m(vbool64_t vm, vint32mf2_t vs2,
                                    vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmul_vx_i64m1_m(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vwmul_vv_i64m2_m(vbool32_t vm, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmul_vx_i64m2_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vwmul_vv_i64m4_m(vbool16_t vm, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmul_vx_i64m4_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vwmul_vv_i64m8_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vwmul_vx_i64m8_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint16mf4_t __riscv_vwmulsu_vv_i16mf4_m(vbool64_t vm, vint8mf8_t vs2,
                                        vuint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_vx_i16mf4_m(vbool64_t vm, vint8mf8_t vs2,
                                        uint8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmulsu_vv_i16mf2_m(vbool32_t vm, vint8mf4_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmulsu_vx_i16mf2_m(vbool32_t vm, vint8mf4_t vs2,
                                        uint8_t rs1, size_t vl);
vint16m1_t __riscv_vwmulsu_vv_i16m1_m(vbool16_t vm, vint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmulsu_vx_i16m1_m(vbool16_t vm, vint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vint16m2_t __riscv_vwmulsu_vv_i16m2_m(vbool8_t vm, vint8m1_t vs2,
                                      vuint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmulsu_vx_i16m2_m(vbool8_t vm, vint8m1_t vs2, uint8_t rs1,
                                      size_t vl);
vint16m4_t __riscv_vwmulsu_vv_i16m4_m(vbool4_t vm, vint8m2_t vs2,
                                      vuint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmulsu_vx_i16m4_m(vbool4_t vm, vint8m2_t vs2, uint8_t rs1,
                                      size_t vl);
vint16m8_t __riscv_vwmulsu_vv_i16m8_m(vbool2_t vm, vint8m4_t vs2,
                                      vuint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmulsu_vx_i16m8_m(vbool2_t vm, vint8m4_t vs2, uint8_t rs1,
                                      size_t vl);
vint32mf2_t __riscv_vwmulsu_vv_i32mf2_m(vbool64_t vm, vint16mf4_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_vx_i32mf2_m(vbool64_t vm, vint16mf4_t vs2,
                                        uint16_t rs1, size_t vl);
vint32m1_t __riscv_vwmulsu_vv_i32m1_m(vbool32_t vm, vint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmulsu_vx_i32m1_m(vbool32_t vm, vint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
```

```
vint32m2_t __riscv_vwmulsu_vv_i32m2_m(vbool16_t vm, vint16m1_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmulsu_vx_i32m2_m(vbool16_t vm, vint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vint32m4_t __riscv_vwmulsu_vv_i32m4_m(vbool8_t vm, vint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmulsu_vx_i32m4_m(vbool8_t vm, vint16m2_t vs2, uint16_t rs1,
                                      size_t vl);
vint32m8_t __riscv_vwmulsu_vv_i32m8_m(vbool4_t vm, vint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmulsu_vx_i32m8_m(vbool4_t vm, vint16m4_t vs2, uint16_t rs1,
                                      size_t vl);
vint64m1_t __riscv_vwmulsu_vv_i64m1_m(vbool64_t vm, vint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmulsu_vx_i64m1_m(vbool64_t vm, vint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vint64m2_t __riscv_vwmulsu_vv_i64m2_m(vbool32_t vm, vint32m1_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmulsu_vx_i64m2_m(vbool32_t vm, vint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vint64m4_t __riscv_vwmulsu_vv_i64m4_m(vbool16_t vm, vint32m2_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmulsu_vx_i64m4_m(vbool16_t vm, vint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vint64m8_t __riscv_vwmulsu_vv_i64m8_m(vbool8_t vm, vint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmulsu_vx_i64m8_m(vbool8_t vm, vint32m4_t vs2, uint32_t rs1,
                                      size_t vl);
vuint16mf4_t __riscv_vwmulu_vv_u16mf4_m(vbool64_t vm, vuint8mf8_t vs2,
                                        vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_vx_u16mf4_m(vbool64_t vm, vuint8mf8_t vs2,
                                        uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_vv_u16mf2_m(vbool32_t vm, vuint8mf4_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_vx_u16mf2_m(vbool32_t vm, vuint8mf4_t vs2,
                                        uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwmulu_vv_u16m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwmulu_vx_u16m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                      uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwmulu_vv_u16m2_m(vbool8_t vm, vuint8m1_t vs2,
                                      vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwmulu_vx_u16m2_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m4_t __riscv_vwmulu_vv_u16m4_m(vbool4_t vm, vuint8m2_t vs2,
                                      vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwmulu_vx_u16m4_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m8_t __riscv_vwmulu_vv_u16m8_m(vbool2_t vm, vuint8m4_t vs2,
                                      vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwmulu_vx_u16m8_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwmulu_vv_u32mf2_m(vbool64_t vm, vuint16mf4_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_vx_u32mf2_m(vbool64_t vm, vuint16mf4_t vs2,
                                        uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwmulu_vv_u32m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwmulu_vx_u32m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwmulu_vv_u32m2_m(vbool16_t vm, vuint16m1_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwmulu_vx_u32m2_m(vbool16_t vm, vuint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwmulu_vv_u32m4_m(vbool8_t vm, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwmulu_vx_u32m4_m(vbool8_t vm, vuint16m2_t vs2,
```

```
                                    uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwmulu_vv_u32m8_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwmulu_vx_u32m8_m(vbool4_t vm, vuint16m4_t vs2,
                                    uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwmulu_vv_u64m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                    vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwmulu_vx_u64m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                    uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwmulu_vv_u64m2_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwmulu_vx_u64m2_m(vbool32_t vm, vuint32m1_t vs2,
                                    uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwmulu_vv_u64m4_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwmulu_vx_u64m4_m(vbool16_t vm, vuint32m2_t vs2,
                                    uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwmulu_vv_u64m8_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwmulu_vx_u64m8_m(vbool8_t vm, vuint32m4_t vs2,
                                    uint32_t rs1, size_t vl);
```

A.3.16. Vector Single-Width Integer Multiply-Add Intrinsics

```
vint8mf8_t __riscv_vmacc_vv_i8mf8(vint8mf8_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                                  size_t vl);
vint8mf8_t __riscv_vmacc_vx_i8mf8(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                                  size_t vl);
vint8mf4_t __riscv_vmacc_vv_i8mf4(vint8mf4_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                                  size_t vl);
vint8mf4_t __riscv_vmacc_vx_i8mf4(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                                  size_t vl);
vint8mf2_t __riscv_vmacc_vv_i8mf2(vint8mf2_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                                  size_t vl);
vint8mf2_t __riscv_vmacc_vx_i8mf2(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                                  size_t vl);
vint8m1_t __riscv_vmacc_vv_i8m1(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                                size_t vl);
vint8m1_t __riscv_vmacc_vx_i8m1(vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                                size_t vl);
vint8m2_t __riscv_vmacc_vv_i8m2(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                                size_t vl);
vint8m2_t __riscv_vmacc_vx_i8m2(vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                                size_t vl);
vint8m4_t __riscv_vmacc_vv_i8m4(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                                size_t vl);
vint8m4_t __riscv_vmacc_vx_i8m4(vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                                size_t vl);
vint8m8_t __riscv_vmacc_vv_i8m8(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                                size_t vl);
vint8m8_t __riscv_vmacc_vx_i8m8(vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                                size_t vl);
vint16mf4_t __riscv_vmacc_vv_i16mf4(vint16mf4_t vd, vint16mf4_t vs1,
                                    vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_vx_i16mf4(vint16mf4_t vd, int16_t rs1,
                                    vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_vv_i16mf2(vint16mf2_t vd, vint16mf2_t vs1,
                                    vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_vx_i16mf2(vint16mf2_t vd, int16_t rs1,
                                    vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_vv_i16m1(vint16m1_t vd, vint16m1_t vs1, vint16m1_t vs2,
                                  size_t vl);
vint16m1_t __riscv_vmacc_vx_i16m1(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                                  size_t vl);
vint16m2_t __riscv_vmacc_vv_i16m2(vint16m2_t vd, vint16m2_t vs1, vint16m2_t vs2,
```

```
                                  size_t vl);
vint16m2_t __riscv_vmacc_vx_i16m2(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                                  size_t vl);
vint16m4_t __riscv_vmacc_vv_i16m4(vint16m4_t vd, vint16m4_t vs1, vint16m4_t vs2,
                                  size_t vl);
vint16m4_t __riscv_vmacc_vx_i16m4(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                                  size_t vl);
vint16m8_t __riscv_vmacc_vv_i16m8(vint16m8_t vd, vint16m8_t vs1, vint16m8_t vs2,
                                  size_t vl);
vint16m8_t __riscv_vmacc_vx_i16m8(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                                  size_t vl);
vint32mf2_t __riscv_vmacc_vv_i32mf2(vint32mf2_t vd, vint32mf2_t vs1,
                                    vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_vx_i32mf2(vint32mf2_t vd, int32_t rs1,
                                    vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_vv_i32m1(vint32m1_t vd, vint32m1_t vs1, vint32m1_t vs2,
                                  size_t vl);
vint32m1_t __riscv_vmacc_vx_i32m1(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                                  size_t vl);
vint32m2_t __riscv_vmacc_vv_i32m2(vint32m2_t vd, vint32m2_t vs1, vint32m2_t vs2,
                                  size_t vl);
vint32m2_t __riscv_vmacc_vx_i32m2(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                                  size_t vl);
vint32m4_t __riscv_vmacc_vv_i32m4(vint32m4_t vd, vint32m4_t vs1, vint32m4_t vs2,
                                  size_t vl);
vint32m4_t __riscv_vmacc_vx_i32m4(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                                  size_t vl);
vint32m8_t __riscv_vmacc_vv_i32m8(vint32m8_t vd, vint32m8_t vs1, vint32m8_t vs2,
                                  size_t vl);
vint32m8_t __riscv_vmacc_vx_i32m8(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vmacc_vv_i64m1(vint64m1_t vd, vint64m1_t vs1, vint64m1_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vmacc_vx_i64m1(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                                  size_t vl);
vint64m2_t __riscv_vmacc_vv_i64m2(vint64m2_t vd, vint64m2_t vs1, vint64m2_t vs2,
                                  size_t vl);
vint64m2_t __riscv_vmacc_vx_i64m2(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                                  size_t vl);
vint64m4_t __riscv_vmacc_vv_i64m4(vint64m4_t vd, vint64m4_t vs1, vint64m4_t vs2,
                                  size_t vl);
vint64m4_t __riscv_vmacc_vx_i64m4(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                                  size_t vl);
vint64m8_t __riscv_vmacc_vv_i64m8(vint64m8_t vd, vint64m8_t vs1, vint64m8_t vs2,
                                  size_t vl);
vint64m8_t __riscv_vmacc_vx_i64m8(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
                                  size_t vl);
vint8mf8_t __riscv_vnmsac_vv_i8mf8(vint8mf8_t vd, vint8mf8_t vs1,
                                   vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_vx_i8mf8(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                                   size_t vl);
vint8mf4_t __riscv_vnmsac_vv_i8mf4(vint8mf4_t vd, vint8mf4_t vs1,
                                   vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_vx_i8mf4(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                                   size_t vl);
vint8mf2_t __riscv_vnmsac_vv_i8mf2(vint8mf2_t vd, vint8mf2_t vs1,
                                   vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_vx_i8mf2(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                                   size_t vl);
vint8m1_t __riscv_vnmsac_vv_i8m1(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                                 size_t vl);
vint8m1_t __riscv_vnmsac_vx_i8m1(vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                                 size_t vl);
vint8m2_t __riscv_vnmsac_vv_i8m2(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                                 size_t vl);
vint8m2_t __riscv_vnmsac_vx_i8m2(vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                                 size_t vl);
```

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vint8m4_t __riscv_vnmsac_vv_i8m4(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                                 size_t vl);
vint8m4_t __riscv_vnmsac_vx_i8m4(vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                                 size_t vl);
vint8m8_t __riscv_vnmsac_vv_i8m8(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                                 size_t vl);
vint8m8_t __riscv_vnmsac_vx_i8m8(vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                                 size_t vl);
vint16mf4_t __riscv_vnmsac_vv_i16mf4(vint16mf4_t vd, vint16mf4_t vs1,
                                     vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_vx_i16mf4(vint16mf4_t vd, int16_t rs1,
                                     vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac_vv_i16mf2(vint16mf2_t vd, vint16mf2_t vs1,
                                     vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac_vx_i16mf2(vint16mf2_t vd, int16_t rs1,
                                     vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_vv_i16m1(vint16m1_t vd, vint16m1_t vs1,
                                   vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_vx_i16m1(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                                   size_t vl);
vint16m2_t __riscv_vnmsac_vv_i16m2(vint16m2_t vd, vint16m2_t vs1,
                                   vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_vx_i16m2(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                                   size_t vl);
vint16m4_t __riscv_vnmsac_vv_i16m4(vint16m4_t vd, vint16m4_t vs1,
                                   vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_vx_i16m4(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                                   size_t vl);
vint16m8_t __riscv_vnmsac_vv_i16m8(vint16m8_t vd, vint16m8_t vs1,
                                   vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_vx_i16m8(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                                   size_t vl);
vint32mf2_t __riscv_vnmsac_vv_i32mf2(vint32mf2_t vd, vint32mf2_t vs1,
                                     vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_vx_i32mf2(vint32mf2_t vd, int32_t rs1,
                                     vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_vv_i32m1(vint32m1_t vd, vint32m1_t vs1,
                                   vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_vx_i32m1(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                                   size_t vl);
vint32m2_t __riscv_vnmsac_vv_i32m2(vint32m2_t vd, vint32m2_t vs1,
                                   vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_vx_i32m2(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                                   size_t vl);
vint32m4_t __riscv_vnmsac_vv_i32m4(vint32m4_t vd, vint32m4_t vs1,
                                   vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_vx_i32m4(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                                   size_t vl);
vint32m8_t __riscv_vnmsac_vv_i32m8(vint32m8_t vd, vint32m8_t vs1,
                                   vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_vx_i32m8(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                                   size_t vl);
vint64m1_t __riscv_vnmsac_vv_i64m1(vint64m1_t vd, vint64m1_t vs1,
                                   vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_vx_i64m1(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                                   size_t vl);
vint64m2_t __riscv_vnmsac_vv_i64m2(vint64m2_t vd, vint64m2_t vs1,
                                   vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_vx_i64m2(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                                   size_t vl);
vint64m4_t __riscv_vnmsac_vv_i64m4(vint64m4_t vd, vint64m4_t vs1,
                                   vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_vx_i64m4(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                                   size_t vl);
vint64m8_t __riscv_vnmsac_vv_i64m8(vint64m8_t vd, vint64m8_t vs1,
                                   vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_vx_i64m8(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
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                                    size_t vl);
vint8mf8_t __riscv_vmadd_vv_i8mf8(vint8mf8_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                                  size_t vl);
vint8mf8_t __riscv_vmadd_vx_i8mf8(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                                  size_t vl);
vint8mf4_t __riscv_vmadd_vv_i8mf4(vint8mf4_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                                  size_t vl);
vint8mf4_t __riscv_vmadd_vx_i8mf4(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                                  size_t vl);
vint8mf2_t __riscv_vmadd_vv_i8mf2(vint8mf2_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                                  size_t vl);
vint8mf2_t __riscv_vmadd_vx_i8mf2(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                                  size_t vl);
vint8m1_t __riscv_vmadd_vv_i8m1(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                                size_t vl);
vint8m1_t __riscv_vmadd_vx_i8m1(vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                                size_t vl);
vint8m2_t __riscv_vmadd_vv_i8m2(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                                size_t vl);
vint8m2_t __riscv_vmadd_vx_i8m2(vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                                size_t vl);
vint8m4_t __riscv_vmadd_vv_i8m4(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                                size_t vl);
vint8m4_t __riscv_vmadd_vx_i8m4(vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                                size_t vl);
vint8m8_t __riscv_vmadd_vv_i8m8(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                                size_t vl);
vint8m8_t __riscv_vmadd_vx_i8m8(vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                                size_t vl);
vint16mf4_t __riscv_vmadd_vv_i16mf4(vint16mf4_t vd, vint16mf4_t vs1,
                                    vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_vx_i16mf4(vint16mf4_t vd, int16_t rs1,
                                    vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_vv_i16mf2(vint16mf2_t vd, vint16mf2_t vs1,
                                    vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_vx_i16mf2(vint16mf2_t vd, int16_t rs1,
                                    vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_vv_i16m1(vint16m1_t vd, vint16m1_t vs1, vint16m1_t vs2,
                                  size_t vl);
vint16m1_t __riscv_vmadd_vx_i16m1(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                                  size_t vl);
vint16m2_t __riscv_vmadd_vv_i16m2(vint16m2_t vd, vint16m2_t vs1, vint16m2_t vs2,
                                  size_t vl);
vint16m2_t __riscv_vmadd_vx_i16m2(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                                  size_t vl);
vint16m4_t __riscv_vmadd_vv_i16m4(vint16m4_t vd, vint16m4_t vs1, vint16m4_t vs2,
                                  size_t vl);
vint16m4_t __riscv_vmadd_vx_i16m4(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                                  size_t vl);
vint16m8_t __riscv_vmadd_vv_i16m8(vint16m8_t vd, vint16m8_t vs1, vint16m8_t vs2,
                                  size_t vl);
vint16m8_t __riscv_vmadd_vx_i16m8(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                                  size_t vl);
vint32mf2_t __riscv_vmadd_vv_i32mf2(vint32mf2_t vd, vint32mf2_t vs1,
                                    vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_vx_i32mf2(vint32mf2_t vd, int32_t rs1,
                                    vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_vv_i32m1(vint32m1_t vd, vint32m1_t vs1, vint32m1_t vs2,
                                  size_t vl);
vint32m1_t __riscv_vmadd_vx_i32m1(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                                  size_t vl);
vint32m2_t __riscv_vmadd_vv_i32m2(vint32m2_t vd, vint32m2_t vs1, vint32m2_t vs2,
                                  size_t vl);
vint32m2_t __riscv_vmadd_vx_i32m2(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                                  size_t vl);
vint32m4_t __riscv_vmadd_vv_i32m4(vint32m4_t vd, vint32m4_t vs1, vint32m4_t vs2,
                                  size_t vl);
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vint32m4_t __riscv_vmadd_vx_i32m4(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                                  size_t vl);
vint32m8_t __riscv_vmadd_vv_i32m8(vint32m8_t vd, vint32m8_t vs1, vint32m8_t vs2,
                                  size_t vl);
vint32m8_t __riscv_vmadd_vx_i32m8(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vmadd_vv_i64m1(vint64m1_t vd, vint64m1_t vs1, vint64m1_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vmadd_vx_i64m1(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                                  size_t vl);
vint64m2_t __riscv_vmadd_vv_i64m2(vint64m2_t vd, vint64m2_t vs1, vint64m2_t vs2,
                                  size_t vl);
vint64m2_t __riscv_vmadd_vx_i64m2(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                                  size_t vl);
vint64m4_t __riscv_vmadd_vv_i64m4(vint64m4_t vd, vint64m4_t vs1, vint64m4_t vs2,
                                  size_t vl);
vint64m4_t __riscv_vmadd_vx_i64m4(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                                  size_t vl);
vint64m8_t __riscv_vmadd_vv_i64m8(vint64m8_t vd, vint64m8_t vs1, vint64m8_t vs2,
                                  size_t vl);
vint64m8_t __riscv_vmadd_vx_i64m8(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
                                  size_t vl);
vint8mf8_t __riscv_vnmsub_vv_i8mf8(vint8mf8_t vd, vint8mf8_t vs1,
                                   vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_vx_i8mf8(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                                   size_t vl);
vint8mf4_t __riscv_vnmsub_vv_i8mf4(vint8mf4_t vd, vint8mf4_t vs1,
                                   vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_vx_i8mf4(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                                   size_t vl);
vint8mf2_t __riscv_vnmsub_vv_i8mf2(vint8mf2_t vd, vint8mf2_t vs1,
                                   vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_vx_i8mf2(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                                   size_t vl);
vint8m1_t __riscv_vnmsub_vv_i8m1(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                                 size_t vl);
vint8m1_t __riscv_vnmsub_vx_i8m1(vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                                 size_t vl);
vint8m2_t __riscv_vnmsub_vv_i8m2(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                                 size_t vl);
vint8m2_t __riscv_vnmsub_vx_i8m2(vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                                 size_t vl);
vint8m4_t __riscv_vnmsub_vv_i8m4(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                                 size_t vl);
vint8m4_t __riscv_vnmsub_vx_i8m4(vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                                 size_t vl);
vint8m8_t __riscv_vnmsub_vv_i8m8(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                                 size_t vl);
vint8m8_t __riscv_vnmsub_vx_i8m8(vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                                 size_t vl);
vint16mf4_t __riscv_vnmsub_vv_i16mf4(vint16mf4_t vd, vint16mf4_t vs1,
                                     vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_vx_i16mf4(vint16mf4_t vd, int16_t rs1,
                                     vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub_vv_i16mf2(vint16mf2_t vd, vint16mf2_t vs1,
                                     vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub_vx_i16mf2(vint16mf2_t vd, int16_t rs1,
                                     vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_vv_i16m1(vint16m1_t vd, vint16m1_t vs1,
                                   vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_vx_i16m1(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                                   size_t vl);
vint16m2_t __riscv_vnmsub_vv_i16m2(vint16m2_t vd, vint16m2_t vs1,
                                   vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_vx_i16m2(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                                   size_t vl);
vint16m4_t __riscv_vnmsub_vv_i16m4(vint16m4_t vd, vint16m4_t vs1,
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                                    vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_vx_i16m4(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                                    size_t vl);
vint16m8_t __riscv_vnmsub_vv_i16m8(vint16m8_t vd, vint16m8_t vs1,
                                    vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_vx_i16m8(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                                    size_t vl);
vint32mf2_t __riscv_vnmsub_vv_i32mf2(vint32mf2_t vd, vint32mf2_t vs1,
                                      vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_vx_i32mf2(vint32mf2_t vd, int32_t rs1,
                                      vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_vv_i32m1(vint32m1_t vd, vint32m1_t vs1,
                                    vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_vx_i32m1(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                                    size_t vl);
vint32m2_t __riscv_vnmsub_vv_i32m2(vint32m2_t vd, vint32m2_t vs1,
                                    vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_vx_i32m2(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                                    size_t vl);
vint32m4_t __riscv_vnmsub_vv_i32m4(vint32m4_t vd, vint32m4_t vs1,
                                    vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_vx_i32m4(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                                    size_t vl);
vint32m8_t __riscv_vnmsub_vv_i32m8(vint32m8_t vd, vint32m8_t vs1,
                                    vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_vx_i32m8(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                                    size_t vl);
vint64m1_t __riscv_vnmsub_vv_i64m1(vint64m1_t vd, vint64m1_t vs1,
                                    vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_vx_i64m1(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                                    size_t vl);
vint64m2_t __riscv_vnmsub_vv_i64m2(vint64m2_t vd, vint64m2_t vs1,
                                    vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_vx_i64m2(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                                    size_t vl);
vint64m4_t __riscv_vnmsub_vv_i64m4(vint64m4_t vd, vint64m4_t vs1,
                                    vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_vx_i64m4(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                                    size_t vl);
vint64m8_t __riscv_vnmsub_vv_i64m8(vint64m8_t vd, vint64m8_t vs1,
                                    vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_vx_i64m8(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
                                    size_t vl);
vuint8mf8_t __riscv_vmacc_vv_u8mf8(vuint8mf8_t vd, vuint8mf8_t vs1,
                                    vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc_vx_u8mf8(vuint8mf8_t vd, uint8_t rs1, vuint8mf8_t vs2,
                                    size_t vl);
vuint8mf4_t __riscv_vmacc_vv_u8mf4(vuint8mf4_t vd, vuint8mf4_t vs1,
                                    vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_vx_u8mf4(vuint8mf4_t vd, uint8_t rs1, vuint8mf4_t vs2,
                                    size_t vl);
vuint8mf2_t __riscv_vmacc_vv_u8mf2(vuint8mf2_t vd, vuint8mf2_t vs1,
                                    vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_vx_u8mf2(vuint8mf2_t vd, uint8_t rs1, vuint8mf2_t vs2,
                                    size_t vl);
vuint8m1_t __riscv_vmacc_vv_u8m1(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                                  size_t vl);
vuint8m1_t __riscv_vmacc_vx_u8m1(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                                  size_t vl);
vuint8m2_t __riscv_vmacc_vv_u8m2(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                                  size_t vl);
vuint8m2_t __riscv_vmacc_vx_u8m2(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                                  size_t vl);
vuint8m4_t __riscv_vmacc_vv_u8m4(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                                  size_t vl);
vuint8m4_t __riscv_vmacc_vx_u8m4(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                                  size_t vl);
```

```
vuint8m8_t __riscv_vmacc_vv_u8m8(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                                 size_t vl);
vuint8m8_t __riscv_vmacc_vx_u8m8(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                                 size_t vl);
vuint16mf4_t __riscv_vmacc_vv_u16mf4(vuint16mf4_t vd, vuint16mf4_t vs1,
                                     vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_vx_u16mf4(vuint16mf4_t vd, uint16_t rs1,
                                     vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc_vv_u16mf2(vuint16mf2_t vd, vuint16mf2_t vs1,
                                     vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc_vx_u16mf2(vuint16mf2_t vd, uint16_t rs1,
                                     vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc_vv_u16m1(vuint16m1_t vd, vuint16m1_t vs1,
                                   vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc_vx_u16m1(vuint16m1_t vd, uint16_t rs1,
                                   vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_vv_u16m2(vuint16m2_t vd, vuint16m2_t vs1,
                                   vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_vx_u16m2(vuint16m2_t vd, uint16_t rs1,
                                   vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_vv_u16m4(vuint16m4_t vd, vuint16m4_t vs1,
                                   vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_vx_u16m4(vuint16m4_t vd, uint16_t rs1,
                                   vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_vv_u16m8(vuint16m8_t vd, vuint16m8_t vs1,
                                   vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_vx_u16m8(vuint16m8_t vd, uint16_t rs1,
                                   vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_vv_u32mf2(vuint32mf2_t vd, vuint32mf2_t vs1,
                                     vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_vx_u32mf2(vuint32mf2_t vd, uint32_t rs1,
                                     vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc_vv_u32m1(vuint32m1_t vd, vuint32m1_t vs1,
                                   vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc_vx_u32m1(vuint32m1_t vd, uint32_t rs1,
                                   vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_vv_u32m2(vuint32m2_t vd, vuint32m2_t vs1,
                                   vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_vx_u32m2(vuint32m2_t vd, uint32_t rs1,
                                   vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc_vv_u32m4(vuint32m4_t vd, vuint32m4_t vs1,
                                   vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc_vx_u32m4(vuint32m4_t vd, uint32_t rs1,
                                   vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_vv_u32m8(vuint32m8_t vd, vuint32m8_t vs1,
                                   vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_vx_u32m8(vuint32m8_t vd, uint32_t rs1,
                                   vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_vv_u64m1(vuint64m1_t vd, vuint64m1_t vs1,
                                   vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_vx_u64m1(vuint64m1_t vd, uint64_t rs1,
                                   vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_vv_u64m2(vuint64m2_t vd, vuint64m2_t vs1,
                                   vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_vx_u64m2(vuint64m2_t vd, uint64_t rs1,
                                   vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_vv_u64m4(vuint64m4_t vd, vuint64m4_t vs1,
                                   vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_vx_u64m4(vuint64m4_t vd, uint64_t rs1,
                                   vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_vv_u64m8(vuint64m8_t vd, vuint64m8_t vs1,
                                   vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_vx_u64m8(vuint64m8_t vd, uint64_t rs1,
                                   vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_vv_u8mf8(vuint8mf8_t vd, vuint8mf8_t vs1,
                                    vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_vx_u8mf8(vuint8mf8_t vd, uint8_t rs1,
```

```
                                    vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_vv_u8mf4(vuint8mf4_t vd, vuint8mf4_t vs1,
                                    vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_vx_u8mf4(vuint8mf4_t vd, uint8_t rs1,
                                    vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_vv_u8mf2(vuint8mf2_t vd, vuint8mf2_t vs1,
                                    vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_vx_u8mf2(vuint8mf2_t vd, uint8_t rs1,
                                    vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_vv_u8m1(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                                  size_t vl);
vuint8m1_t __riscv_vnmsac_vx_u8m1(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                                  size_t vl);
vuint8m2_t __riscv_vnmsac_vv_u8m2(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                                  size_t vl);
vuint8m2_t __riscv_vnmsac_vx_u8m2(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                                  size_t vl);
vuint8m4_t __riscv_vnmsac_vv_u8m4(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                                  size_t vl);
vuint8m4_t __riscv_vnmsac_vx_u8m4(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                                  size_t vl);
vuint8m8_t __riscv_vnmsac_vv_u8m8(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                                  size_t vl);
vuint8m8_t __riscv_vnmsac_vx_u8m8(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                                  size_t vl);
vuint16mf4_t __riscv_vnmsac_vv_u16mf4(vuint16mf4_t vd, vuint16mf4_t vs1,
                                      vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_vx_u16mf4(vuint16mf4_t vd, uint16_t rs1,
                                      vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac_vv_u16mf2(vuint16mf2_t vd, vuint16mf2_t vs1,
                                      vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac_vx_u16mf2(vuint16mf2_t vd, uint16_t rs1,
                                      vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac_vv_u16m1(vuint16m1_t vd, vuint16m1_t vs1,
                                    vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac_vx_u16m1(vuint16m1_t vd, uint16_t rs1,
                                    vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac_vv_u16m2(vuint16m2_t vd, vuint16m2_t vs1,
                                    vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac_vx_u16m2(vuint16m2_t vd, uint16_t rs1,
                                    vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsac_vv_u16m4(vuint16m4_t vd, vuint16m4_t vs1,
                                    vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsac_vx_u16m4(vuint16m4_t vd, uint16_t rs1,
                                    vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac_vv_u16m8(vuint16m8_t vd, vuint16m8_t vs1,
                                    vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac_vx_u16m8(vuint16m8_t vd, uint16_t rs1,
                                    vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_vv_u32mf2(vuint32mf2_t vd, vuint32mf2_t vs1,
                                      vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_vx_u32mf2(vuint32mf2_t vd, uint32_t rs1,
                                      vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsac_vv_u32m1(vuint32m1_t vd, vuint32m1_t vs1,
                                    vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsac_vx_u32m1(vuint32m1_t vd, uint32_t rs1,
                                    vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac_vv_u32m2(vuint32m2_t vd, vuint32m2_t vs1,
                                    vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac_vx_u32m2(vuint32m2_t vd, uint32_t rs1,
                                    vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac_vv_u32m4(vuint32m4_t vd, vuint32m4_t vs1,
                                    vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac_vx_u32m4(vuint32m4_t vd, uint32_t rs1,
                                    vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac_vv_u32m8(vuint32m8_t vd, vuint32m8_t vs1,
                                    vuint32m8_t vs2, size_t vl);
```

```
vuint32m8_t __riscv_vnmsac_vx_u32m8(vuint32m8_t vd, uint32_t rs1,
                                    vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac_vv_u64m1(vuint64m1_t vd, vuint64m1_t vs1,
                                    vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac_vx_u64m1(vuint64m1_t vd, uint64_t rs1,
                                    vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac_vv_u64m2(vuint64m2_t vd, vuint64m2_t vs1,
                                    vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac_vx_u64m2(vuint64m2_t vd, uint64_t rs1,
                                    vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac_vv_u64m4(vuint64m4_t vd, vuint64m4_t vs1,
                                    vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac_vx_u64m4(vuint64m4_t vd, uint64_t rs1,
                                    vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac_vv_u64m8(vuint64m8_t vd, vuint64m8_t vs1,
                                    vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac_vx_u64m8(vuint64m8_t vd, uint64_t rs1,
                                    vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd_vv_u8mf8(vuint8mf8_t vd, vuint8mf8_t vs1,
                                   vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd_vx_u8mf8(vuint8mf8_t vd, uint8_t rs1, vuint8mf8_t vs2,
                                   size_t vl);
vuint8mf4_t __riscv_vmadd_vv_u8mf4(vuint8mf4_t vd, vuint8mf4_t vs1,
                                   vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_vx_u8mf4(vuint8mf4_t vd, uint8_t rs1, vuint8mf4_t vs2,
                                   size_t vl);
vuint8mf2_t __riscv_vmadd_vv_u8mf2(vuint8mf2_t vd, vuint8mf2_t vs1,
                                   vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_vx_u8mf2(vuint8mf2_t vd, uint8_t rs1, vuint8mf2_t vs2,
                                   size_t vl);
vuint8m1_t __riscv_vmadd_vv_u8m1(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                                 size_t vl);
vuint8m1_t __riscv_vmadd_vx_u8m1(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                                 size_t vl);
vuint8m2_t __riscv_vmadd_vv_u8m2(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                                 size_t vl);
vuint8m2_t __riscv_vmadd_vx_u8m2(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                                 size_t vl);
vuint8m4_t __riscv_vmadd_vv_u8m4(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                                 size_t vl);
vuint8m4_t __riscv_vmadd_vx_u8m4(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                                 size_t vl);
vuint8m8_t __riscv_vmadd_vv_u8m8(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                                 size_t vl);
vuint8m8_t __riscv_vmadd_vx_u8m8(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                                 size_t vl);
vuint16mf4_t __riscv_vmadd_vv_u16mf4(vuint16mf4_t vd, vuint16mf4_t vs1,
                                     vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_vx_u16mf4(vuint16mf4_t vd, uint16_t rs1,
                                     vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd_vv_u16mf2(vuint16mf2_t vd, vuint16mf2_t vs1,
                                     vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd_vx_u16mf2(vuint16mf2_t vd, uint16_t rs1,
                                     vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd_vv_u16m1(vuint16m1_t vd, vuint16m1_t vs1,
                                   vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd_vx_u16m1(vuint16m1_t vd, uint16_t rs1,
                                   vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_vv_u16m2(vuint16m2_t vd, vuint16m2_t vs1,
                                   vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_vx_u16m2(vuint16m2_t vd, uint16_t rs1,
                                   vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_vv_u16m4(vuint16m4_t vd, vuint16m4_t vs1,
                                   vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_vx_u16m4(vuint16m4_t vd, uint16_t rs1,
                                   vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_vv_u16m8(vuint16m8_t vd, vuint16m8_t vs1,
```

```
                                    vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_vx_u16m8(vuint16m8_t vd, uint16_t rs1,
                                    vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_vv_u32mf2(vuint32mf2_t vd, vuint32mf2_t vs1,
                                     vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_vx_u32mf2(vuint32mf2_t vd, uint32_t rs1,
                                     vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd_vv_u32m1(vuint32m1_t vd, vuint32m1_t vs1,
                                    vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd_vx_u32m1(vuint32m1_t vd, uint32_t rs1,
                                    vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_vv_u32m2(vuint32m2_t vd, vuint32m2_t vs1,
                                    vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_vx_u32m2(vuint32m2_t vd, uint32_t rs1,
                                    vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_vv_u32m4(vuint32m4_t vd, vuint32m4_t vs1,
                                    vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_vx_u32m4(vuint32m4_t vd, uint32_t rs1,
                                    vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_vv_u32m8(vuint32m8_t vd, vuint32m8_t vs1,
                                    vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_vx_u32m8(vuint32m8_t vd, uint32_t rs1,
                                    vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_vv_u64m1(vuint64m1_t vd, vuint64m1_t vs1,
                                    vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_vx_u64m1(vuint64m1_t vd, uint64_t rs1,
                                    vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd_vv_u64m2(vuint64m2_t vd, vuint64m2_t vs1,
                                    vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd_vx_u64m2(vuint64m2_t vd, uint64_t rs1,
                                    vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_vv_u64m4(vuint64m4_t vd, vuint64m4_t vs1,
                                    vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_vx_u64m4(vuint64m4_t vd, uint64_t rs1,
                                    vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_vv_u64m8(vuint64m8_t vd, vuint64m8_t vs1,
                                    vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_vx_u64m8(vuint64m8_t vd, uint64_t rs1,
                                    vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_vv_u8mf8(vuint8mf8_t vd, vuint8mf8_t vs1,
                                     vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_vx_u8mf8(vuint8mf8_t vd, uint8_t rs1,
                                     vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub_vv_u8mf4(vuint8mf4_t vd, vuint8mf4_t vs1,
                                     vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub_vx_u8mf4(vuint8mf4_t vd, uint8_t rs1,
                                     vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_vv_u8mf2(vuint8mf2_t vd, vuint8mf2_t vs1,
                                     vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_vx_u8mf2(vuint8mf2_t vd, uint8_t rs1,
                                     vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_vv_u8m1(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                                  size_t vl);
vuint8m1_t __riscv_vnmsub_vx_u8m1(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                                  size_t vl);
vuint8m2_t __riscv_vnmsub_vv_u8m2(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                                  size_t vl);
vuint8m2_t __riscv_vnmsub_vx_u8m2(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                                  size_t vl);
vuint8m4_t __riscv_vnmsub_vv_u8m4(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                                  size_t vl);
vuint8m4_t __riscv_vnmsub_vx_u8m4(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                                  size_t vl);
vuint8m8_t __riscv_vnmsub_vv_u8m8(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                                  size_t vl);
vuint8m8_t __riscv_vnmsub_vx_u8m8(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                                  size_t vl);
```

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vuint16mf4_t __riscv_vnmsub_vv_u16mf4(vuint16mf4_t vd, vuint16mf4_t vs1,
                                      vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_vx_u16mf4(vuint16mf4_t vd, uint16_t rs1,
                                      vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub_vv_u16mf2(vuint16mf2_t vd, vuint16mf2_t vs1,
                                      vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub_vx_u16mf2(vuint16mf2_t vd, uint16_t rs1,
                                      vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsub_vv_u16m1(vuint16m1_t vd, vuint16m1_t vs1,
                                    vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsub_vx_u16m1(vuint16m1_t vd, uint16_t rs1,
                                    vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub_vv_u16m2(vuint16m2_t vd, vuint16m2_t vs1,
                                    vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub_vx_u16m2(vuint16m2_t vd, uint16_t rs1,
                                    vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub_vv_u16m4(vuint16m4_t vd, vuint16m4_t vs1,
                                    vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub_vx_u16m4(vuint16m4_t vd, uint16_t rs1,
                                    vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub_vv_u16m8(vuint16m8_t vd, vuint16m8_t vs1,
                                    vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub_vx_u16m8(vuint16m8_t vd, uint16_t rs1,
                                    vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_vv_u32mf2(vuint32mf2_t vd, vuint32mf2_t vs1,
                                      vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_vx_u32mf2(vuint32mf2_t vd, uint32_t rs1,
                                      vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub_vv_u32m1(vuint32m1_t vd, vuint32m1_t vs1,
                                    vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub_vx_u32m1(vuint32m1_t vd, uint32_t rs1,
                                    vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub_vv_u32m2(vuint32m2_t vd, vuint32m2_t vs1,
                                    vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub_vx_u32m2(vuint32m2_t vd, uint32_t rs1,
                                    vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub_vv_u32m4(vuint32m4_t vd, vuint32m4_t vs1,
                                    vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub_vx_u32m4(vuint32m4_t vd, uint32_t rs1,
                                    vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub_vv_u32m8(vuint32m8_t vd, vuint32m8_t vs1,
                                    vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub_vx_u32m8(vuint32m8_t vd, uint32_t rs1,
                                    vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub_vv_u64m1(vuint64m1_t vd, vuint64m1_t vs1,
                                    vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub_vx_u64m1(vuint64m1_t vd, uint64_t rs1,
                                    vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub_vv_u64m2(vuint64m2_t vd, vuint64m2_t vs1,
                                    vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub_vx_u64m2(vuint64m2_t vd, uint64_t rs1,
                                    vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub_vv_u64m4(vuint64m4_t vd, vuint64m4_t vs1,
                                    vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub_vx_u64m4(vuint64m4_t vd, uint64_t rs1,
                                    vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub_vv_u64m8(vuint64m8_t vd, vuint64m8_t vs1,
                                    vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub_vx_u64m8(vuint64m8_t vd, uint64_t rs1,
                                    vuint64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vmacc_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                                    vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmacc_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                    vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                                    vint8mf4_t vs2, size_t vl);
```

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vint8mf4_t __riscv_vmacc_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                    vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                                    vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                    vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_vv_i8m1_m(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                  vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_vx_i8m1_m(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                  vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_vv_i8m2_m(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                  vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_vx_i8m2_m(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                  vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_vv_i8m4_m(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                  vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_vx_i8m4_m(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                  vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_vv_i8m8_m(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                  vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_vx_i8m8_m(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                  vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs1, vint16mf4_t vs2,
                                      size_t vl);
vint16mf4_t __riscv_vmacc_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                                      vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs1, vint16mf2_t vs2,
                                      size_t vl);
vint16mf2_t __riscv_vmacc_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                                      vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_vv_i16m1_m(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                                    vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_vx_i16m1_m(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                    vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_vv_i16m2_m(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                                    vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_vx_i16m2_m(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                    vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_vv_i16m4_m(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                                    vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_vx_i16m4_m(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                    vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_vv_i16m8_m(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                                    vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_vx_i16m8_m(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                    vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs1, vint32mf2_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vmacc_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                                      vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_vv_i32m1_m(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                                    vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_vx_i32m1_m(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                    vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_vv_i32m2_m(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                                    vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_vx_i32m2_m(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                    vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_vv_i32m4_m(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                                    vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_vx_i32m4_m(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_vv_i32m8_m(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                                    vint32m8_t vs2, size_t vl);
```

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vint32m8_t __riscv_vmacc_vx_i32m8_m(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                    vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_vv_i64m1_m(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                                    vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_vx_i64m1_m(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                    vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_vv_i64m2_m(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                                    vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_vx_i64m2_m(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                    vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_vv_i64m4_m(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                                    vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_vx_i64m4_m(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                    vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_vv_i64m8_m(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                                    vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_vx_i64m8_m(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                    vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs1, vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                     vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs1, vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                     vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs1, vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                     vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_vv_i8m1_m(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                   vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_vx_i8m1_m(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                   vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_vv_i8m2_m(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                   vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_vx_i8m2_m(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                   vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_vv_i8m4_m(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                   vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_vx_i8m4_m(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                   vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_vv_i8m8_m(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                   vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_vx_i8m8_m(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                   vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs1, vint16mf4_t vs2,
                                       size_t vl);
vint16mf4_t __riscv_vnmsac_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vd,
                                       int16_t rs1, vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs1, vint16mf2_t vs2,
                                       size_t vl);
vint16mf2_t __riscv_vnmsac_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vd,
                                       int16_t rs1, vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_vv_i16m1_m(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs1, vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_vx_i16m1_m(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                     vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_vv_i16m2_m(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                                     vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_vx_i16m2_m(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                     vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_vv_i16m4_m(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                                     vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_vx_i16m4_m(vbool4_t vm, vint16m4_t vd, int16_t rs1,
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                                    vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_vv_i16m8_m(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                                    vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_vx_i16m8_m(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                    vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs1, vint32mf2_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vnmsac_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                      int32_t rs1, vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_vv_i32m1_m(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs1, vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_vx_i32m1_m(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                    vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_vv_i32m2_m(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs1, vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_vx_i32m2_m(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                    vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_vv_i32m4_m(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                                    vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_vx_i32m4_m(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_vv_i32m8_m(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                                    vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_vx_i32m8_m(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                    vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_vv_i64m1_m(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs1, vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_vx_i64m1_m(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                    vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_vv_i64m2_m(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs1, vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_vx_i64m2_m(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                    vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_vv_i64m4_m(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs1, vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_vx_i64m4_m(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                    vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_vv_i64m8_m(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                                    vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_vx_i64m8_m(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                    vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                                   vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                   vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                                   vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                   vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                                   vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                   vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_vv_i8m1_m(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                  vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_vx_i8m1_m(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                  vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_vv_i8m2_m(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                  vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_vx_i8m2_m(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                  vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_vv_i8m4_m(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                  vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_vx_i8m4_m(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                  vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_vv_i8m8_m(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
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                                    vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_vx_i8m8_m(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                    vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs1, vint16mf4_t vs2,
                                      size_t vl);
vint16mf4_t __riscv_vmadd_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                                      vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs1, vint16mf2_t vs2,
                                      size_t vl);
vint16mf2_t __riscv_vmadd_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                                      vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_vv_i16m1_m(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                                    vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_vx_i16m1_m(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                    vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmadd_vv_i16m2_m(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                                    vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmadd_vx_i16m2_m(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                    vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_vv_i16m4_m(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                                    vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_vx_i16m4_m(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                    vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_vv_i16m8_m(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                                    vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_vx_i16m8_m(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                    vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs1, vint32mf2_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vmadd_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                                      vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_vv_i32m1_m(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                                    vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_vx_i32m1_m(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                    vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_vv_i32m2_m(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                                    vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_vx_i32m2_m(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                    vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_vv_i32m4_m(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                                    vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_vx_i32m4_m(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_vv_i32m8_m(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                                    vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_vx_i32m8_m(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                    vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_vv_i64m1_m(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                                    vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_vx_i64m1_m(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                    vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_vv_i64m2_m(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                                    vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_vx_i64m2_m(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                    vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_vv_i64m4_m(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                                    vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_vx_i64m4_m(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                    vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_vv_i64m8_m(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                                    vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_vx_i64m8_m(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                    vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vd,
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                                    vint8mf8_t vs1, vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                    vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs1, vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                    vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs1, vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                    vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_vv_i8m1_m(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                   vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_vx_i8m1_m(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                   vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_vv_i8m2_m(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                   vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_vx_i8m2_m(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                   vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_vv_i8m4_m(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                   vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_vx_i8m4_m(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                   vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_vv_i8m8_m(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                   vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_vx_i8m8_m(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                   vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vd,
                                     vint16mf4_t vs1, vint16mf4_t vs2,
                                     size_t vl);
vint16mf4_t __riscv_vnmsub_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vd,
                                     int16_t rs1, vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vd,
                                     vint16mf2_t vs1, vint16mf2_t vs2,
                                     size_t vl);
vint16mf2_t __riscv_vnmsub_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vd,
                                     int16_t rs1, vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_vv_i16m1_m(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs1, vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_vx_i16m1_m(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                    vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_vv_i16m2_m(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                                    vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_vx_i16m2_m(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                    vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_vv_i16m4_m(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                                    vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_vx_i16m4_m(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                    vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_vv_i16m8_m(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                                    vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_vx_i16m8_m(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                    vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                     vint32mf2_t vs1, vint32mf2_t vs2,
                                     size_t vl);
vint32mf2_t __riscv_vnmsub_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                     int32_t rs1, vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_vv_i32m1_m(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs1, vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_vx_i32m1_m(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                    vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_vv_i32m2_m(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs1, vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_vx_i32m2_m(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                    vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_vv_i32m4_m(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
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                                    vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_vx_i32m4_m(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_vv_i32m8_m(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                                    vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_vx_i32m8_m(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                    vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_vv_i64m1_m(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs1, vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_vx_i64m1_m(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                    vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_vv_i64m2_m(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs1, vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_vx_i64m2_m(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                    vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_vv_i64m4_m(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs1, vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_vx_i64m4_m(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                    vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_vv_i64m8_m(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                                    vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_vx_i64m8_m(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                    vint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs1, vuint8mf8_t vs2,
                                    size_t vl);
vuint8mf8_t __riscv_vmacc_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                                    vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs1, vuint8mf4_t vs2,
                                    size_t vl);
vuint8mf4_t __riscv_vmacc_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                                    vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs1, vuint8mf2_t vs2,
                                    size_t vl);
vuint8mf2_t __riscv_vmacc_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                                    vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_vv_u8m1_m(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_vx_u8m1_m(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_vv_u8m2_m(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_vx_u8m2_m(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_vv_u8m4_m(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                                   vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_vx_u8m4_m(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                   vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_vv_u8m8_m(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                                   vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_vx_u8m8_m(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                   vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs1, vuint16mf4_t vs2,
                                       size_t vl);
vuint16mf4_t __riscv_vmacc_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vd,
                                       uint16_t rs1, vuint16mf4_t vs2,
                                       size_t vl);
vuint16mf2_t __riscv_vmacc_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs1, vuint16mf2_t vs2,
                                       size_t vl);
vuint16mf2_t __riscv_vmacc_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vd,
                                       uint16_t rs1, vuint16mf2_t vs2,
                                       size_t vl);
vuint16m1_t __riscv_vmacc_vv_u16m1_m(vbool16_t vm, vuint16m1_t vd,
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                                    vuint16m1_t vs1, vuint16m1_t vs2,
                                    size_t vl);
vuint16m1_t __riscv_vmacc_vx_u16m1_m(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                                    vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_vv_u16m2_m(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs1, vuint16m2_t vs2,
                                    size_t vl);
vuint16m2_t __riscv_vmacc_vx_u16m2_m(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                                    vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_vv_u16m4_m(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs1, vuint16m4_t vs2,
                                    size_t vl);
vuint16m4_t __riscv_vmacc_vx_u16m4_m(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                                    vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_vv_u16m8_m(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs1, vuint16m8_t vs2,
                                    size_t vl);
vuint16m8_t __riscv_vmacc_vx_u16m8_m(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                                    vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs1, vuint32mf2_t vs2,
                                      size_t vl);
vuint32mf2_t __riscv_vmacc_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vd,
                                      uint32_t rs1, vuint32mf2_t vs2,
                                      size_t vl);
vuint32m1_t __riscv_vmacc_vv_u32m1_m(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs1, vuint32m1_t vs2,
                                    size_t vl);
vuint32m1_t __riscv_vmacc_vx_u32m1_m(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                                    vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_vv_u32m2_m(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs1, vuint32m2_t vs2,
                                    size_t vl);
vuint32m2_t __riscv_vmacc_vx_u32m2_m(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                                    vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc_vv_u32m4_m(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs1, vuint32m4_t vs2,
                                    size_t vl);
vuint32m4_t __riscv_vmacc_vx_u32m4_m(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                                    vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_vv_u32m8_m(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs1, vuint32m8_t vs2,
                                    size_t vl);
vuint32m8_t __riscv_vmacc_vx_u32m8_m(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                                    vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_vv_u64m1_m(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs1, vuint64m1_t vs2,
                                    size_t vl);
vuint64m1_t __riscv_vmacc_vx_u64m1_m(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                                    vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_vv_u64m2_m(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs1, vuint64m2_t vs2,
                                    size_t vl);
vuint64m2_t __riscv_vmacc_vx_u64m2_m(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                                    vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_vv_u64m4_m(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs1, vuint64m4_t vs2,
                                    size_t vl);
vuint64m4_t __riscv_vmacc_vx_u64m4_m(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                                    vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_vv_u64m8_m(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs1, vuint64m8_t vs2,
                                    size_t vl);
vuint64m8_t __riscv_vmacc_vx_u64m8_m(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                                    vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs1, vuint8mf8_t vs2,
```

```
                                    size_t vl);
vuint8mf8_t __riscv_vnmsac_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                                    vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs1, vuint8mf4_t vs2,
                                    size_t vl);
vuint8mf4_t __riscv_vnmsac_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                                    vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs1, vuint8mf2_t vs2,
                                    size_t vl);
vuint8mf2_t __riscv_vnmsac_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                                    vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_vv_u8m1_m(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_vx_u8m1_m(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_vv_u8m2_m(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_vx_u8m2_m(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_vv_u8m4_m(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                                   vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_vx_u8m4_m(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                   vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_vv_u8m8_m(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                                   vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_vx_u8m8_m(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                   vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs1, vuint16mf4_t vs2,
                                      size_t vl);
vuint16mf4_t __riscv_vnmsac_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vd,
                                      uint16_t rs1, vuint16mf4_t vs2,
                                      size_t vl);
vuint16mf2_t __riscv_vnmsac_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs1, vuint16mf2_t vs2,
                                      size_t vl);
vuint16mf2_t __riscv_vnmsac_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vd,
                                      uint16_t rs1, vuint16mf2_t vs2,
                                      size_t vl);
vuint16m1_t __riscv_vnmsac_vv_u16m1_m(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs1, vuint16m1_t vs2,
                                    size_t vl);
vuint16m1_t __riscv_vnmsac_vx_u16m1_m(vbool16_t vm, vuint16m1_t vd,
                                    uint16_t rs1, vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac_vv_u16m2_m(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs1, vuint16m2_t vs2,
                                    size_t vl);
vuint16m2_t __riscv_vnmsac_vx_u16m2_m(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                                    vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsac_vv_u16m4_m(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs1, vuint16m4_t vs2,
                                    size_t vl);
vuint16m4_t __riscv_vnmsac_vx_u16m4_m(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                                    vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac_vv_u16m8_m(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs1, vuint16m8_t vs2,
                                    size_t vl);
vuint16m8_t __riscv_vnmsac_vx_u16m8_m(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                                    vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs1, vuint32mf2_t vs2,
                                      size_t vl);
vuint32mf2_t __riscv_vnmsac_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vd,
                                      uint32_t rs1, vuint32mf2_t vs2,
                                      size_t vl);
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vuint32m1_t __riscv_vnmsac_vv_u32m1_m(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs1, vuint32m1_t vs2,
                                      size_t vl);
vuint32m1_t __riscv_vnmsac_vx_u32m1_m(vbool32_t vm, vuint32m1_t vd,
                                      uint32_t rs1, vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac_vv_u32m2_m(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs1, vuint32m2_t vs2,
                                      size_t vl);
vuint32m2_t __riscv_vnmsac_vx_u32m2_m(vbool16_t vm, vuint32m2_t vd,
                                      uint32_t rs1, vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac_vv_u32m4_m(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs1, vuint32m4_t vs2,
                                      size_t vl);
vuint32m4_t __riscv_vnmsac_vx_u32m4_m(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                                      vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac_vv_u32m8_m(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs1, vuint32m8_t vs2,
                                      size_t vl);
vuint32m8_t __riscv_vnmsac_vx_u32m8_m(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                                      vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac_vv_u64m1_m(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs1, vuint64m1_t vs2,
                                      size_t vl);
vuint64m1_t __riscv_vnmsac_vx_u64m1_m(vbool64_t vm, vuint64m1_t vd,
                                      uint64_t rs1, vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac_vv_u64m2_m(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs1, vuint64m2_t vs2,
                                      size_t vl);
vuint64m2_t __riscv_vnmsac_vx_u64m2_m(vbool32_t vm, vuint64m2_t vd,
                                      uint64_t rs1, vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac_vv_u64m4_m(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs1, vuint64m4_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vnmsac_vx_u64m4_m(vbool16_t vm, vuint64m4_t vd,
                                      uint64_t rs1, vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac_vv_u64m8_m(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs1, vuint64m8_t vs2,
                                      size_t vl);
vuint64m8_t __riscv_vnmsac_vx_u64m8_m(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                                      vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs1, vuint8mf8_t vs2,
                                     size_t vl);
vuint8mf8_t __riscv_vmadd_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                                     vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs1, vuint8mf4_t vs2,
                                     size_t vl);
vuint8mf4_t __riscv_vmadd_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                                     vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs1, vuint8mf2_t vs2,
                                     size_t vl);
vuint8mf2_t __riscv_vmadd_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                                     vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_vv_u8m1_m(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_vx_u8m1_m(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_vv_u8m2_m(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_vx_u8m2_m(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_vv_u8m4_m(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                                   vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_vx_u8m4_m(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                   vuint8m4_t vs2, size_t vl);
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vuint8m8_t __riscv_vmadd_vv_u8m8_m(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                                   vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_vx_u8m8_m(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                   vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs1, vuint16mf4_t vs2,
                                       size_t vl);
vuint16mf4_t __riscv_vmadd_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vd,
                                       uint16_t rs1, vuint16mf4_t vs2,
                                       size_t vl);
vuint16mf2_t __riscv_vmadd_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs1, vuint16mf2_t vs2,
                                       size_t vl);
vuint16mf2_t __riscv_vmadd_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vd,
                                       uint16_t rs1, vuint16mf2_t vs2,
                                       size_t vl);
vuint16m1_t __riscv_vmadd_vv_u16m1_m(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs1, vuint16m1_t vs2,
                                     size_t vl);
vuint16m1_t __riscv_vmadd_vx_u16m1_m(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                                     vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_vv_u16m2_m(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs1, vuint16m2_t vs2,
                                     size_t vl);
vuint16m2_t __riscv_vmadd_vx_u16m2_m(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                                     vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_vv_u16m4_m(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs1, vuint16m4_t vs2,
                                     size_t vl);
vuint16m4_t __riscv_vmadd_vx_u16m4_m(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                                     vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_vv_u16m8_m(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs1, vuint16m8_t vs2,
                                     size_t vl);
vuint16m8_t __riscv_vmadd_vx_u16m8_m(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                                     vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs1, vuint32mf2_t vs2,
                                       size_t vl);
vuint32mf2_t __riscv_vmadd_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vd,
                                       uint32_t rs1, vuint32mf2_t vs2,
                                       size_t vl);
vuint32m1_t __riscv_vmadd_vv_u32m1_m(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs1, vuint32m1_t vs2,
                                     size_t vl);
vuint32m1_t __riscv_vmadd_vx_u32m1_m(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                                     vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_vv_u32m2_m(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs1, vuint32m2_t vs2,
                                     size_t vl);
vuint32m2_t __riscv_vmadd_vx_u32m2_m(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                                     vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_vv_u32m4_m(vbool8_t vm, vuint32m4_t vd,
                                     vuint32m4_t vs1, vuint32m4_t vs2,
                                     size_t vl);
vuint32m4_t __riscv_vmadd_vx_u32m4_m(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                                     vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_vv_u32m8_m(vbool4_t vm, vuint32m8_t vd,
                                     vuint32m8_t vs1, vuint32m8_t vs2,
                                     size_t vl);
vuint32m8_t __riscv_vmadd_vx_u32m8_m(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                                     vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_vv_u64m1_m(vbool64_t vm, vuint64m1_t vd,
                                     vuint64m1_t vs1, vuint64m1_t vs2,
                                     size_t vl);
vuint64m1_t __riscv_vmadd_vx_u64m1_m(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                                     vuint64m1_t vs2, size_t vl);
```

```
vuint64m2_t __riscv_vmadd_vv_u64m2_m(vbool32_t vm, vuint64m2_t vd,
                                     vuint64m2_t vs1, vuint64m2_t vs2,
                                     size_t vl);
vuint64m2_t __riscv_vmadd_vx_u64m2_m(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                                     vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_vv_u64m4_m(vbool16_t vm, vuint64m4_t vd,
                                     vuint64m4_t vs1, vuint64m4_t vs2,
                                     size_t vl);
vuint64m4_t __riscv_vmadd_vx_u64m4_m(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                                     vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_vv_u64m8_m(vbool8_t vm, vuint64m8_t vd,
                                     vuint64m8_t vs1, vuint64m8_t vs2,
                                     size_t vl);
vuint64m8_t __riscv_vmadd_vx_u64m8_m(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                                     vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs1, vuint8mf8_t vs2,
                                      size_t vl);
vuint8mf8_t __riscv_vnmsub_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                                      vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs1, vuint8mf4_t vs2,
                                      size_t vl);
vuint8mf4_t __riscv_vnmsub_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                                      vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs1, vuint8mf2_t vs2,
                                      size_t vl);
vuint8mf2_t __riscv_vnmsub_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                                      vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_vv_u8m1_m(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                                    vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_vx_u8m1_m(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                    vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_vv_u8m2_m(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                                    vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_vx_u8m2_m(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                    vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_vv_u8m4_m(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                                    vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_vx_u8m4_m(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                    vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_vv_u8m8_m(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                                    vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_vx_u8m8_m(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                    vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs1, vuint16mf4_t vs2,
                                        size_t vl);
vuint16mf4_t __riscv_vnmsub_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vd,
                                        uint16_t rs1, vuint16mf4_t vs2,
                                        size_t vl);
vuint16mf2_t __riscv_vnmsub_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs1, vuint16mf2_t vs2,
                                        size_t vl);
vuint16mf2_t __riscv_vnmsub_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vd,
                                        uint16_t rs1, vuint16mf2_t vs2,
                                        size_t vl);
vuint16m1_t __riscv_vnmsub_vv_u16m1_m(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs1, vuint16m1_t vs2,
                                      size_t vl);
vuint16m1_t __riscv_vnmsub_vx_u16m1_m(vbool16_t vm, vuint16m1_t vd,
                                      uint16_t rs1, vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub_vv_u16m2_m(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs1, vuint16m2_t vs2,
                                      size_t vl);
vuint16m2_t __riscv_vnmsub_vx_u16m2_m(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
```

```
                                    vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub_vv_u16m4_m(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs1, vuint16m4_t vs2,
                                    size_t vl);
vuint16m4_t __riscv_vnmsub_vx_u16m4_m(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                                    vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub_vv_u16m8_m(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs1, vuint16m8_t vs2,
                                    size_t vl);
vuint16m8_t __riscv_vnmsub_vx_u16m8_m(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                                    vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs1, vuint32mf2_t vs2,
                                      size_t vl);
vuint32mf2_t __riscv_vnmsub_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vd,
                                      uint32_t rs1, vuint32mf2_t vs2,
                                      size_t vl);
vuint32m1_t __riscv_vnmsub_vv_u32m1_m(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs1, vuint32m1_t vs2,
                                    size_t vl);
vuint32m1_t __riscv_vnmsub_vx_u32m1_m(vbool32_t vm, vuint32m1_t vd,
                                    uint32_t rs1, vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub_vv_u32m2_m(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs1, vuint32m2_t vs2,
                                    size_t vl);
vuint32m2_t __riscv_vnmsub_vx_u32m2_m(vbool16_t vm, vuint32m2_t vd,
                                    uint32_t rs1, vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub_vv_u32m4_m(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs1, vuint32m4_t vs2,
                                    size_t vl);
vuint32m4_t __riscv_vnmsub_vx_u32m4_m(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                                    vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub_vv_u32m8_m(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs1, vuint32m8_t vs2,
                                    size_t vl);
vuint32m8_t __riscv_vnmsub_vx_u32m8_m(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                                    vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub_vv_u64m1_m(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs1, vuint64m1_t vs2,
                                    size_t vl);
vuint64m1_t __riscv_vnmsub_vx_u64m1_m(vbool64_t vm, vuint64m1_t vd,
                                    uint64_t rs1, vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub_vv_u64m2_m(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs1, vuint64m2_t vs2,
                                    size_t vl);
vuint64m2_t __riscv_vnmsub_vx_u64m2_m(vbool32_t vm, vuint64m2_t vd,
                                    uint64_t rs1, vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub_vv_u64m4_m(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs1, vuint64m4_t vs2,
                                    size_t vl);
vuint64m4_t __riscv_vnmsub_vx_u64m4_m(vbool16_t vm, vuint64m4_t vd,
                                    uint64_t rs1, vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub_vv_u64m8_m(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs1, vuint64m8_t vs2,
                                    size_t vl);
vuint64m8_t __riscv_vnmsub_vx_u64m8_m(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                                    vuint64m8_t vs2, size_t vl);
```

A.3.17. Vector Widening Integer Multiply-Add Intrinsics

```
vint16mf4_t __riscv_vwmacc_vv_i16mf4(vint16mf4_t vd, vint8mf8_t vs1,
                                   vint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmacc_vx_i16mf4(vint16mf4_t vd, int8_t rs1, vint8mf8_t vs2,
                                   size_t vl);
vint16mf2_t __riscv_vwmacc_vv_i16mf2(vint16mf2_t vd, vint8mf4_t vs1,
```

```
                                    vint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_vx_i16mf2(vint16mf2_t vd, int8_t rs1, vint8mf4_t vs2,
                                    size_t vl);
vint16m1_t __riscv_vwmacc_vv_i16m1(vint16m1_t vd, vint8mf2_t vs1,
                                   vint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_vx_i16m1(vint16m1_t vd, int8_t rs1, vint8mf2_t vs2,
                                   size_t vl);
vint16m2_t __riscv_vwmacc_vv_i16m2(vint16m2_t vd, vint8m1_t vs1, vint8m1_t vs2,
                                   size_t vl);
vint16m2_t __riscv_vwmacc_vx_i16m2(vint16m2_t vd, int8_t rs1, vint8m1_t vs2,
                                   size_t vl);
vint16m4_t __riscv_vwmacc_vv_i16m4(vint16m4_t vd, vint8m2_t vs1, vint8m2_t vs2,
                                   size_t vl);
vint16m4_t __riscv_vwmacc_vx_i16m4(vint16m4_t vd, int8_t rs1, vint8m2_t vs2,
                                   size_t vl);
vint16m8_t __riscv_vwmacc_vv_i16m8(vint16m8_t vd, vint8m4_t vs1, vint8m4_t vs2,
                                   size_t vl);
vint16m8_t __riscv_vwmacc_vx_i16m8(vint16m8_t vd, int8_t rs1, vint8m4_t vs2,
                                   size_t vl);
vint32mf2_t __riscv_vwmacc_vv_i32mf2(vint32mf2_t vd, vint16mf4_t vs1,
                                     vint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_vx_i32mf2(vint32mf2_t vd, int16_t rs1,
                                     vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc_vv_i32m1(vint32m1_t vd, vint16mf2_t vs1,
                                   vint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc_vx_i32m1(vint32m1_t vd, int16_t rs1, vint16mf2_t vs2,
                                   size_t vl);
vint32m2_t __riscv_vwmacc_vv_i32m2(vint32m2_t vd, vint16m1_t vs1,
                                   vint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_vx_i32m2(vint32m2_t vd, int16_t rs1, vint16m1_t vs2,
                                   size_t vl);
vint32m4_t __riscv_vwmacc_vv_i32m4(vint32m4_t vd, vint16m2_t vs1,
                                   vint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_vx_i32m4(vint32m4_t vd, int16_t rs1, vint16m2_t vs2,
                                   size_t vl);
vint32m8_t __riscv_vwmacc_vv_i32m8(vint32m8_t vd, vint16m4_t vs1,
                                   vint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_vx_i32m8(vint32m8_t vd, int16_t rs1, vint16m4_t vs2,
                                   size_t vl);
vint64m1_t __riscv_vwmacc_vv_i64m1(vint64m1_t vd, vint32mf2_t vs1,
                                   vint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_vx_i64m1(vint64m1_t vd, int32_t rs1, vint32mf2_t vs2,
                                   size_t vl);
vint64m2_t __riscv_vwmacc_vv_i64m2(vint64m2_t vd, vint32m1_t vs1,
                                   vint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_vx_i64m2(vint64m2_t vd, int32_t rs1, vint32m1_t vs2,
                                   size_t vl);
vint64m4_t __riscv_vwmacc_vv_i64m4(vint64m4_t vd, vint32m2_t vs1,
                                   vint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_vx_i64m4(vint64m4_t vd, int32_t rs1, vint32m2_t vs2,
                                   size_t vl);
vint64m8_t __riscv_vwmacc_vv_i64m8(vint64m8_t vd, vint32m4_t vs1,
                                   vint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_vx_i64m8(vint64m8_t vd, int32_t rs1, vint32m4_t vs2,
                                   size_t vl);
vint16mf4_t __riscv_vwmaccsu_vv_i16mf4(vint16mf4_t vd, vint8mf8_t vs1,
                                       vuint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_vx_i16mf4(vint16mf4_t vd, int8_t rs1,
                                       vuint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu_vv_i16mf2(vint16mf2_t vd, vint8mf4_t vs1,
                                       vuint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu_vx_i16mf2(vint16mf2_t vd, int8_t rs1,
                                       vuint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu_vv_i16m1(vint16m1_t vd, vint8mf2_t vs1,
                                     vuint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu_vx_i16m1(vint16m1_t vd, int8_t rs1, vuint8mf2_t vs2,
                                     size_t vl);
```

```
vint16m2_t __riscv_vwmaccsu_vv_i16m2(vint16m2_t vd, vint8m1_t vs1,
                                     vuint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu_vx_i16m2(vint16m2_t vd, int8_t rs1, vuint8m1_t vs2,
                                     size_t vl);
vint16m4_t __riscv_vwmaccsu_vv_i16m4(vint16m4_t vd, vint8m2_t vs1,
                                     vuint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu_vx_i16m4(vint16m4_t vd, int8_t rs1, vuint8m2_t vs2,
                                     size_t vl);
vint16m8_t __riscv_vwmaccsu_vv_i16m8(vint16m8_t vd, vint8m4_t vs1,
                                     vuint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_vx_i16m8(vint16m8_t vd, int8_t rs1, vuint8m4_t vs2,
                                     size_t vl);
vint32mf2_t __riscv_vwmaccsu_vv_i32mf2(vint32mf2_t vd, vint16mf4_t vs1,
                                       vuint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_vx_i32mf2(vint32mf2_t vd, int16_t rs1,
                                       vuint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu_vv_i32m1(vint32m1_t vd, vint16mf2_t vs1,
                                     vuint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu_vx_i32m1(vint32m1_t vd, int16_t rs1,
                                     vuint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu_vv_i32m2(vint32m2_t vd, vint16m1_t vs1,
                                     vuint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu_vx_i32m2(vint32m2_t vd, int16_t rs1,
                                     vuint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu_vv_i32m4(vint32m4_t vd, vint16m2_t vs1,
                                     vuint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu_vx_i32m4(vint32m4_t vd, int16_t rs1,
                                     vuint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_vv_i32m8(vint32m8_t vd, vint16m4_t vs1,
                                     vuint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_vx_i32m8(vint32m8_t vd, int16_t rs1,
                                     vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_vv_i64m1(vint64m1_t vd, vint32mf2_t vs1,
                                     vuint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_vx_i64m1(vint64m1_t vd, int32_t rs1,
                                     vuint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu_vv_i64m2(vint64m2_t vd, vint32m1_t vs1,
                                     vuint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu_vx_i64m2(vint64m2_t vd, int32_t rs1,
                                     vuint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu_vv_i64m4(vint64m4_t vd, vint32m2_t vs1,
                                     vuint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu_vx_i64m4(vint64m4_t vd, int32_t rs1,
                                     vuint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu_vv_i64m8(vint64m8_t vd, vint32m4_t vs1,
                                     vuint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu_vx_i64m8(vint64m8_t vd, int32_t rs1,
                                     vuint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccus_vx_i16mf4(vint16mf4_t vd, uint8_t rs1,
                                       vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccus_vx_i16mf2(vint16mf2_t vd, uint8_t rs1,
                                       vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccus_vx_i16m1(vint16m1_t vd, uint8_t rs1, vint8mf2_t vs2,
                                     size_t vl);
vint16m2_t __riscv_vwmaccus_vx_i16m2(vint16m2_t vd, uint8_t rs1, vint8m1_t vs2,
                                     size_t vl);
vint16m4_t __riscv_vwmaccus_vx_i16m4(vint16m4_t vd, uint8_t rs1, vint8m2_t vs2,
                                     size_t vl);
vint16m8_t __riscv_vwmaccus_vx_i16m8(vint16m8_t vd, uint8_t rs1, vint8m4_t vs2,
                                     size_t vl);
vint32mf2_t __riscv_vwmaccus_vx_i32mf2(vint32mf2_t vd, uint16_t rs1,
                                       vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccus_vx_i32m1(vint32m1_t vd, uint16_t rs1,
                                     vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccus_vx_i32m2(vint32m2_t vd, uint16_t rs1,
                                     vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccus_vx_i32m4(vint32m4_t vd, uint16_t rs1,
```

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                                    vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccus_vx_i32m8(vint32m8_t vd, uint16_t rs1,
                                    vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccus_vx_i64m1(vint64m1_t vd, uint32_t rs1,
                                    vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccus_vx_i64m2(vint64m2_t vd, uint32_t rs1,
                                    vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccus_vx_i64m4(vint64m4_t vd, uint32_t rs1,
                                    vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccus_vx_i64m8(vint64m8_t vd, uint32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_vv_u16mf4(vuint16mf4_t vd, vuint8mf8_t vs1,
                                      vuint8mf8_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_vx_u16mf4(vuint16mf4_t vd, uint8_t rs1,
                                      vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu_vv_u16mf2(vuint16mf2_t vd, vuint8mf4_t vs1,
                                      vuint8mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu_vx_u16mf2(vuint16mf2_t vd, uint8_t rs1,
                                      vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu_vv_u16m1(vuint16m1_t vd, vuint8mf2_t vs1,
                                    vuint8mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu_vx_u16m1(vuint16m1_t vd, uint8_t rs1,
                                    vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu_vv_u16m2(vuint16m2_t vd, vuint8m1_t vs1,
                                    vuint8m1_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu_vx_u16m2(vuint16m2_t vd, uint8_t rs1,
                                    vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu_vv_u16m4(vuint16m4_t vd, vuint8m2_t vs1,
                                    vuint8m2_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu_vx_u16m4(vuint16m4_t vd, uint8_t rs1,
                                    vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_vv_u16m8(vuint16m8_t vd, vuint8m4_t vs1,
                                    vuint8m4_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_vx_u16m8(vuint16m8_t vd, uint8_t rs1,
                                    vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu_vv_u32mf2(vuint32mf2_t vd, vuint16mf4_t vs1,
                                      vuint16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu_vx_u32mf2(vuint32mf2_t vd, uint16_t rs1,
                                      vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu_vv_u32m1(vuint32m1_t vd, vuint16mf2_t vs1,
                                    vuint16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu_vx_u32m1(vuint32m1_t vd, uint16_t rs1,
                                    vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu_vv_u32m2(vuint32m2_t vd, vuint16m1_t vs1,
                                    vuint16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu_vx_u32m2(vuint32m2_t vd, uint16_t rs1,
                                    vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu_vv_u32m4(vuint32m4_t vd, vuint16m2_t vs1,
                                    vuint16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu_vx_u32m4(vuint32m4_t vd, uint16_t rs1,
                                    vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu_vv_u32m8(vuint32m8_t vd, vuint16m4_t vs1,
                                    vuint16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu_vx_u32m8(vuint32m8_t vd, uint16_t rs1,
                                    vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu_vv_u64m1(vuint64m1_t vd, vuint32mf2_t vs1,
                                    vuint32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu_vx_u64m1(vuint64m1_t vd, uint32_t rs1,
                                    vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu_vv_u64m2(vuint64m2_t vd, vuint32m1_t vs1,
                                    vuint32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu_vx_u64m2(vuint64m2_t vd, uint32_t rs1,
                                    vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu_vv_u64m4(vuint64m4_t vd, vuint32m2_t vs1,
                                    vuint32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu_vx_u64m4(vuint64m4_t vd, uint32_t rs1,
                                    vuint32m2_t vs2, size_t vl);
```

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vuint64m8_t __riscv_vwmaccu_vv_u64m8(vuint64m8_t vd, vuint32m4_t vs1,
                                     vuint32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vwmaccu_vx_u64m8(vuint64m8_t vd, uint32_t rs1,
                                     vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vwmacc_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vd,
                                       vint8mf8_t vs1, vint8mf8_t vs2,
                                       size_t vl);
vint16mf4_t __riscv_vwmacc_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vd, int8_t rs1,
                                       vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vd,
                                       vint8mf4_t vs1, vint8mf4_t vs2,
                                       size_t vl);
vint16mf2_t __riscv_vwmacc_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vd, int8_t rs1,
                                       vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_vv_i16m1_m(vbool16_t vm, vint16m1_t vd,
                                     vint8mf2_t vs1, vint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_vx_i16m1_m(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                                     vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_vv_i16m2_m(vbool8_t vm, vint16m2_t vd, vint8m1_t vs1,
                                     vint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_vx_i16m2_m(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                                     vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_vv_i16m4_m(vbool4_t vm, vint16m4_t vd, vint8m2_t vs1,
                                     vint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_vx_i16m4_m(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                                     vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_vv_i16m8_m(vbool2_t vm, vint16m8_t vd, vint8m4_t vs1,
                                     vint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_vx_i16m8_m(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                                     vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                       vint16mf4_t vs1, vint16mf4_t vs2,
                                       size_t vl);
vint32mf2_t __riscv_vwmacc_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                       int16_t rs1, vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc_vv_i32m1_m(vbool32_t vm, vint32m1_t vd,
                                     vint16mf2_t vs1, vint16mf2_t vs2,
                                     size_t vl);
vint32m1_t __riscv_vwmacc_vx_i32m1_m(vbool32_t vm, vint32m1_t vd, int16_t rs1,
                                     vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_vv_i32m2_m(vbool16_t vm, vint32m2_t vd,
                                     vint16m1_t vs1, vint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_vx_i32m2_m(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                                     vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_vv_i32m4_m(vbool8_t vm, vint32m4_t vd, vint16m2_t vs1,
                                     vint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_vx_i32m4_m(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                                     vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_vv_i32m8_m(vbool4_t vm, vint32m8_t vd, vint16m4_t vs1,
                                     vint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_vx_i32m8_m(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                                     vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_vv_i64m1_m(vbool64_t vm, vint64m1_t vd,
                                     vint32mf2_t vs1, vint32mf2_t vs2,
                                     size_t vl);
vint64m1_t __riscv_vwmacc_vx_i64m1_m(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                                     vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_vv_i64m2_m(vbool32_t vm, vint64m2_t vd,
                                     vint32m1_t vs1, vint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_vx_i64m2_m(vbool32_t vm, vint64m2_t vd, int32_t rs1,
                                     vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_vv_i64m4_m(vbool16_t vm, vint64m4_t vd,
                                     vint32m2_t vs1, vint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_vx_i64m4_m(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                                     vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_vv_i64m8_m(vbool8_t vm, vint64m8_t vd, vint32m4_t vs1,
```

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                                    vint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_vx_i64m8_m(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vd,
                                      vint8mf8_t vs1, vuint8mf8_t vs2,
                                      size_t vl);
vint16mf4_t __riscv_vwmaccsu_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vd,
                                      int8_t rs1, vuint8mf8_t vs2,
                                      size_t vl);
vint16mf2_t __riscv_vwmaccsu_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vd,
                                      vint8mf4_t vs1, vuint8mf4_t vs2,
                                      size_t vl);
vint16mf2_t __riscv_vwmaccsu_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vd,
                                      int8_t rs1, vuint8mf4_t vs2,
                                      size_t vl);
vint16m1_t __riscv_vwmaccsu_vv_i16m1_m(vbool16_t vm, vint16m1_t vd,
                                    vint8mf2_t vs1, vuint8mf2_t vs2,
                                    size_t vl);
vint16m1_t __riscv_vwmaccsu_vx_i16m1_m(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                                    vuint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu_vv_i16m2_m(vbool8_t vm, vint16m2_t vd,
                                    vint8m1_t vs1, vuint8m1_t vs2,
                                    size_t vl);
vint16m2_t __riscv_vwmaccsu_vx_i16m2_m(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                                    vuint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu_vv_i16m4_m(vbool4_t vm, vint16m4_t vd,
                                    vint8m2_t vs1, vuint8m2_t vs2,
                                    size_t vl);
vint16m4_t __riscv_vwmaccsu_vx_i16m4_m(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                                    vuint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_vv_i16m8_m(vbool2_t vm, vint16m8_t vd,
                                    vint8m4_t vs1, vuint8m4_t vs2,
                                    size_t vl);
vint16m8_t __riscv_vwmaccsu_vx_i16m8_m(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                                    vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs1, vuint16mf4_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vwmaccsu_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                      int16_t rs1, vuint16mf4_t vs2,
                                      size_t vl);
vint32m1_t __riscv_vwmaccsu_vv_i32m1_m(vbool32_t vm, vint32m1_t vd,
                                    vint16mf2_t vs1, vuint16mf2_t vs2,
                                    size_t vl);
vint32m1_t __riscv_vwmaccsu_vx_i32m1_m(vbool32_t vm, vint32m1_t vd, int16_t rs1,
                                    vuint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu_vv_i32m2_m(vbool16_t vm, vint32m2_t vd,
                                    vint16m1_t vs1, vuint16m1_t vs2,
                                    size_t vl);
vint32m2_t __riscv_vwmaccsu_vx_i32m2_m(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                                    vuint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu_vv_i32m4_m(vbool8_t vm, vint32m4_t vd,
                                    vint16m2_t vs1, vuint16m2_t vs2,
                                    size_t vl);
vint32m4_t __riscv_vwmaccsu_vx_i32m4_m(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                                    vuint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_vv_i32m8_m(vbool4_t vm, vint32m8_t vd,
                                    vint16m4_t vs1, vuint16m4_t vs2,
                                    size_t vl);
vint32m8_t __riscv_vwmaccsu_vx_i32m8_m(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                                    vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_vv_i64m1_m(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs1, vuint32mf2_t vs2,
                                    size_t vl);
vint64m1_t __riscv_vwmaccsu_vx_i64m1_m(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                                    vuint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu_vv_i64m2_m(vbool32_t vm, vint64m2_t vd,
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                                      vint32m1_t vs1, vuint32m1_t vs2,
                                      size_t vl);
vint64m2_t __riscv_vwmaccsu_vx_i64m2_m(vbool32_t vm, vint64m2_t vd, int32_t rs1,
                                      vuint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu_vv_i64m4_m(vbool16_t vm, vint64m4_t vd,
                                      vint32m2_t vs1, vuint32m2_t vs2,
                                      size_t vl);
vint64m4_t __riscv_vwmaccsu_vx_i64m4_m(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                                      vuint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu_vv_i64m8_m(vbool8_t vm, vint64m8_t vd,
                                      vint32m4_t vs1, vuint32m4_t vs2,
                                      size_t vl);
vint64m8_t __riscv_vwmaccsu_vx_i64m8_m(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                                      vuint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccus_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vd,
                                        uint8_t rs1, vint8mf8_t vs2,
                                        size_t vl);
vint16mf2_t __riscv_vwmaccus_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vd,
                                        uint8_t rs1, vint8mf4_t vs2,
                                        size_t vl);
vint16m1_t __riscv_vwmaccus_vx_i16m1_m(vbool16_t vm, vint16m1_t vd, uint8_t rs1,
                                      vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccus_vx_i16m2_m(vbool8_t vm, vint16m2_t vd, uint8_t rs1,
                                      vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccus_vx_i16m4_m(vbool4_t vm, vint16m4_t vd, uint8_t rs1,
                                      vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccus_vx_i16m8_m(vbool2_t vm, vint16m8_t vd, uint8_t rs1,
                                      vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccus_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                        uint16_t rs1, vint16mf4_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vwmaccus_vx_i32m1_m(vbool32_t vm, vint32m1_t vd,
                                      uint16_t rs1, vint16mf2_t vs2,
                                      size_t vl);
vint32m2_t __riscv_vwmaccus_vx_i32m2_m(vbool16_t vm, vint32m2_t vd,
                                      uint16_t rs1, vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccus_vx_i32m4_m(vbool8_t vm, vint32m4_t vd, uint16_t rs1,
                                      vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccus_vx_i32m8_m(vbool4_t vm, vint32m8_t vd, uint16_t rs1,
                                      vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccus_vx_i64m1_m(vbool64_t vm, vint64m1_t vd,
                                      uint32_t rs1, vint32mf2_t vs2,
                                      size_t vl);
vint64m2_t __riscv_vwmaccus_vx_i64m2_m(vbool32_t vm, vint64m2_t vd,
                                      uint32_t rs1, vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccus_vx_i64m4_m(vbool16_t vm, vint64m4_t vd,
                                      uint32_t rs1, vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccus_vx_i64m8_m(vbool8_t vm, vint64m8_t vd, uint32_t rs1,
                                      vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vd,
                                        vuint8mf8_t vs1, vuint8mf8_t vs2,
                                        size_t vl);
vuint16mf4_t __riscv_vwmaccu_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vd,
                                        uint8_t rs1, vuint8mf8_t vs2,
                                        size_t vl);
vuint16mf2_t __riscv_vwmaccu_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vd,
                                        vuint8mf4_t vs1, vuint8mf4_t vs2,
                                        size_t vl);
vuint16mf2_t __riscv_vwmaccu_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vd,
                                        uint8_t rs1, vuint8mf4_t vs2,
                                        size_t vl);
vuint16m1_t __riscv_vwmaccu_vv_u16m1_m(vbool16_t vm, vuint16m1_t vd,
                                      vuint8mf2_t vs1, vuint8mf2_t vs2,
                                      size_t vl);
vuint16m1_t __riscv_vwmaccu_vx_u16m1_m(vbool16_t vm, vuint16m1_t vd,
                                      uint8_t rs1, vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu_vv_u16m2_m(vbool8_t vm, vuint16m2_t vd,
```

```
                                    vuint8m1_t vs1, vuint8m1_t vs2,
                                    size_t vl);
vuint16m2_t __riscv_vwmaccu_vx_u16m2_m(vbool8_t vm, vuint16m2_t vd, uint8_t rs1,
                                    vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu_vv_u16m4_m(vbool4_t vm, vuint16m4_t vd,
                                    vuint8m2_t vs1, vuint8m2_t vs2,
                                    size_t vl);
vuint16m4_t __riscv_vwmaccu_vx_u16m4_m(vbool4_t vm, vuint16m4_t vd, uint8_t rs1,
                                    vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_vv_u16m8_m(vbool2_t vm, vuint16m8_t vd,
                                    vuint8m4_t vs1, vuint8m4_t vs2,
                                    size_t vl);
vuint16m8_t __riscv_vwmaccu_vx_u16m8_m(vbool2_t vm, vuint16m8_t vd, uint8_t rs1,
                                    vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vd,
                                      vuint16mf4_t vs1, vuint16mf4_t vs2,
                                      size_t vl);
vuint32mf2_t __riscv_vwmaccu_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vd,
                                      uint16_t rs1, vuint16mf4_t vs2,
                                      size_t vl);
vuint32m1_t __riscv_vwmaccu_vv_u32m1_m(vbool32_t vm, vuint32m1_t vd,
                                    vuint16mf2_t vs1, vuint16mf2_t vs2,
                                    size_t vl);
vuint32m1_t __riscv_vwmaccu_vx_u32m1_m(vbool32_t vm, vuint32m1_t vd,
                                    uint16_t rs1, vuint16mf2_t vs2,
                                    size_t vl);
vuint32m2_t __riscv_vwmaccu_vv_u32m2_m(vbool16_t vm, vuint32m2_t vd,
                                    vuint16m1_t vs1, vuint16m1_t vs2,
                                    size_t vl);
vuint32m2_t __riscv_vwmaccu_vx_u32m2_m(vbool16_t vm, vuint32m2_t vd,
                                    uint16_t rs1, vuint16m1_t vs2,
                                    size_t vl);
vuint32m4_t __riscv_vwmaccu_vv_u32m4_m(vbool8_t vm, vuint32m4_t vd,
                                    vuint16m2_t vs1, vuint16m2_t vs2,
                                    size_t vl);
vuint32m4_t __riscv_vwmaccu_vx_u32m4_m(vbool8_t vm, vuint32m4_t vd,
                                    uint16_t rs1, vuint16m2_t vs2,
                                    size_t vl);
vuint32m8_t __riscv_vwmaccu_vv_u32m8_m(vbool4_t vm, vuint32m8_t vd,
                                    vuint16m4_t vs1, vuint16m4_t vs2,
                                    size_t vl);
vuint32m8_t __riscv_vwmaccu_vx_u32m8_m(vbool4_t vm, vuint32m8_t vd,
                                    uint16_t rs1, vuint16m4_t vs2,
                                    size_t vl);
vuint64m1_t __riscv_vwmaccu_vv_u64m1_m(vbool64_t vm, vuint64m1_t vd,
                                    vuint32mf2_t vs1, vuint32mf2_t vs2,
                                    size_t vl);
vuint64m1_t __riscv_vwmaccu_vx_u64m1_m(vbool64_t vm, vuint64m1_t vd,
                                    uint32_t rs1, vuint32mf2_t vs2,
                                    size_t vl);
vuint64m2_t __riscv_vwmaccu_vv_u64m2_m(vbool32_t vm, vuint64m2_t vd,
                                    vuint32m1_t vs1, vuint32m1_t vs2,
                                    size_t vl);
vuint64m2_t __riscv_vwmaccu_vx_u64m2_m(vbool32_t vm, vuint64m2_t vd,
                                    uint32_t rs1, vuint32m1_t vs2,
                                    size_t vl);
vuint64m4_t __riscv_vwmaccu_vv_u64m4_m(vbool16_t vm, vuint64m4_t vd,
                                    vuint32m2_t vs1, vuint32m2_t vs2,
                                    size_t vl);
vuint64m4_t __riscv_vwmaccu_vx_u64m4_m(vbool16_t vm, vuint64m4_t vd,
                                    uint32_t rs1, vuint32m2_t vs2,
                                    size_t vl);
vuint64m8_t __riscv_vwmaccu_vv_u64m8_m(vbool8_t vm, vuint64m8_t vd,
                                    vuint32m4_t vs1, vuint32m4_t vs2,
                                    size_t vl);
vuint64m8_t __riscv_vwmaccu_vx_u64m8_m(vbool8_t vm, vuint64m8_t vd,
                                    uint32_t rs1, vuint32m4_t vs2,
```

```
                                    size_t vl);
```

A.3.18. Vector Integer Merge Intrinsics

```
vint8mf8_t __riscv_vmerge_vvm_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1,
                                    vbool64_t v0, size_t vl);
vint8mf8_t __riscv_vmerge_vxm_i8mf8(vint8mf8_t vs2, int8_t rs1, vbool64_t v0,
                                    size_t vl);
vint8mf4_t __riscv_vmerge_vvm_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1,
                                    vbool32_t v0, size_t vl);
vint8mf4_t __riscv_vmerge_vxm_i8mf4(vint8mf4_t vs2, int8_t rs1, vbool32_t v0,
                                    size_t vl);
vint8mf2_t __riscv_vmerge_vvm_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1,
                                    vbool16_t v0, size_t vl);
vint8mf2_t __riscv_vmerge_vxm_i8mf2(vint8mf2_t vs2, int8_t rs1, vbool16_t v0,
                                    size_t vl);
vint8m1_t __riscv_vmerge_vvm_i8m1(vint8m1_t vs2, vint8m1_t vs1, vbool8_t v0,
                                  size_t vl);
vint8m1_t __riscv_vmerge_vxm_i8m1(vint8m1_t vs2, int8_t rs1, vbool8_t v0,
                                  size_t vl);
vint8m2_t __riscv_vmerge_vvm_i8m2(vint8m2_t vs2, vint8m2_t vs1, vbool4_t v0,
                                  size_t vl);
vint8m2_t __riscv_vmerge_vxm_i8m2(vint8m2_t vs2, int8_t rs1, vbool4_t v0,
                                  size_t vl);
vint8m4_t __riscv_vmerge_vvm_i8m4(vint8m4_t vs2, vint8m4_t vs1, vbool2_t v0,
                                  size_t vl);
vint8m4_t __riscv_vmerge_vxm_i8m4(vint8m4_t vs2, int8_t rs1, vbool2_t v0,
                                  size_t vl);
vint8m8_t __riscv_vmerge_vvm_i8m8(vint8m8_t vs2, vint8m8_t vs1, vbool1_t v0,
                                  size_t vl);
vint8m8_t __riscv_vmerge_vxm_i8m8(vint8m8_t vs2, int8_t rs1, vbool1_t v0,
                                  size_t vl);
vint16mf4_t __riscv_vmerge_vvm_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1,
                                      vbool64_t v0, size_t vl);
vint16mf4_t __riscv_vmerge_vxm_i16mf4(vint16mf4_t vs2, int16_t rs1,
                                      vbool64_t v0, size_t vl);
vint16mf2_t __riscv_vmerge_vvm_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1,
                                      vbool32_t v0, size_t vl);
vint16mf2_t __riscv_vmerge_vxm_i16mf2(vint16mf2_t vs2, int16_t rs1,
                                      vbool32_t v0, size_t vl);
vint16m1_t __riscv_vmerge_vvm_i16m1(vint16m1_t vs2, vint16m1_t vs1,
                                    vbool16_t v0, size_t vl);
vint16m1_t __riscv_vmerge_vxm_i16m1(vint16m1_t vs2, int16_t rs1, vbool16_t v0,
                                    size_t vl);
vint16m2_t __riscv_vmerge_vvm_i16m2(vint16m2_t vs2, vint16m2_t vs1, vbool8_t v0,
                                    size_t vl);
vint16m2_t __riscv_vmerge_vxm_i16m2(vint16m2_t vs2, int16_t rs1, vbool8_t v0,
                                    size_t vl);
vint16m4_t __riscv_vmerge_vvm_i16m4(vint16m4_t vs2, vint16m4_t vs1, vbool4_t v0,
                                    size_t vl);
vint16m4_t __riscv_vmerge_vxm_i16m4(vint16m4_t vs2, int16_t rs1, vbool4_t v0,
                                    size_t vl);
vint16m8_t __riscv_vmerge_vvm_i16m8(vint16m8_t vs2, vint16m8_t vs1, vbool2_t v0,
                                    size_t vl);
vint16m8_t __riscv_vmerge_vxm_i16m8(vint16m8_t vs2, int16_t rs1, vbool2_t v0,
                                    size_t vl);
vint32mf2_t __riscv_vmerge_vvm_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1,
                                      vbool64_t v0, size_t vl);
vint32mf2_t __riscv_vmerge_vxm_i32mf2(vint32mf2_t vs2, int32_t rs1,
                                      vbool64_t v0, size_t vl);
vint32m1_t __riscv_vmerge_vvm_i32m1(vint32m1_t vs2, vint32m1_t vs1,
                                    vbool32_t v0, size_t vl);
vint32m1_t __riscv_vmerge_vxm_i32m1(vint32m1_t vs2, int32_t rs1, vbool32_t v0,
                                    size_t vl);
vint32m2_t __riscv_vmerge_vvm_i32m2(vint32m2_t vs2, vint32m2_t vs1,
```

```
                                    vbool16_t v0, size_t vl);
vint32m2_t __riscv_vmerge_vxm_i32m2(vint32m2_t vs2, int32_t rs1, vbool16_t v0,
                                    size_t vl);
vint32m4_t __riscv_vmerge_vvm_i32m4(vint32m4_t vs2, vint32m4_t vs1, vbool8_t v0,
                                    size_t vl);
vint32m4_t __riscv_vmerge_vxm_i32m4(vint32m4_t vs2, int32_t rs1, vbool8_t v0,
                                    size_t vl);
vint32m8_t __riscv_vmerge_vvm_i32m8(vint32m8_t vs2, vint32m8_t vs1, vbool4_t v0,
                                    size_t vl);
vint32m8_t __riscv_vmerge_vxm_i32m8(vint32m8_t vs2, int32_t rs1, vbool4_t v0,
                                    size_t vl);
vint64m1_t __riscv_vmerge_vvm_i64m1(vint64m1_t vs2, vint64m1_t vs1,
                                    vbool64_t v0, size_t vl);
vint64m1_t __riscv_vmerge_vxm_i64m1(vint64m1_t vs2, int64_t rs1, vbool64_t v0,
                                    size_t vl);
vint64m2_t __riscv_vmerge_vvm_i64m2(vint64m2_t vs2, vint64m2_t vs1,
                                    vbool32_t v0, size_t vl);
vint64m2_t __riscv_vmerge_vxm_i64m2(vint64m2_t vs2, int64_t rs1, vbool32_t v0,
                                    size_t vl);
vint64m4_t __riscv_vmerge_vvm_i64m4(vint64m4_t vs2, vint64m4_t vs1,
                                    vbool16_t v0, size_t vl);
vint64m4_t __riscv_vmerge_vxm_i64m4(vint64m4_t vs2, int64_t rs1, vbool16_t v0,
                                    size_t vl);
vint64m8_t __riscv_vmerge_vvm_i64m8(vint64m8_t vs2, vint64m8_t vs1, vbool8_t v0,
                                    size_t vl);
vint64m8_t __riscv_vmerge_vxm_i64m8(vint64m8_t vs2, int64_t rs1, vbool8_t v0,
                                    size_t vl);
vuint8mf8_t __riscv_vmerge_vvm_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     vbool64_t v0, size_t vl);
vuint8mf8_t __riscv_vmerge_vxm_u8mf8(vuint8mf8_t vs2, uint8_t rs1, vbool64_t v0,
                                     size_t vl);
vuint8mf4_t __riscv_vmerge_vvm_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     vbool32_t v0, size_t vl);
vuint8mf4_t __riscv_vmerge_vxm_u8mf4(vuint8mf4_t vs2, uint8_t rs1, vbool32_t v0,
                                     size_t vl);
vuint8mf2_t __riscv_vmerge_vvm_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     vbool16_t v0, size_t vl);
vuint8mf2_t __riscv_vmerge_vxm_u8mf2(vuint8mf2_t vs2, uint8_t rs1, vbool16_t v0,
                                     size_t vl);
vuint8m1_t __riscv_vmerge_vvm_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, vbool8_t v0,
                                   size_t vl);
vuint8m1_t __riscv_vmerge_vxm_u8m1(vuint8m1_t vs2, uint8_t rs1, vbool8_t v0,
                                   size_t vl);
vuint8m2_t __riscv_vmerge_vvm_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, vbool4_t v0,
                                   size_t vl);
vuint8m2_t __riscv_vmerge_vxm_u8m2(vuint8m2_t vs2, uint8_t rs1, vbool4_t v0,
                                   size_t vl);
vuint8m4_t __riscv_vmerge_vvm_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, vbool2_t v0,
                                   size_t vl);
vuint8m4_t __riscv_vmerge_vxm_u8m4(vuint8m4_t vs2, uint8_t rs1, vbool2_t v0,
                                   size_t vl);
vuint8m8_t __riscv_vmerge_vvm_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, vbool1_t v0,
                                   size_t vl);
vuint8m8_t __riscv_vmerge_vxm_u8m8(vuint8m8_t vs2, uint8_t rs1, vbool1_t v0,
                                   size_t vl);
vuint16mf4_t __riscv_vmerge_vvm_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       vbool64_t v0, size_t vl);
vuint16mf4_t __riscv_vmerge_vxm_u16mf4(vuint16mf4_t vs2, uint16_t rs1,
                                       vbool64_t v0, size_t vl);
vuint16mf2_t __riscv_vmerge_vvm_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       vbool32_t v0, size_t vl);
vuint16mf2_t __riscv_vmerge_vxm_u16mf2(vuint16mf2_t vs2, uint16_t rs1,
                                       vbool32_t v0, size_t vl);
vuint16m1_t __riscv_vmerge_vvm_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                     vbool16_t v0, size_t vl);
vuint16m1_t __riscv_vmerge_vxm_u16m1(vuint16m1_t vs2, uint16_t rs1,
                                     vbool16_t v0, size_t vl);
```

```
vuint16m2_t __riscv_vmerge_vvm_u16m2(vuint16m2_t vs2, vuint16m2_t vs1,
                                     vbool8_t v0, size_t vl);
vuint16m2_t __riscv_vmerge_vxm_u16m2(vuint16m2_t vs2, uint16_t rs1, vbool8_t v0,
                                     size_t vl);
vuint16m4_t __riscv_vmerge_vvm_u16m4(vuint16m4_t vs2, vuint16m4_t vs1,
                                     vbool4_t v0, size_t vl);
vuint16m4_t __riscv_vmerge_vxm_u16m4(vuint16m4_t vs2, uint16_t rs1, vbool4_t v0,
                                     size_t vl);
vuint16m8_t __riscv_vmerge_vvm_u16m8(vuint16m8_t vs2, vuint16m8_t vs1,
                                     vbool2_t v0, size_t vl);
vuint16m8_t __riscv_vmerge_vxm_u16m8(vuint16m8_t vs2, uint16_t rs1, vbool2_t v0,
                                     size_t vl);
vuint32mf2_t __riscv_vmerge_vvm_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       vbool64_t v0, size_t vl);
vuint32mf2_t __riscv_vmerge_vxm_u32mf2(vuint32mf2_t vs2, uint32_t rs1,
                                       vbool64_t v0, size_t vl);
vuint32m1_t __riscv_vmerge_vvm_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                     vbool32_t v0, size_t vl);
vuint32m1_t __riscv_vmerge_vxm_u32m1(vuint32m1_t vs2, uint32_t rs1,
                                     vbool32_t v0, size_t vl);
vuint32m2_t __riscv_vmerge_vvm_u32m2(vuint32m2_t vs2, vuint32m2_t vs1,
                                     vbool16_t v0, size_t vl);
vuint32m2_t __riscv_vmerge_vxm_u32m2(vuint32m2_t vs2, uint32_t rs1,
                                     vbool16_t v0, size_t vl);
vuint32m4_t __riscv_vmerge_vvm_u32m4(vuint32m4_t vs2, vuint32m4_t vs1,
                                     vbool8_t v0, size_t vl);
vuint32m4_t __riscv_vmerge_vxm_u32m4(vuint32m4_t vs2, uint32_t rs1, vbool8_t v0,
                                     size_t vl);
vuint32m8_t __riscv_vmerge_vvm_u32m8(vuint32m8_t vs2, vuint32m8_t vs1,
                                     vbool4_t v0, size_t vl);
vuint32m8_t __riscv_vmerge_vxm_u32m8(vuint32m8_t vs2, uint32_t rs1, vbool4_t v0,
                                     size_t vl);
vuint64m1_t __riscv_vmerge_vvm_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                     vbool64_t v0, size_t vl);
vuint64m1_t __riscv_vmerge_vxm_u64m1(vuint64m1_t vs2, uint64_t rs1,
                                     vbool64_t v0, size_t vl);
vuint64m2_t __riscv_vmerge_vvm_u64m2(vuint64m2_t vs2, vuint64m2_t vs1,
                                     vbool32_t v0, size_t vl);
vuint64m2_t __riscv_vmerge_vxm_u64m2(vuint64m2_t vs2, uint64_t rs1,
                                     vbool32_t v0, size_t vl);
vuint64m4_t __riscv_vmerge_vvm_u64m4(vuint64m4_t vs2, vuint64m4_t vs1,
                                     vbool16_t v0, size_t vl);
vuint64m4_t __riscv_vmerge_vxm_u64m4(vuint64m4_t vs2, uint64_t rs1,
                                     vbool16_t v0, size_t vl);
vuint64m8_t __riscv_vmerge_vvm_u64m8(vuint64m8_t vs2, vuint64m8_t vs1,
                                     vbool8_t v0, size_t vl);
vuint64m8_t __riscv_vmerge_vxm_u64m8(vuint64m8_t vs2, uint64_t rs1, vbool8_t v0,
                                     size_t vl);
```

A.3.19. Vector Integer Move Intrinsics

```
vint8mf8_t __riscv_vmv_v_v_i8mf8(vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmv_v_x_i8mf8(int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmv_v_v_i8mf4(vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmv_v_x_i8mf4(int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmv_v_v_i8mf2(vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmv_v_x_i8mf2(int8_t rs1, size_t vl);
vint8m1_t __riscv_vmv_v_v_i8m1(vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmv_v_x_i8m1(int8_t rs1, size_t vl);
vint8m2_t __riscv_vmv_v_v_i8m2(vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmv_v_x_i8m2(int8_t rs1, size_t vl);
vint8m4_t __riscv_vmv_v_v_i8m4(vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmv_v_x_i8m4(int8_t rs1, size_t vl);
vint8m8_t __riscv_vmv_v_v_i8m8(vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmv_v_x_i8m8(int8_t rs1, size_t vl);
```

```
vint16mf4_t __riscv_vmv_v_v_i16mf4(vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmv_v_x_i16mf4(int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmv_v_v_i16mf2(vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmv_v_x_i16mf2(int16_t rs1, size_t vl);
vint16m1_t __riscv_vmv_v_v_i16m1(vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmv_v_x_i16m1(int16_t rs1, size_t vl);
vint16m2_t __riscv_vmv_v_v_i16m2(vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmv_v_x_i16m2(int16_t rs1, size_t vl);
vint16m4_t __riscv_vmv_v_v_i16m4(vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmv_v_x_i16m4(int16_t rs1, size_t vl);
vint16m8_t __riscv_vmv_v_v_i16m8(vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmv_v_x_i16m8(int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmv_v_v_i32mf2(vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmv_v_x_i32mf2(int32_t rs1, size_t vl);
vint32m1_t __riscv_vmv_v_v_i32m1(vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmv_v_x_i32m1(int32_t rs1, size_t vl);
vint32m2_t __riscv_vmv_v_v_i32m2(vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmv_v_x_i32m2(int32_t rs1, size_t vl);
vint32m4_t __riscv_vmv_v_v_i32m4(vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmv_v_x_i32m4(int32_t rs1, size_t vl);
vint32m8_t __riscv_vmv_v_v_i32m8(vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmv_v_x_i32m8(int32_t rs1, size_t vl);
vint64m1_t __riscv_vmv_v_v_i64m1(vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmv_v_x_i64m1(int64_t rs1, size_t vl);
vint64m2_t __riscv_vmv_v_v_i64m2(vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmv_v_x_i64m2(int64_t rs1, size_t vl);
vint64m4_t __riscv_vmv_v_v_i64m4(vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmv_v_x_i64m4(int64_t rs1, size_t vl);
vint64m8_t __riscv_vmv_v_v_i64m8(vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmv_v_x_i64m8(int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmv_v_v_u8mf8(vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmv_v_x_u8mf8(uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmv_v_v_u8mf4(vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmv_v_x_u8mf4(uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmv_v_v_u8mf2(vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmv_v_x_u8mf2(uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmv_v_v_u8m1(vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmv_v_x_u8m1(uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmv_v_v_u8m2(vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmv_v_x_u8m2(uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmv_v_v_u8m4(vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmv_v_x_u8m4(uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmv_v_v_u8m8(vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmv_v_x_u8m8(uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmv_v_v_u16mf4(vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmv_v_x_u16mf4(uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmv_v_v_u16mf2(vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmv_v_x_u16mf2(uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmv_v_v_u16m1(vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmv_v_x_u16m1(uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmv_v_v_u16m2(vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmv_v_x_u16m2(uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmv_v_v_u16m4(vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmv_v_x_u16m4(uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmv_v_v_u16m8(vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmv_v_x_u16m8(uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmv_v_v_u32mf2(vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmv_v_x_u32mf2(uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmv_v_v_u32m1(vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmv_v_x_u32m1(uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmv_v_v_u32m2(vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmv_v_x_u32m2(uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmv_v_v_u32m4(vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmv_v_x_u32m4(uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmv_v_v_u32m8(vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmv_v_x_u32m8(uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmv_v_v_u64m1(vuint64m1_t vs1, size_t vl);
```

```
vuint64m1_t __riscv_vmv_v_x_u64m1(uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmv_v_v_u64m2(vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmv_v_x_u64m2(uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmv_v_v_u64m4(vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmv_v_x_u64m4(uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmv_v_v_u64m8(vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmv_v_x_u64m8(uint64_t rs1, size_t vl);
```

A.4. Vector Fixed-Point Arithmetic Intrinsics

A.4.1. Vector Single-Width Saturating Add and Subtract Intrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vsadd_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsadd_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsadd_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsadd_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsadd_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsadd_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vsadd_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsadd_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vsadd_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsadd_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vsadd_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsadd_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vsadd_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsadd_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsadd_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1,
                                    size_t vl);
vint16mf4_t __riscv_vsadd_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsadd_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vsadd_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vsadd_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsadd_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vsadd_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsadd_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vsadd_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsadd_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vsadd_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsadd_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsadd_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vsadd_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vsadd_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsadd_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vsadd_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsadd_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vsadd_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsadd_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vsadd_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsadd_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vsadd_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsadd_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vsadd_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsadd_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vsadd_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsadd_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vsadd_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsadd_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vssub_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vssub_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
```

```
vint8mf4_t __riscv_vssub_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vssub_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vssub_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vssub_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vssub_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vssub_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vssub_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vssub_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vssub_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vssub_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vssub_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vssub_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vssub_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1,
                                    size_t vl);
vint16mf4_t __riscv_vssub_vx_i16mf4(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vssub_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vssub_vx_i16mf2(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vssub_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vssub_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vssub_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vssub_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vssub_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vssub_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vssub_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vssub_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vssub_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vssub_vx_i32mf2(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vssub_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vssub_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vssub_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vssub_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vssub_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vssub_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vssub_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vssub_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vssub_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vssub_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vssub_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vssub_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vssub_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vssub_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vssub_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vssub_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsaddu_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vuint8mf8_t __riscv_vsaddu_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vuint8mf4_t __riscv_vsaddu_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint8mf2_t __riscv_vsaddu_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsaddu_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsaddu_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsaddu_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsaddu_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsaddu_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsaddu_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsaddu_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsaddu_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vsaddu_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16mf2_t __riscv_vsaddu_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
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                                    size_t vl);
vuint16mf2_t __riscv_vsaddu_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m1_t __riscv_vsaddu_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                   size_t vl);
vuint16m1_t __riscv_vsaddu_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsaddu_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1,
                                   size_t vl);
vuint16m2_t __riscv_vsaddu_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsaddu_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1,
                                   size_t vl);
vuint16m4_t __riscv_vsaddu_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsaddu_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1,
                                   size_t vl);
vuint16m8_t __riscv_vsaddu_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsaddu_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vsaddu_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m1_t __riscv_vsaddu_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                   size_t vl);
vuint32m1_t __riscv_vsaddu_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsaddu_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1,
                                   size_t vl);
vuint32m2_t __riscv_vsaddu_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsaddu_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1,
                                   size_t vl);
vuint32m4_t __riscv_vsaddu_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsaddu_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1,
                                   size_t vl);
vuint32m8_t __riscv_vsaddu_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsaddu_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                   size_t vl);
vuint64m1_t __riscv_vsaddu_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsaddu_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1,
                                   size_t vl);
vuint64m2_t __riscv_vsaddu_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsaddu_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1,
                                   size_t vl);
vuint64m4_t __riscv_vsaddu_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsaddu_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1,
                                   size_t vl);
vuint64m8_t __riscv_vsaddu_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vssubu_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                   size_t vl);
vuint8mf8_t __riscv_vssubu_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vssubu_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                   size_t vl);
vuint8mf4_t __riscv_vssubu_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vssubu_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                   size_t vl);
vuint8mf2_t __riscv_vssubu_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vssubu_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vssubu_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vssubu_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vssubu_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vssubu_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vssubu_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vssubu_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vssubu_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vssubu_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vssubu_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16mf2_t __riscv_vssubu_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vssubu_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1,
```

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                                    size_t vl);
vuint16m1_t __riscv_vssubu_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vssubu_vx_u16m1(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vssubu_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vssubu_vx_u16m2(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vssubu_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vssubu_vx_u16m4(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vssubu_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vssubu_vx_u16m8(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vssubu_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vssubu_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vssubu_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vssubu_vx_u32m1(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vssubu_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vssubu_vx_u32m2(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vssubu_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vssubu_vx_u32m4(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vssubu_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vssubu_vx_u32m8(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vssubu_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vssubu_vx_u64m1(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vssubu_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vssubu_vx_u64m2(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vssubu_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vssubu_vx_u64m4(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vssubu_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vssubu_vx_u64m8(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsadd_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsadd_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vsadd_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsadd_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vsadd_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsadd_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vsadd_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vsadd_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vsadd_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vsadd_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vsadd_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vsadd_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vsadd_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
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                                    size_t vl);
vint8m8_t __riscv_vsadd_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                    size_t vl);
vint16mf4_t __riscv_vsadd_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsadd_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsadd_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsadd_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vsadd_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsadd_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vsadd_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vsadd_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vsadd_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vsadd_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vsadd_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vsadd_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vsadd_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsadd_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vsadd_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsadd_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vsadd_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsadd_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vsadd_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vsadd_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vsadd_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vsadd_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vsadd_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsadd_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vsadd_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsadd_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vsadd_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsadd_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vsadd_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vsadd_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vssub_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vssub_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
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vint8mf4_t __riscv_vssub_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vssub_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vssub_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vssub_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vssub_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vssub_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vssub_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vssub_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vssub_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vssub_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vssub_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vssub_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vssub_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vssub_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vssub_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vssub_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vssub_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vssub_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vssub_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vssub_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vssub_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vssub_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vssub_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vssub_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vssub_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vssub_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vssub_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vssub_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vssub_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vssub_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vssub_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vssub_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vssub_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vssub_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
```

```
                                    size_t vl);
vint64m1_t __riscv_vssub_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vssub_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vssub_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vssub_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vssub_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vssub_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vssub_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vssub_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vsaddu_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsaddu_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsaddu_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vsaddu_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m2_t __riscv_vsaddu_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint8m2_t __riscv_vsaddu_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vsaddu_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint8m4_t __riscv_vsaddu_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m8_t __riscv_vsaddu_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vuint8m8_t __riscv_vsaddu_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vsaddu_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsaddu_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                        vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsaddu_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsaddu_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsaddu_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsaddu_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsaddu_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsaddu_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsaddu_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsaddu_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
```

```
vuint16m8_t __riscv_vsaddu_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsaddu_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                        vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsaddu_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                        uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsaddu_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsaddu_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsaddu_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsaddu_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsaddu_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsaddu_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsaddu_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                      vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsaddu_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsaddu_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                      vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsaddu_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsaddu_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                      vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsaddu_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsaddu_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                      vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsaddu_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsaddu_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                      vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsaddu_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                      uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vssubu_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vssubu_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vssubu_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vssubu_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vssubu_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vssubu_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vssubu_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vssubu_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m2_t __riscv_vssubu_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint8m2_t __riscv_vssubu_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vssubu_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint8m4_t __riscv_vssubu_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m8_t __riscv_vssubu_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vuint8m8_t __riscv_vssubu_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vssubu_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
```

```
                                        vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vssubu_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vssubu_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                        vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vssubu_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vssubu_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vssubu_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vssubu_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vssubu_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vssubu_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vssubu_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vssubu_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vssubu_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vssubu_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                        vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vssubu_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                        uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vssubu_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vssubu_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vssubu_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vssubu_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vssubu_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vssubu_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vssubu_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                      vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vssubu_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vssubu_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                      vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vssubu_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vssubu_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                      vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vssubu_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vssubu_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                      vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vssubu_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vssubu_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                      vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vssubu_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                      uint64_t rs1, size_t vl);
```

A.4.2. Vector Single-Width Averaging Add and Subtract Intrinsics

```
vint8mf8_t __riscv_vaadd_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vaadd_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, unsigned int vxrm,
```

```
                                  size_t vl);
vint8mf4_t __riscv_vaadd_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, unsigned int vxrm,
                                  size_t vl);
vint8mf2_t __riscv_vaadd_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, unsigned int vxrm,
                                  size_t vl);
vint8m1_t __riscv_vaadd_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m1_t __riscv_vaadd_vx_i8m1(vint8m1_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m2_t __riscv_vaadd_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m2_t __riscv_vaadd_vx_i8m2(vint8m2_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m4_t __riscv_vaadd_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m4_t __riscv_vaadd_vx_i8m4(vint8m4_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m8_t __riscv_vaadd_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m8_t __riscv_vaadd_vx_i8m8(vint8m8_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint16mf4_t __riscv_vaadd_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_vx_i16mf4(vint16mf4_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_vx_i16mf2(vint16mf2_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_vx_i16m1(vint16m1_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_vx_i16m2(vint16m2_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_vx_i16m4(vint16m4_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_vx_i16m8(vint16m8_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_vx_i32mf2(vint32mf2_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_vx_i32m1(vint32m1_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_vx_i32m2(vint32m2_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_vx_i32m4(vint32m4_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1,
                                  unsigned int vxrm, size_t vl);
```

```
vint32m8_t __riscv_vaadd_vx_i32m8(vint32m8_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_vx_i64m1(vint64m1_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_vx_i64m2(vint64m2_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_vx_i64m4(vint64m4_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_vx_i64m8(vint64m8_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, unsigned int vxrm,
                                  size_t vl);
vint8mf4_t __riscv_vasub_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, unsigned int vxrm,
                                  size_t vl);
vint8mf2_t __riscv_vasub_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, unsigned int vxrm,
                                  size_t vl);
vint8m1_t __riscv_vasub_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m1_t __riscv_vasub_vx_i8m1(vint8m1_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m2_t __riscv_vasub_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m2_t __riscv_vasub_vx_i8m2(vint8m2_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m4_t __riscv_vasub_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m4_t __riscv_vasub_vx_i8m4(vint8m4_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m8_t __riscv_vasub_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m8_t __riscv_vasub_vx_i8m8(vint8m8_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint16mf4_t __riscv_vasub_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_vx_i16mf4(vint16mf4_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_vx_i16mf2(vint16mf2_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_vx_i16m1(vint16m1_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_vx_i16m2(vint16m2_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_vx_i16m4(vint16m4_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1,
```

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                                  unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_vx_i16m8(vint16m8_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_vx_i32mf2(vint32mf2_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_vx_i32m1(vint32m1_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_vx_i32m2(vint32m2_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_vx_i32m4(vint32m4_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_vx_i32m8(vint32m8_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_vx_i64m1(vint64m1_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_vx_i64m2(vint64m2_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_vx_i64m4(vint64m4_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_vx_i64m8(vint64m8_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_vx_u8m1(vuint8m1_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_vx_u8m2(vuint8m2_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_vx_u8m4(vuint8m4_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_vx_u8m8(vuint8m8_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
```

```
vuint16mf4_t __riscv_vaaddu_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_vx_u16m1(vuint16m1_t vs2, uint16_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_vx_u16m2(vuint16m2_t vs2, uint16_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_vx_u16m4(vuint16m4_t vs2, uint16_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_vx_u16m8(vuint16m8_t vs2, uint16_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_vx_u32m1(vuint32m1_t vs2, uint32_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_vx_u32m2(vuint32m2_t vs2, uint32_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_vx_u32m4(vuint32m4_t vs2, uint32_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_vx_u32m8(vuint32m8_t vs2, uint32_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_vx_u64m1(vuint64m1_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_vx_u64m2(vuint64m2_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_vx_u64m4(vuint64m4_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_vx_u64m8(vuint64m8_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1,
```

```
                                    unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_vx_u8m1(vuint8m1_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_vx_u8m2(vuint8m2_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_vx_u8m4(vuint8m4_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_vx_u8m8(vuint8m8_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_vx_u16m1(vuint16m1_t vs2, uint16_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_vx_u16m2(vuint16m2_t vs2, uint16_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_vx_u16m4(vuint16m4_t vs2, uint16_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_vx_u16m8(vuint16m8_t vs2, uint16_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_vx_u32m1(vuint32m1_t vs2, uint32_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_vx_u32m2(vuint32m2_t vs2, uint32_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_vx_u32m4(vuint32m4_t vs2, uint32_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_vx_u32m8(vuint32m8_t vs2, uint32_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                    unsigned int vxrm, size_t vl);
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vuint64m1_t __riscv_vasubu_vx_u64m1(vuint64m1_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_vx_u64m2(vuint64m2_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_vx_u64m4(vuint64m4_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_vx_u64m8(vuint64m8_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vaadd_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                    vint8mf8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf8_t __riscv_vaadd_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                    vint8mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf4_t __riscv_vaadd_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                    vint8mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf2_t __riscv_vaadd_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      vint16mf4_t vs1, unsigned int vxrm,
                                      size_t vl);
vint16mf4_t __riscv_vaadd_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      int16_t rs1, unsigned int vxrm,
                                      size_t vl);
vint16mf2_t __riscv_vaadd_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      vint16mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vint16mf2_t __riscv_vaadd_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      int16_t rs1, unsigned int vxrm,
                                      size_t vl);
vint16m1_t __riscv_vaadd_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                    vint16m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16m1_t __riscv_vaadd_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
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vint16m4_t __riscv_vaadd_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      vint32mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vint32mf2_t __riscv_vaadd_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      int32_t rs1, unsigned int vxrm,
                                      size_t vl);
vint32m1_t __riscv_vaadd_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                    vint32m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m1_t __riscv_vaadd_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                    vint32m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m2_t __riscv_vaadd_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                    vint64m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m1_t __riscv_vaadd_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                    vint64m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m2_t __riscv_vaadd_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                    vint64m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m4_t __riscv_vaadd_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                    vint8mf8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf8_t __riscv_vasub_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                    vint8mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf4_t __riscv_vasub_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                    vint8mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf2_t __riscv_vasub_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
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                                  unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      vint16mf4_t vs1, unsigned int vxrm,
                                      size_t vl);
vint16mf4_t __riscv_vasub_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      int16_t rs1, unsigned int vxrm,
                                      size_t vl);
vint16mf2_t __riscv_vasub_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      vint16mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vint16mf2_t __riscv_vasub_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      int16_t rs1, unsigned int vxrm,
                                      size_t vl);
vint16m1_t __riscv_vasub_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                    vint16m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16m1_t __riscv_vasub_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      vint32mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vint32mf2_t __riscv_vasub_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      int32_t rs1, unsigned int vxrm,
                                      size_t vl);
vint32m1_t __riscv_vasub_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                    vint32m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m1_t __riscv_vasub_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                    vint32m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m2_t __riscv_vasub_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
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                                    unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                    vint64m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m1_t __riscv_vasub_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                    vint64m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m2_t __riscv_vasub_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                    vint64m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m4_t __riscv_vasub_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf8_t __riscv_vaaddu_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                      uint8_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf4_t __riscv_vaaddu_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf4_t __riscv_vaaddu_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                      uint8_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf2_t __riscv_vaaddu_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf2_t __riscv_vaaddu_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                      uint8_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint8m1_t __riscv_vaaddu_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                        vuint16mf4_t vs1, unsigned int vxrm,
                                        size_t vl);
vuint16mf4_t __riscv_vaaddu_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                        uint16_t rs1, unsigned int vxrm,
                                        size_t vl);
vuint16mf2_t __riscv_vaaddu_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                        vuint16mf2_t vs1, unsigned int vxrm,
                                        size_t vl);
vuint16mf2_t __riscv_vaaddu_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                        uint16_t rs1, unsigned int vxrm,
                                        size_t vl);
vuint16m1_t __riscv_vaaddu_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
```

```
                                    vuint16m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m1_t __riscv_vaaddu_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    uint16_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint16m2_t __riscv_vaaddu_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    vuint16m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m2_t __riscv_vaaddu_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    uint16_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint16m4_t __riscv_vaaddu_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m4_t __riscv_vaaddu_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    uint16_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint16m8_t __riscv_vaaddu_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint16m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m8_t __riscv_vaaddu_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    uint16_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32mf2_t __riscv_vaaddu_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint32mf2_t __riscv_vaaddu_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint32m1_t __riscv_vaaddu_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m1_t __riscv_vaaddu_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    uint32_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32m2_t __riscv_vaaddu_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m2_t __riscv_vaaddu_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    uint32_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32m4_t __riscv_vaaddu_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m4_t __riscv_vaaddu_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    uint32_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32m8_t __riscv_vaaddu_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m8_t __riscv_vaaddu_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    uint32_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m1_t __riscv_vaaddu_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m1_t __riscv_vaaddu_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m2_t __riscv_vaaddu_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m2_t __riscv_vaaddu_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m4_t __riscv_vaaddu_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, unsigned int vxrm,
```

```
                                    size_t vl);
vuint64m4_t __riscv_vaaddu_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m8_t __riscv_vaaddu_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m8_t __riscv_vaaddu_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf8_t __riscv_vasubu_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                    vuint8mf8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf8_t __riscv_vasubu_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                    uint8_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf4_t __riscv_vasubu_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                    vuint8mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf4_t __riscv_vasubu_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                    uint8_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf2_t __riscv_vasubu_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                    vuint8mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf2_t __riscv_vasubu_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                    uint8_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint8m1_t __riscv_vasubu_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                    vuint16mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16mf4_t __riscv_vasubu_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                    uint16_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint16mf2_t __riscv_vasubu_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                    vuint16mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16mf2_t __riscv_vasubu_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                    uint16_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint16m1_t __riscv_vasubu_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    vuint16m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m1_t __riscv_vasubu_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                    uint16_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint16m2_t __riscv_vasubu_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    vuint16m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m2_t __riscv_vasubu_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                    uint16_t rs1, unsigned int vxrm,
```

```
                                    size_t vl);
vuint16m4_t __riscv_vasubu_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m4_t __riscv_vasubu_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    uint16_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint16m8_t __riscv_vasubu_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint16m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m8_t __riscv_vasubu_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    uint16_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32mf2_t __riscv_vasubu_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint32mf2_t __riscv_vasubu_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      uint32_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint32m1_t __riscv_vasubu_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m1_t __riscv_vasubu_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    uint32_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32m2_t __riscv_vasubu_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m2_t __riscv_vasubu_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    uint32_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32m4_t __riscv_vasubu_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m4_t __riscv_vasubu_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    uint32_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32m8_t __riscv_vasubu_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m8_t __riscv_vasubu_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    uint32_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m1_t __riscv_vasubu_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m1_t __riscv_vasubu_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m2_t __riscv_vasubu_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m2_t __riscv_vasubu_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m4_t __riscv_vasubu_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m4_t __riscv_vasubu_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m8_t __riscv_vasubu_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m8_t __riscv_vasubu_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
```

A.4.3. Vector Single-Width Fractional Multiply with Rounding and SaturationIntrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vsmul_vv_i8mf8(vint8mf8_t vs2, vint8mf8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vsmul_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, unsigned int vxrm,
                                  size_t vl);
vint8mf4_t __riscv_vsmul_vv_i8mf4(vint8mf4_t vs2, vint8mf4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, unsigned int vxrm,
                                  size_t vl);
vint8mf2_t __riscv_vsmul_vv_i8mf2(vint8mf2_t vs2, vint8mf2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, unsigned int vxrm,
                                  size_t vl);
vint8m1_t __riscv_vsmul_vv_i8m1(vint8m1_t vs2, vint8m1_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m1_t __riscv_vsmul_vx_i8m1(vint8m1_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m2_t __riscv_vsmul_vv_i8m2(vint8m2_t vs2, vint8m2_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m2_t __riscv_vsmul_vx_i8m2(vint8m2_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m4_t __riscv_vsmul_vv_i8m4(vint8m4_t vs2, vint8m4_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m4_t __riscv_vsmul_vx_i8m4(vint8m4_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m8_t __riscv_vsmul_vv_i8m8(vint8m8_t vs2, vint8m8_t vs1, unsigned int vxrm,
                                size_t vl);
vint8m8_t __riscv_vsmul_vx_i8m8(vint8m8_t vs2, int8_t rs1, unsigned int vxrm,
                                size_t vl);
vint16mf4_t __riscv_vsmul_vv_i16mf4(vint16mf4_t vs2, vint16mf4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_vx_i16mf4(vint16mf4_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_vv_i16mf2(vint16mf2_t vs2, vint16mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_vx_i16mf2(vint16mf2_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_vv_i16m1(vint16m1_t vs2, vint16m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_vx_i16m1(vint16m1_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_vv_i16m2(vint16m2_t vs2, vint16m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_vx_i16m2(vint16m2_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_vv_i16m4(vint16m4_t vs2, vint16m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_vx_i16m4(vint16m4_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_vv_i16m8(vint16m8_t vs2, vint16m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_vx_i16m8(vint16m8_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_vv_i32mf2(vint32mf2_t vs2, vint32mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_vx_i32mf2(vint32mf2_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_vv_i32m1(vint32m1_t vs2, vint32m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_vx_i32m1(vint32m1_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
```

```
vint32m2_t __riscv_vsmul_vv_i32m2(vint32m2_t vs2, vint32m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_vx_i32m2(vint32m2_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_vv_i32m4(vint32m4_t vs2, vint32m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_vx_i32m4(vint32m4_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_vv_i32m8(vint32m8_t vs2, vint32m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_vx_i32m8(vint32m8_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_vv_i64m1(vint64m1_t vs2, vint64m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_vx_i64m1(vint64m1_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_vv_i64m2(vint64m2_t vs2, vint64m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_vx_i64m2(vint64m2_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_vv_i64m4(vint64m4_t vs2, vint64m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_vx_i64m4(vint64m4_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_vv_i64m8(vint64m8_t vs2, vint64m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_vx_i64m8(vint64m8_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vsmul_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                    vint8mf8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf8_t __riscv_vsmul_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                    vint8mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf4_t __riscv_vsmul_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                    vint8mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf2_t __riscv_vsmul_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      vint16mf4_t vs1, unsigned int vxrm,
                                      size_t vl);
vint16mf4_t __riscv_vsmul_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      int16_t rs1, unsigned int vxrm,
                                      size_t vl);
vint16mf2_t __riscv_vsmul_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
```

```
                                    vint16mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16mf2_t __riscv_vsmul_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                    int16_t rs1, unsigned int vxrm,
                                    size_t vl);
vint16m1_t __riscv_vsmul_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                  vint16m1_t vs1, unsigned int vxrm,
                                  size_t vl);
vint16m1_t __riscv_vsmul_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                    vint32mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32mf2_t __riscv_vsmul_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                    int32_t rs1, unsigned int vxrm,
                                    size_t vl);
vint32m1_t __riscv_vsmul_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                  vint32m1_t vs1, unsigned int vxrm,
                                  size_t vl);
vint32m1_t __riscv_vsmul_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                  vint32m2_t vs1, unsigned int vxrm,
                                  size_t vl);
vint32m2_t __riscv_vsmul_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                  vint64m1_t vs1, unsigned int vxrm,
                                  size_t vl);
vint64m1_t __riscv_vsmul_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                  vint64m2_t vs1, unsigned int vxrm,
                                  size_t vl);
vint64m2_t __riscv_vsmul_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                  vint64m4_t vs1, unsigned int vxrm,
                                  size_t vl);
vint64m4_t __riscv_vsmul_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                                  unsigned int vxrm, size_t vl);
```

A.4.4. Vector Single-Width Scaling Shift Intrinsics

```
vint8mf8_t __riscv_vssra_vv_i8mf8(vint8mf8_t vs2, vuint8mf8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vssra_vx_i8mf8(vint8mf8_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint8mf4_t __riscv_vssra_vv_i8mf4(vint8mf4_t vs2, vuint8mf4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_vx_i8mf4(vint8mf4_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint8mf2_t __riscv_vssra_vv_i8mf2(vint8mf2_t vs2, vuint8mf2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_vx_i8mf2(vint8mf2_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint8m1_t __riscv_vssra_vv_i8m1(vint8m1_t vs2, vuint8m1_t vs1,
                                unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_vx_i8m1(vint8m1_t vs2, size_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m2_t __riscv_vssra_vv_i8m2(vint8m2_t vs2, vuint8m2_t vs1,
                                unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_vx_i8m2(vint8m2_t vs2, size_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m4_t __riscv_vssra_vv_i8m4(vint8m4_t vs2, vuint8m4_t vs1,
                                unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_vx_i8m4(vint8m4_t vs2, size_t rs1, unsigned int vxrm,
                                size_t vl);
vint8m8_t __riscv_vssra_vv_i8m8(vint8m8_t vs2, vuint8m8_t vs1,
                                unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_vx_i8m8(vint8m8_t vs2, size_t rs1, unsigned int vxrm,
                                size_t vl);
vint16mf4_t __riscv_vssra_vv_i16mf4(vint16mf4_t vs2, vuint16mf4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_vx_i16mf4(vint16mf4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_vv_i16mf2(vint16mf2_t vs2, vuint16mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_vx_i16mf2(vint16mf2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_vv_i16m1(vint16m1_t vs2, vuint16m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_vx_i16m1(vint16m1_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint16m2_t __riscv_vssra_vv_i16m2(vint16m2_t vs2, vuint16m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_vx_i16m2(vint16m2_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint16m4_t __riscv_vssra_vv_i16m4(vint16m4_t vs2, vuint16m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_vx_i16m4(vint16m4_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint16m8_t __riscv_vssra_vv_i16m8(vint16m8_t vs2, vuint16m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_vx_i16m8(vint16m8_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint32mf2_t __riscv_vssra_vv_i32mf2(vint32mf2_t vs2, vuint32mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_vx_i32mf2(vint32mf2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_vv_i32m1(vint32m1_t vs2, vuint32m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_vx_i32m1(vint32m1_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint32m2_t __riscv_vssra_vv_i32m2(vint32m2_t vs2, vuint32m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_vx_i32m2(vint32m2_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
```

```
vint32m4_t __riscv_vssra_vv_i32m4(vint32m4_t vs2, vuint32m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_vx_i32m4(vint32m4_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint32m8_t __riscv_vssra_vv_i32m8(vint32m8_t vs2, vuint32m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_vx_i32m8(vint32m8_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint64m1_t __riscv_vssra_vv_i64m1(vint64m1_t vs2, vuint64m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_vx_i64m1(vint64m1_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint64m2_t __riscv_vssra_vv_i64m2(vint64m2_t vs2, vuint64m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_vx_i64m2(vint64m2_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint64m4_t __riscv_vssra_vv_i64m4(vint64m4_t vs2, vuint64m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_vx_i64m4(vint64m4_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vint64m8_t __riscv_vssra_vv_i64m8(vint64m8_t vs2, vuint64m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_vx_i64m8(vint64m8_t vs2, size_t rs1, unsigned int vxrm,
                                  size_t vl);
vuint8mf8_t __riscv_vssrl_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_vx_u8mf8(vuint8mf8_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_vx_u8mf4(vuint8mf4_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_vx_u8mf2(vuint8mf2_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1,
                                 unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_vx_u8m1(vuint8m1_t vs2, size_t rs1, unsigned int vxrm,
                                 size_t vl);
vuint8m2_t __riscv_vssrl_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1,
                                 unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_vx_u8m2(vuint8m2_t vs2, size_t rs1, unsigned int vxrm,
                                 size_t vl);
vuint8m4_t __riscv_vssrl_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1,
                                 unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_vx_u8m4(vuint8m4_t vs2, size_t rs1, unsigned int vxrm,
                                 size_t vl);
vuint8m8_t __riscv_vssrl_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1,
                                 unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_vx_u8m8(vuint8m8_t vs2, size_t rs1, unsigned int vxrm,
                                 size_t vl);
vuint16mf4_t __riscv_vssrl_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_vx_u16mf4(vuint16mf4_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_vx_u16mf2(vuint16mf2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_vx_u16m1(vuint16m1_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_vx_u16m2(vuint16m2_t vs2, size_t rs1,
```

```
                                  unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_vx_u16m4(vuint16m4_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_vx_u16m8(vuint16m8_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_vx_u32mf2(vuint32mf2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_vx_u32m1(vuint32m1_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_vx_u32m2(vuint32m2_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_vx_u32m4(vuint32m4_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_vx_u32m8(vuint32m8_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_vx_u64m1(vuint64m1_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_vx_u64m2(vuint64m2_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_vx_u64m4(vuint64m4_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_vx_u64m8(vuint64m8_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vssra_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                   vuint8mf8_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8mf8_t __riscv_vssra_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                   vuint8mf4_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8mf4_t __riscv_vssra_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                   vuint8mf2_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8mf2_t __riscv_vssra_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vuint8m1_t vs1,
                                 unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, size_t rs1,
                                 unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vuint8m2_t vs1,
                                 unsigned int vxrm, size_t vl);
```

```
vint8m2_t __riscv_vssra_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vuint8m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vuint8m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                      vuint16mf4_t vs1, unsigned int vxrm,
                                      size_t vl);
vint16mf4_t __riscv_vssra_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                      vuint16mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vint16mf2_t __riscv_vssra_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                    vuint16m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16m1_t __riscv_vssra_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2,
                                    vuint16m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16m2_t __riscv_vssra_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2,
                                    vuint16m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16m4_t __riscv_vssra_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2,
                                    vuint16m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16m8_t __riscv_vssra_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                      vuint32mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vint32mf2_t __riscv_vssra_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                    vuint32m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m1_t __riscv_vssra_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                    vuint32m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m2_t __riscv_vssra_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2,
                                    vuint32m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m4_t __riscv_vssra_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2,
                                    vuint32m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m8_t __riscv_vssra_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                    vuint64m1_t vs1, unsigned int vxrm,
```

```
                                    size_t vl);
vint64m1_t __riscv_vssra_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                    vuint64m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m2_t __riscv_vssra_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                    vuint64m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m4_t __riscv_vssra_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2,
                                    vuint64m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m8_t __riscv_vssra_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint8mf8_t __riscv_vssrl_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint8mf4_t __riscv_vssrl_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint8mf2_t __riscv_vssrl_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, unsigned int vxrm,
                                       size_t vl);
vuint16mf4_t __riscv_vssrl_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       size_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint16mf2_t __riscv_vssrl_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vuint16mf2_t __riscv_vssrl_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       size_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint16m1_t __riscv_vssrl_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     vuint16m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint16m1_t __riscv_vssrl_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
```

```
                                    vuint16m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m2_t __riscv_vssrl_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                    vuint16m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m4_t __riscv_vssrl_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                    vuint16m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m8_t __riscv_vssrl_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint32mf2_t __riscv_vssrl_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                      size_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint32m1_t __riscv_vssrl_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                    vuint32m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m1_t __riscv_vssrl_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint32m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m2_t __riscv_vssrl_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint32m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m4_t __riscv_vssrl_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint32m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m8_t __riscv_vssrl_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                    vuint64m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m1_t __riscv_vssrl_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint64m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m2_t __riscv_vssrl_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                    vuint64m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m4_t __riscv_vssrl_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint64m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m8_t __riscv_vssrl_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
```

A.4.5. Vector Narrowing Fixed-Point Clip Intrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vnclip_wv_i8mf8(vint16mf4_t vs2, vuint8mf8_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vnclip_wx_i8mf8(vint16mf4_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_wv_i8mf4(vint16mf2_t vs2, vuint8mf4_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_wx_i8mf4(vint16mf2_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_wv_i8mf2(vint16m1_t vs2, vuint8mf2_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_wx_i8mf2(vint16m1_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_wv_i8m1(vint16m2_t vs2, vuint8m1_t vs1,
                                 unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_wx_i8m1(vint16m2_t vs2, size_t rs1, unsigned int vxrm,
                                 size_t vl);
vint8m2_t __riscv_vnclip_wv_i8m2(vint16m4_t vs2, vuint8m2_t vs1,
                                 unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_wx_i8m2(vint16m4_t vs2, size_t rs1, unsigned int vxrm,
                                 size_t vl);
vint8m4_t __riscv_vnclip_wv_i8m4(vint16m8_t vs2, vuint8m4_t vs1,
                                 unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_wx_i8m4(vint16m8_t vs2, size_t rs1, unsigned int vxrm,
                                 size_t vl);
vint16mf4_t __riscv_vnclip_wv_i16mf4(vint32mf2_t vs2, vuint16mf4_t vs1,
                                     unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_wx_i16mf4(vint32mf2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_wv_i16mf2(vint32m1_t vs2, vuint16mf2_t vs1,
                                     unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_wx_i16mf2(vint32m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_wv_i16m1(vint32m2_t vs2, vuint16m1_t vs1,
                                   unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_wx_i16m1(vint32m2_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_wv_i16m2(vint32m4_t vs2, vuint16m2_t vs1,
                                   unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_wx_i16m2(vint32m4_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_wv_i16m4(vint32m8_t vs2, vuint16m4_t vs1,
                                   unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_wx_i16m4(vint32m8_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_wv_i32mf2(vint64m1_t vs2, vuint32mf2_t vs1,
                                     unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_wx_i32mf2(vint64m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_wv_i32m1(vint64m2_t vs2, vuint32m1_t vs1,
                                   unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_wx_i32m1(vint64m2_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_wv_i32m2(vint64m4_t vs2, vuint32m2_t vs1,
                                   unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_wx_i32m2(vint64m4_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_wv_i32m4(vint64m8_t vs2, vuint32m4_t vs1,
                                   unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_wx_i32m4(vint64m8_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_wv_u8mf8(vuint16mf4_t vs2, vuint8mf8_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_wx_u8mf8(vuint16mf4_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_wv_u8mf4(vuint16mf2_t vs2, vuint8mf4_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_wx_u8mf4(vuint16mf2_t vs2, size_t rs1,
```

```
                                    unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_wv_u8mf2(vuint16m1_t vs2, vuint8mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_wx_u8mf2(vuint16m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_wv_u8m1(vuint16m2_t vs2, vuint8m1_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_wx_u8m1(vuint16m2_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_wv_u8m2(vuint16m4_t vs2, vuint8m2_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_wx_u8m2(vuint16m4_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_wv_u8m4(vuint16m8_t vs2, vuint8m4_t vs1,
                                   unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_wx_u8m4(vuint16m8_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_wv_u16mf4(vuint32mf2_t vs2, vuint16mf4_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_wx_u16mf4(vuint32mf2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_wv_u16mf2(vuint32m1_t vs2, vuint16mf2_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_wx_u16mf2(vuint32m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_wv_u16m1(vuint32m2_t vs2, vuint16m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_wx_u16m1(vuint32m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_wv_u16m2(vuint32m4_t vs2, vuint16m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_wx_u16m2(vuint32m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_wv_u16m4(vuint32m8_t vs2, vuint16m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_wx_u16m4(vuint32m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_wv_u32mf2(vuint64m1_t vs2, vuint32mf2_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_wx_u32mf2(vuint64m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_wv_u32m1(vuint64m2_t vs2, vuint32m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_wx_u32m1(vuint64m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_wv_u32m2(vuint64m4_t vs2, vuint32m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_wx_u32m2(vuint64m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_wv_u32m4(vuint64m8_t vs2, vuint32m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_wx_u32m4(vuint64m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vnclip_wv_i8mf8_m(vbool64_t vm, vint16mf4_t vs2,
                                    vuint8mf8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf8_t __riscv_vnclip_wx_i8mf8_m(vbool64_t vm, vint16mf4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_wv_i8mf4_m(vbool32_t vm, vint16mf2_t vs2,
                                    vuint8mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf4_t __riscv_vnclip_wx_i8mf4_m(vbool32_t vm, vint16mf2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_wv_i8mf2_m(vbool16_t vm, vint16m1_t vs2,
                                    vuint8mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
```

```
vint8mf2_t __riscv_vnclip_wx_i8mf2_m(vbool16_t vm, vint16m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_wv_i8m1_m(vbool8_t vm, vint16m2_t vs2, vuint8m1_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_wx_i8m1_m(vbool8_t vm, vint16m2_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_wv_i8m2_m(vbool4_t vm, vint16m4_t vs2, vuint8m2_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_wx_i8m2_m(vbool4_t vm, vint16m4_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_wv_i8m4_m(vbool2_t vm, vint16m8_t vs2, vuint8m4_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_wx_i8m4_m(vbool2_t vm, vint16m8_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_wv_i16mf4_m(vbool64_t vm, vint32mf2_t vs2,
                                       vuint16mf4_t vs1, unsigned int vxrm,
                                       size_t vl);
vint16mf4_t __riscv_vnclip_wx_i16mf4_m(vbool64_t vm, vint32mf2_t vs2,
                                       size_t rs1, unsigned int vxrm,
                                       size_t vl);
vint16mf2_t __riscv_vnclip_wv_i16mf2_m(vbool32_t vm, vint32m1_t vs2,
                                       vuint16mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vint16mf2_t __riscv_vnclip_wx_i16mf2_m(vbool32_t vm, vint32m1_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_wv_i16m1_m(vbool16_t vm, vint32m2_t vs2,
                                     vuint16m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m1_t __riscv_vnclip_wx_i16m1_m(vbool16_t vm, vint32m2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_wv_i16m2_m(vbool8_t vm, vint32m4_t vs2,
                                     vuint16m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m2_t __riscv_vnclip_wx_i16m2_m(vbool8_t vm, vint32m4_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_wv_i16m4_m(vbool4_t vm, vint32m8_t vs2,
                                     vuint16m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m4_t __riscv_vnclip_wx_i16m4_m(vbool4_t vm, vint32m8_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_wv_i32mf2_m(vbool64_t vm, vint64m1_t vs2,
                                       vuint32mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vint32mf2_t __riscv_vnclip_wx_i32mf2_m(vbool64_t vm, vint64m1_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_wv_i32m1_m(vbool32_t vm, vint64m2_t vs2,
                                     vuint32m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m1_t __riscv_vnclip_wx_i32m1_m(vbool32_t vm, vint64m2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_wv_i32m2_m(vbool16_t vm, vint64m4_t vs2,
                                     vuint32m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m2_t __riscv_vnclip_wx_i32m2_m(vbool16_t vm, vint64m4_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_wv_i32m4_m(vbool8_t vm, vint64m8_t vs2,
                                     vuint32m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m4_t __riscv_vnclip_wx_i32m4_m(vbool8_t vm, vint64m8_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_wv_u8mf8_m(vbool64_t vm, vuint16mf4_t vs2,
                                       vuint8mf8_t vs1, unsigned int vxrm,
                                       size_t vl);
vuint8mf8_t __riscv_vnclipu_wx_u8mf8_m(vbool64_t vm, vuint16mf4_t vs2,
                                       size_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint8mf4_t __riscv_vnclipu_wv_u8mf4_m(vbool32_t vm, vuint16mf2_t vs2,
```

```
                                    vuint8mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf4_t __riscv_vnclipu_wx_u8mf4_m(vbool32_t vm, vuint16mf2_t vs2,
                                    size_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf2_t __riscv_vnclipu_wv_u8mf2_m(vbool16_t vm, vuint16m1_t vs2,
                                    vuint8mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf2_t __riscv_vnclipu_wx_u8mf2_m(vbool16_t vm, vuint16m1_t vs2,
                                    size_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint8m1_t __riscv_vnclipu_wv_u8m1_m(vbool8_t vm, vuint16m2_t vs2,
                                   vuint8m1_t vs1, unsigned int vxrm,
                                   size_t vl);
vuint8m1_t __riscv_vnclipu_wx_u8m1_m(vbool8_t vm, vuint16m2_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_wv_u8m2_m(vbool4_t vm, vuint16m4_t vs2,
                                   vuint8m2_t vs1, unsigned int vxrm,
                                   size_t vl);
vuint8m2_t __riscv_vnclipu_wx_u8m2_m(vbool4_t vm, vuint16m4_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_wv_u8m4_m(vbool2_t vm, vuint16m8_t vs2,
                                   vuint8m4_t vs1, unsigned int vxrm,
                                   size_t vl);
vuint8m4_t __riscv_vnclipu_wx_u8m4_m(vbool2_t vm, vuint16m8_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_wv_u16mf4_m(vbool64_t vm, vuint32mf2_t vs2,
                                      vuint16mf4_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint16mf4_t __riscv_vnclipu_wx_u16mf4_m(vbool64_t vm, vuint32mf2_t vs2,
                                      size_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint16mf2_t __riscv_vnclipu_wv_u16mf2_m(vbool32_t vm, vuint32m1_t vs2,
                                      vuint16mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint16mf2_t __riscv_vnclipu_wx_u16mf2_m(vbool32_t vm, vuint32m1_t vs2,
                                      size_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint16m1_t __riscv_vnclipu_wv_u16m1_m(vbool16_t vm, vuint32m2_t vs2,
                                    vuint16m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m1_t __riscv_vnclipu_wx_u16m1_m(vbool16_t vm, vuint32m2_t vs2,
                                    size_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint16m2_t __riscv_vnclipu_wv_u16m2_m(vbool8_t vm, vuint32m4_t vs2,
                                    vuint16m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m2_t __riscv_vnclipu_wx_u16m2_m(vbool8_t vm, vuint32m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_wv_u16m4_m(vbool4_t vm, vuint32m8_t vs2,
                                    vuint16m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint16m4_t __riscv_vnclipu_wx_u16m4_m(vbool4_t vm, vuint32m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_wv_u32mf2_m(vbool64_t vm, vuint64m1_t vs2,
                                      vuint32mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint32mf2_t __riscv_vnclipu_wx_u32mf2_m(vbool64_t vm, vuint64m1_t vs2,
                                      size_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint32m1_t __riscv_vnclipu_wv_u32m1_m(vbool32_t vm, vuint64m2_t vs2,
                                    vuint32m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m1_t __riscv_vnclipu_wx_u32m1_m(vbool32_t vm, vuint64m2_t vs2,
                                    size_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32m2_t __riscv_vnclipu_wv_u32m2_m(vbool16_t vm, vuint64m4_t vs2,
```

```
                                    vuint32m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m2_t __riscv_vnclipu_wx_u32m2_m(vbool16_t vm, vuint64m4_t vs2,
                                    size_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32m4_t __riscv_vnclipu_wv_u32m4_m(vbool8_t vm, vuint64m8_t vs2,
                                    vuint32m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m4_t __riscv_vnclipu_wx_u32m4_m(vbool8_t vm, vuint64m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
```

A.5. Vector Floating-Point Intrinsics

A.5.1. Vector Single-Width Floating-Point Add/Subtract Intrinsics

```
vfloat16mf4_t __riscv_vfadd_vv_f16mf4(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                    size_t vl);
vfloat16mf4_t __riscv_vfadd_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                    size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                    size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
vfloat16m1_t __riscv_vfadd_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                   size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                   size_t vl);
vfloat16m4_t __riscv_vfadd_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                   size_t vl);
vfloat16m8_t __riscv_vfadd_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                    size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                   size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                   size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfadd_vv_f32m8(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                   size_t vl);
vfloat32m8_t __riscv_vfadd_vf_f32m8(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfadd_vv_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                   size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                   size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                   size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                   size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
```

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                                     size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                     size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                     size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                     size_t vl);
vfloat16m1_t __riscv_vfsub_vv_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                    size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                     size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsub_vv_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsub_vv_f32m2(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                    size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                    size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsub_vv_f64m4(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfrsub_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfrsub_vf_f32m2(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfrsub_vf_f64m2(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfneg_v_f16mf4(vfloat16mf4_t vs, size_t vl);
vfloat16mf2_t __riscv_vfneg_v_f16mf2(vfloat16mf2_t vs, size_t vl);
vfloat16m1_t __riscv_vfneg_v_f16m1(vfloat16m1_t vs, size_t vl);
vfloat16m2_t __riscv_vfneg_v_f16m2(vfloat16m2_t vs, size_t vl);
```

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vfloat16m4_t __riscv_vfneg_v_f16m4(vfloat16m4_t vs, size_t vl);
vfloat16m8_t __riscv_vfneg_v_f16m8(vfloat16m8_t vs, size_t vl);
vfloat32mf2_t __riscv_vfneg_v_f32mf2(vfloat32mf2_t vs, size_t vl);
vfloat32m1_t __riscv_vfneg_v_f32m1(vfloat32m1_t vs, size_t vl);
vfloat32m2_t __riscv_vfneg_v_f32m2(vfloat32m2_t vs, size_t vl);
vfloat32m4_t __riscv_vfneg_v_f32m4(vfloat32m4_t vs, size_t vl);
vfloat32m8_t __riscv_vfneg_v_f32m8(vfloat32m8_t vs, size_t vl);
vfloat64m1_t __riscv_vfneg_v_f64m1(vfloat64m1_t vs, size_t vl);
vfloat64m2_t __riscv_vfneg_v_f64m2(vfloat64m2_t vs, size_t vl);
vfloat64m4_t __riscv_vfneg_v_f64m4(vfloat64m4_t vs, size_t vl);
vfloat64m8_t __riscv_vfneg_v_f64m8(vfloat64m8_t vs, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfadd_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                      vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfadd_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                      vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                      vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfadd_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                      vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfadd_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                      vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                      vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                      vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfadd_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                      vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfadd_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfadd_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                      vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                      double rs1, size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                      vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                      double rs1, size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                      vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
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                                    double rs1, size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                    vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                    size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                      vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                      vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsub_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                    vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                    vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                    vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                    vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                      vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                      float rs1, size_t vl);
vfloat32m1_t __riscv_vfsub_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                                    size_t vl);
vfloat32m2_t __riscv_vfsub_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                    vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                    vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                    vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                    vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                    double rs1, size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                    vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                    double rs1, size_t vl);
vfloat64m4_t __riscv_vfsub_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                    vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                    double rs1, size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                    vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                    size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                       _Float16 rs1, size_t vl);
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vfloat16mf2_t __riscv_vfrsub_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                         float rs1, size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vfloat32m2_t __riscv_vfrsub_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                       size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                       size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vfloat64m2_t __riscv_vfrsub_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                       double rs1, size_t vl);
vfloat16mf4_t __riscv_vfneg_v_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs,
                                       size_t vl);
vfloat16mf2_t __riscv_vfneg_v_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs,
                                       size_t vl);
vfloat16m1_t __riscv_vfneg_v_f16m1_m(vbool16_t vm, vfloat16m1_t vs, size_t vl);
vfloat16m2_t __riscv_vfneg_v_f16m2_m(vbool8_t vm, vfloat16m2_t vs, size_t vl);
vfloat16m4_t __riscv_vfneg_v_f16m4_m(vbool4_t vm, vfloat16m4_t vs, size_t vl);
vfloat16m8_t __riscv_vfneg_v_f16m8_m(vbool2_t vm, vfloat16m8_t vs, size_t vl);
vfloat32mf2_t __riscv_vfneg_v_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs,
                                       size_t vl);
vfloat32m1_t __riscv_vfneg_v_f32m1_m(vbool32_t vm, vfloat32m1_t vs, size_t vl);
vfloat32m2_t __riscv_vfneg_v_f32m2_m(vbool16_t vm, vfloat32m2_t vs, size_t vl);
vfloat32m4_t __riscv_vfneg_v_f32m4_m(vbool8_t vm, vfloat32m4_t vs, size_t vl);
vfloat32m8_t __riscv_vfneg_v_f32m8_m(vbool4_t vm, vfloat32m8_t vs, size_t vl);
vfloat64m1_t __riscv_vfneg_v_f64m1_m(vbool64_t vm, vfloat64m1_t vs, size_t vl);
vfloat64m2_t __riscv_vfneg_v_f64m2_m(vbool32_t vm, vfloat64m2_t vs, size_t vl);
vfloat64m4_t __riscv_vfneg_v_f64m4_m(vbool16_t vm, vfloat64m4_t vs, size_t vl);
vfloat64m8_t __riscv_vfneg_v_f64m8_m(vbool8_t vm, vfloat64m8_t vs, size_t vl);
vfloat16mf4_t __riscv_vfadd_vv_f16mf4_rm(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfadd_vf_f16mf4_rm(vfloat16mf4_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2_rm(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2_rm(vfloat16mf2_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1_rm(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                       unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_vf_f16m1_rm(vfloat16m1_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2_rm(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                       unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2_rm(vfloat16m2_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4_rm(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                       unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_vf_f16m4_rm(vfloat16m4_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8_rm(vfloat16m8_t vs2, vfloat16m8_t vs1,
```

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                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_vf_f16m8_rm(vfloat16m8_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2_rm(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2_rm(vfloat32mf2_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1_rm(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1_rm(vfloat32m1_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2_rm(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2_rm(vfloat32m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4_rm(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4_rm(vfloat32m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_vv_f32m8_rm(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_vf_f32m8_rm(vfloat32m8_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_vv_f64m1_rm(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1_rm(vfloat64m1_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2_rm(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2_rm(vfloat64m2_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4_rm(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4_rm(vfloat64m4_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8_rm(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8_rm(vfloat64m8_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4_rm(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4_rm(vfloat16mf4_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2_rm(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2_rm(vfloat16mf2_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_vv_f16m1_rm(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1_rm(vfloat16m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2_rm(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2_rm(vfloat16m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4_rm(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4_rm(vfloat16m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8_rm(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8_rm(vfloat16m8_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2_rm(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2_rm(vfloat32mf2_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
```

```
vfloat32m1_t __riscv_vfsub_vv_f32m1_rm(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1_rm(vfloat32m1_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_vv_f32m2_rm(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2_rm(vfloat32m2_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4_rm(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4_rm(vfloat32m4_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8_rm(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8_rm(vfloat32m8_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1_rm(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1_rm(vfloat64m1_t vs2, double rs1,
                                       unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2_rm(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2_rm(vfloat64m2_t vs2, double rs1,
                                       unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_vv_f64m4_rm(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4_rm(vfloat64m4_t vs2, double rs1,
                                       unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8_rm(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8_rm(vfloat64m8_t vs2, double rs1,
                                       unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4_rm(vfloat16mf4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrsub_vf_f16mf2_rm(vfloat16mf2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1_rm(vfloat16m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2_rm(vfloat16m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4_rm(vfloat16m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8_rm(vfloat16m8_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2_rm(vfloat32mf2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1_rm(vfloat32m1_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrsub_vf_f32m2_rm(vfloat32m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4_rm(vfloat32m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8_rm(vfloat32m8_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1_rm(vfloat64m1_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrsub_vf_f64m2_rm(vfloat64m2_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4_rm(vfloat64m4_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8_rm(vfloat64m8_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                           vfloat16mf4_t vs1, unsigned int frm,
                                           size_t vl);
vfloat16mf4_t __riscv_vfadd_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
```

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                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                      vfloat16m1_t vs1, unsigned int frm,
                                      size_t vl);
vfloat16m1_t __riscv_vfadd_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                      _Float16 rs1, unsigned int frm,
                                      size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                      vfloat16m2_t vs1, unsigned int frm,
                                      size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                      _Float16 rs1, unsigned int frm,
                                      size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                      vfloat16m4_t vs1, unsigned int frm,
                                      size_t vl);
vfloat16m4_t __riscv_vfadd_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                      _Float16 rs1, unsigned int frm,
                                      size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                      vfloat16m8_t vs1, unsigned int frm,
                                      size_t vl);
vfloat16m8_t __riscv_vfadd_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                      _Float16 rs1, unsigned int frm,
                                      size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                      vfloat32m1_t vs1, unsigned int frm,
                                      size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                      float rs1, unsigned int frm,
                                      size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                      vfloat32m2_t vs1, unsigned int frm,
                                      size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                      float rs1, unsigned int frm,
                                      size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                      vfloat32m4_t vs1, unsigned int frm,
                                      size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                      float rs1, unsigned int frm,
                                      size_t vl);
vfloat32m8_t __riscv_vfadd_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                      vfloat32m8_t vs1, unsigned int frm,
                                      size_t vl);
vfloat32m8_t __riscv_vfadd_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                      float rs1, unsigned int frm,
                                      size_t vl);
vfloat64m1_t __riscv_vfadd_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                      vfloat64m1_t vs1, unsigned int frm,
                                      size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                      double rs1, unsigned int frm,
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                                        size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                        vfloat64m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                        vfloat64m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                        vfloat64m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m1_t __riscv_vfsub_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                        vfloat16m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                        vfloat16m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                        vfloat16m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfsub_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
```

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vfloat32m2_t __riscv_vfsub_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                         vfloat32m2_t vs1, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                         float rs1, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                         vfloat32m4_t vs1, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                         float rs1, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                         vfloat32m8_t vs1, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                         float rs1, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                         vfloat64m1_t vs1, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                         double rs1, unsigned int frm,
                                         size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                         vfloat64m2_t vs1, unsigned int frm,
                                         size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                         double rs1, unsigned int frm,
                                         size_t vl);
vfloat64m4_t __riscv_vfsub_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                         vfloat64m4_t vs1, unsigned int frm,
                                         size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                         double rs1, unsigned int frm,
                                         size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                         vfloat64m8_t vs1, unsigned int frm,
                                         size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                         double rs1, unsigned int frm,
                                         size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                            _Float16 rs1, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfrsub_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                            _Float16 rs1, unsigned int frm,
                                            size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            float rs1, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfrsub_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
```

```
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfrsub_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
```

A.5.2. Vector Widening Floating-Point Add/Subtract Intrinsics

```
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2(vfloat16mf4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2(vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2(vfloat32mf2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                     size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1(vfloat16mf2_t vs2, _Float16 rs1,
                                     size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1(vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                     size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_f32m1(vfloat32m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2(vfloat32m2_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2(vfloat32m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                     size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4(vfloat32m4_t vs2, vfloat16m2_t vs1,
                                     size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_f32m4(vfloat32m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                     size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8(vfloat32m8_t vs2, vfloat16m4_t vs1,
                                     size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8(vfloat32m8_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                     size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1(vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                     size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1(vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2(vfloat32m1_t vs2, float rs1, size_t vl);
```

```
vfloat64m2_t __riscv_vfwadd_wv_f64m2(vfloat64m2_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2(vfloat64m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4(vfloat64m4_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_f64m4(vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                     size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_f64m8(vfloat64m8_t vs2, vfloat32m4_t vs1,
                                     size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8(vfloat64m8_t vs2, float rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2(vfloat16mf4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2(vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2(vfloat32mf2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                     size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1(vfloat16mf2_t vs2, _Float16 rs1,
                                     size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1(vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                     size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1(vfloat32m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_f32m2(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2(vfloat32m2_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2(vfloat32m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                     size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4(vfloat32m4_t vs2, vfloat16m2_t vs1,
                                     size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_f32m4(vfloat32m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                     size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8(vfloat32m8_t vs2, vfloat16m4_t vs1,
                                     size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8(vfloat32m8_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                     size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_f64m1(vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                     size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_f64m1(vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2(vfloat64m2_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2(vfloat64m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_f64m4(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_f64m4(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4(vfloat64m4_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_f64m4(vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8(vfloat32m4_t vs2, vfloat32m4_t vs1,
```

```
                                      size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8(vfloat64m8_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8(vfloat64m8_t vs2, float rs1, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2_m(vbool64_t vm, vfloat16mf4_t vs2,
                                         vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2_m(vbool64_t vm, vfloat16mf4_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                         vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                       vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                       vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2_m(vbool16_t vm, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2_m(vbool16_t vm, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4_m(vbool8_t vm, vfloat16m2_t vs2,
                                       vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4_m(vbool8_t vm, vfloat16m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                       vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8_m(vbool4_t vm, vfloat16m4_t vs2,
                                       vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8_m(vbool4_t vm, vfloat16m4_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                       vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                       vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                       float rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                       vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                       float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2_m(vbool32_t vm, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2_m(vbool32_t vm, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                       float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4_m(vbool16_t vm, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4_m(vbool16_t vm, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
```

```
                                    vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                    float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8_m(vbool8_t vm, vfloat32m4_t vs2,
                                    vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                    vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2, float rs1,
                                    size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2_m(vbool64_t vm, vfloat16mf4_t vs2,
                                      vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2_m(vbool64_t vm, vfloat16mf4_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                      vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                    vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                    vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2_m(vbool16_t vm, vfloat16m1_t vs2,
                                    vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_f32m2_m(vbool16_t vm, vfloat16m1_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                    vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4_m(vbool8_t vm, vfloat16m2_t vs2,
                                    vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4_m(vbool8_t vm, vfloat16m2_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                    vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8_m(vbool4_t vm, vfloat16m4_t vs2,
                                    vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8_m(vbool4_t vm, vfloat16m4_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                    vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                    vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                    float rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                    vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                    float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2_m(vbool32_t vm, vfloat32m1_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2_m(vbool32_t vm, vfloat32m1_t vs2,
                                    float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                    float rs1, size_t vl);
```

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vfloat64m4_t __riscv_vfwsub_vv_f64m4_m(vbool16_t vm, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_f64m4_m(vbool16_t vm, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                       float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8_m(vbool8_t vm, vfloat32m4_t vs2,
                                       vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                       size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                       vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2, float rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2_rm(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2_rm(vfloat16mf4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2_rm(vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2_rm(vfloat32mf2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1_rm(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1_rm(vfloat16mf2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1_rm(vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_f32m1_rm(vfloat32m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2_rm(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2_rm(vfloat16m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2_rm(vfloat32m2_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2_rm(vfloat32m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4_rm(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4_rm(vfloat16m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4_rm(vfloat32m4_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_f32m4_rm(vfloat32m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8_rm(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8_rm(vfloat16m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8_rm(vfloat32m8_t vs2, vfloat16m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8_rm(vfloat32m8_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1_rm(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1_rm(vfloat32mf2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1_rm(vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1_rm(vfloat64m1_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2_rm(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2_rm(vfloat32m1_t vs2, float rs1,
```

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                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_f64m2_rm(vfloat64m2_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2_rm(vfloat64m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4_rm(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4_rm(vfloat32m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4_rm(vfloat64m4_t vs2, vfloat32m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_f64m4_rm(vfloat64m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8_rm(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8_rm(vfloat32m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_f64m8_rm(vfloat64m8_t vs2, vfloat32m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8_rm(vfloat64m8_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2_rm(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2_rm(vfloat16mf4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2_rm(vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2_rm(vfloat32mf2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1_rm(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1_rm(vfloat16mf2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1_rm(vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1_rm(vfloat32m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2_rm(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_f32m2_rm(vfloat16m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2_rm(vfloat32m2_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2_rm(vfloat32m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4_rm(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4_rm(vfloat16m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4_rm(vfloat32m4_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_f32m4_rm(vfloat32m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8_rm(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8_rm(vfloat16m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8_rm(vfloat32m8_t vs2, vfloat16m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8_rm(vfloat32m8_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1_rm(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1_rm(vfloat32mf2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_f64m1_rm(vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                        unsigned int frm, size_t vl);
```

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vfloat64m1_t __riscv_vfwsub_wf_f64m1_rm(vfloat64m1_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2_rm(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2_rm(vfloat32m1_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2_rm(vfloat64m2_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2_rm(vfloat64m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_f64m4_rm(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_f64m4_rm(vfloat32m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4_rm(vfloat64m4_t vs2, vfloat32m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_f64m4_rm(vfloat64m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8_rm(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8_rm(vfloat32m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8_rm(vfloat64m8_t vs2, vfloat32m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8_rm(vfloat64m8_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                            _Float16 rs1, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            vfloat16mf4_t vs1, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            _Float16 rs1, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                          vfloat16mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                          vfloat16m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                          vfloat16m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                          vfloat16m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4_rm_m(vbool8_t vm, vfloat16m2_t vs2,
```

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                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                        vfloat16m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                        vfloat16m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                        vfloat32mf2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                        vfloat32m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                        vfloat32m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                        vfloat32m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                        vfloat32m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                        vfloat32m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                        float rs1, unsigned int frm,
```

```
                                          size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                            _Float16 rs1, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            vfloat16mf4_t vs1, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            _Float16 rs1, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                          vfloat16mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                          vfloat16m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_f32m2_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                          vfloat16m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                          vfloat16m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                          vfloat16m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                          vfloat16m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                          vfloat16m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
```

```
vfloat64m1_t __riscv_vfwsub_wv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                          vfloat32m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                          vfloat32m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_f64m4_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                          vfloat32m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_f64m4_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                          vfloat32m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                          vfloat32m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                          vfloat32m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
```

A.5.3. Vector Single-Width Floating-Point Multiply/Divide Intrinsics

```
vfloat16mf4_t __riscv_vfmul_vv_f16mf4(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfmul_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmul_vv_f16m8(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                    size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
```

```
vfloat32mf2_t __riscv_vfmul_vv_f32mf2(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfmul_vf_f32mf2(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfmul_vf_f32m1(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmul_vv_f32m2(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                    size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfmul_vf_f32m8(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                    size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfmul_vv_f64m4(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfdiv_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                    size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfdiv_vf_f32m1(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                    size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_vv_f32m8(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                    size_t vl);
```

```
vfloat64m2_t __riscv_vfdiv_vf_f64m2(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vfdiv_vf_f64m4(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrdiv_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfrdiv_vf_f32m4(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfrdiv_vf_f32m8(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8(vfloat64m8_t vs2, double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmul_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                      vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                      vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                      vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmul_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                      vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmul_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmul_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                      vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmul_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfmul_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                      vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                      vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                      vfloat32m8_t vs1, size_t vl);
```

```
vfloat32m8_t __riscv_vfmul_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                      vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                      double rs1, size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                      vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                      double rs1, size_t vl);
vfloat64m4_t __riscv_vfmul_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                      vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                      double rs1, size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                      vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                      size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                      vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                      vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                      vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                      vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                      vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                      vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                      vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfdiv_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                      vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                      vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                      double rs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
```

```
                                      vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                      double rs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                      vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                      double rs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                      vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                      size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrdiv_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                         float rs1, size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vfloat32m4_t __riscv_vfrdiv_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                       size_t vl);
vfloat32m8_t __riscv_vfrdiv_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                       size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                       double rs1, size_t vl);
vfloat16mf4_t __riscv_vfmul_vv_f16mf4_rm(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4_rm(vfloat16mf4_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2_rm(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_vf_f16mf2_rm(vfloat16mf2_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1_rm(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                       unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1_rm(vfloat16m1_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2_rm(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                       unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2_rm(vfloat16m2_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4_rm(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                       unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4_rm(vfloat16m4_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_vv_f16m8_rm(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                       unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8_rm(vfloat16m8_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_vv_f32mf2_rm(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         unsigned int frm, size_t vl);
```

```
vfloat32mf2_t __riscv_vfmul_vf_f32mf2_rm(vfloat32mf2_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1_rm(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_vf_f32m1_rm(vfloat32m1_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_vv_f32m2_rm(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2_rm(vfloat32m2_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4_rm(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4_rm(vfloat32m4_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8_rm(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_vf_f32m8_rm(vfloat32m8_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1_rm(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1_rm(vfloat64m1_t vs2, double rs1,
                                       unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2_rm(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2_rm(vfloat64m2_t vs2, double rs1,
                                       unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_vv_f64m4_rm(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4_rm(vfloat64m4_t vs2, double rs1,
                                       unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8_rm(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8_rm(vfloat64m8_t vs2, double rs1,
                                       unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4_rm(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4_rm(vfloat16mf4_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2_rm(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2_rm(vfloat16mf2_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1_rm(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                       unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_vf_f16m1_rm(vfloat16m1_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2_rm(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                       unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2_rm(vfloat16m2_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4_rm(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                       unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4_rm(vfloat16m4_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8_rm(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                       unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8_rm(vfloat16m8_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2_rm(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2_rm(vfloat32mf2_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1_rm(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_vf_f32m1_rm(vfloat32m1_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2_rm(vfloat32m2_t vs2, vfloat32m2_t vs1,
```

```
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2_rm(vfloat32m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4_rm(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4_rm(vfloat32m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_vv_f32m8_rm(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8_rm(vfloat32m8_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1_rm(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1_rm(vfloat64m1_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2_rm(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_vf_f64m2_rm(vfloat64m2_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4_rm(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_vf_f64m4_rm(vfloat64m4_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8_rm(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8_rm(vfloat64m8_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4_rm(vfloat16mf4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2_rm(vfloat16mf2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1_rm(vfloat16m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrdiv_vf_f16m2_rm(vfloat16m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4_rm(vfloat16m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8_rm(vfloat16m8_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2_rm(vfloat32mf2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1_rm(vfloat32m1_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2_rm(vfloat32m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrdiv_vf_f32m4_rm(vfloat32m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrdiv_vf_f32m8_rm(vfloat32m8_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1_rm(vfloat64m1_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2_rm(vfloat64m2_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4_rm(vfloat64m4_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8_rm(vfloat64m8_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                           vfloat16mf4_t vs1, unsigned int frm,
                                           size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                           vfloat16mf2_t vs1, unsigned int frm,
                                           size_t vl);
```

```
vfloat16mf2_t __riscv_vfmul_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                         vfloat16m1_t vs1, unsigned int frm,
                                         size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                         vfloat16m2_t vs1, unsigned int frm,
                                         size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                         vfloat16m4_t vs1, unsigned int frm,
                                         size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat16m8_t __riscv_vfmul_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                         vfloat16m8_t vs1, unsigned int frm,
                                         size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat32mf2_t __riscv_vfmul_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                           vfloat32mf2_t vs1, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfmul_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                           float rs1, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                         vfloat32m1_t vs1, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfmul_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                         float rs1, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfmul_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                         vfloat32m2_t vs1, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                         float rs1, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                         vfloat32m4_t vs1, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                         float rs1, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                         vfloat32m8_t vs1, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfmul_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                         float rs1, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                         vfloat64m1_t vs1, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                         double rs1, unsigned int frm,
                                         size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                         vfloat64m2_t vs1, unsigned int frm,
                                         size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
```

```
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfmul_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                        vfloat64m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                        vfloat64m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                        vfloat16m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m1_t __riscv_vfdiv_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                        vfloat16m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                        vfloat16m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfdiv_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                        vfloat32m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                        float rs1, unsigned int frm,
```

```
                                        size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                        vfloat32m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfdiv_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                        vfloat32m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                        vfloat64m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                        vfloat64m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfdiv_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                        vfloat64m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfdiv_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                        vfloat64m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat16m2_t __riscv_vfrdiv_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                           float rs1, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                         float rs1, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                         float rs1, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfrdiv_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                         float rs1, unsigned int frm,
                                         size_t vl);
```

```
vfloat32m8_t __riscv_vfrdiv_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
```

A.5.4. Vector Widening Floating-Point Multiply Intrinsics

```
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2(vfloat16mf4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                     size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1(vfloat16mf2_t vs2, _Float16 rs1,
                                     size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vfloat32m2_t __riscv_vfwmul_vf_f32m2(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                     size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                     size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                     size_t vl);
vfloat64m1_t __riscv_vfwmul_vf_f64m1(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                     size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8(vfloat32m4_t vs2, float rs1, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2_m(vbool64_t vm, vfloat16mf4_t vs2,
                                         vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2_m(vbool64_t vm, vfloat16mf4_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                       vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2_m(vbool16_t vm, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwmul_vf_f32m2_m(vbool16_t vm, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4_m(vbool8_t vm, vfloat16m2_t vs2,
                                       vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4_m(vbool8_t vm, vfloat16m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8_m(vbool4_t vm, vfloat16m4_t vs2,
```

```
                                      vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8_m(vbool4_t vm, vfloat16m4_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                      vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwmul_vf_f64m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                      float rs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2_m(vbool32_t vm, vfloat32m1_t vs2,
                                      vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2_m(vbool32_t vm, vfloat32m1_t vs2,
                                      float rs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4_m(vbool16_t vm, vfloat32m2_t vs2,
                                      vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4_m(vbool16_t vm, vfloat32m2_t vs2,
                                      float rs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8_m(vbool8_t vm, vfloat32m4_t vs2,
                                      vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2_rm(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2_rm(vfloat16mf4_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1_rm(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1_rm(vfloat16mf2_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2_rm(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_vf_f32m2_rm(vfloat16m1_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4_rm(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4_rm(vfloat16m2_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8_rm(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                       unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8_rm(vfloat16m4_t vs2, _Float16 rs1,
                                       unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1_rm(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_vf_f64m1_rm(vfloat32mf2_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2_rm(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2_rm(vfloat32m1_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4_rm(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4_rm(vfloat32m2_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8_rm(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                       unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8_rm(vfloat32m4_t vs2, float rs1,
                                       unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                           vfloat16mf4_t vs1, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                         vfloat16mf2_t vs1, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                         _Float16 rs1, unsigned int frm,
```

```
                                        size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                        vfloat16m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmul_vf_f32m2_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                        vfloat16m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmul_vf_f64m1_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                        vfloat32m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                        vfloat32m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
```

A.5.5. Vector Single-Width Floating-Point Fused Multiply-Add Intrinsics

```
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                       vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4(vfloat16mf4_t vd, _Float16 rs1,
                                       vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2(vfloat16mf2_t vd, _Float16 rs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1(vfloat16m1_t vd, vfloat16m1_t vs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1(vfloat16m1_t vd, _Float16 rs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2(vfloat16m2_t vd, vfloat16m2_t vs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2(vfloat16m2_t vd, _Float16 rs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4(vfloat16m4_t vd, vfloat16m4_t vs1,
                                     vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4(vfloat16m4_t vd, _Float16 rs1,
```

```
                                    vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8(vfloat16m8_t vd, vfloat16m8_t vs1,
                                    vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8(vfloat16m8_t vd, _Float16 rs1,
                                    vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vv_f32mf2(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                      vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2(vfloat32mf2_t vd, float rs1,
                                      vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1(vfloat32m1_t vd, vfloat32m1_t vs1,
                                    vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1(vfloat32m1_t vd, float rs1,
                                    vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2(vfloat32m2_t vd, vfloat32m2_t vs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2(vfloat32m2_t vd, float rs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4(vfloat32m4_t vd, vfloat32m4_t vs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4(vfloat32m4_t vd, float rs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8(vfloat32m8_t vd, vfloat32m8_t vs1,
                                    vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8(vfloat32m8_t vd, float rs1,
                                    vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1(vfloat64m1_t vd, vfloat64m1_t vs1,
                                    vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1(vfloat64m1_t vd, double rs1,
                                    vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_vv_f64m2(vfloat64m2_t vd, vfloat64m2_t vs1,
                                    vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2(vfloat64m2_t vd, double rs1,
                                    vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc_vv_f64m4(vfloat64m4_t vd, vfloat64m4_t vs1,
                                    vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4(vfloat64m4_t vd, double rs1,
                                    vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8(vfloat64m8_t vd, vfloat64m8_t vs1,
                                    vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8(vfloat64m8_t vd, double rs1,
                                    vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                       vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4(vfloat16mf4_t vd, _Float16 rs1,
                                       vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2(vfloat16mf2_t vd, _Float16 rs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1(vfloat16m1_t vd, vfloat16m1_t vs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1(vfloat16m1_t vd, _Float16 rs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2(vfloat16m2_t vd, vfloat16m2_t vs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2(vfloat16m2_t vd, _Float16 rs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4(vfloat16m4_t vd, vfloat16m4_t vs1,
                                     vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4(vfloat16m4_t vd, _Float16 rs1,
                                     vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8(vfloat16m8_t vd, vfloat16m8_t vs1,
                                     vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vf_f16m8(vfloat16m8_t vd, _Float16 rs1,
                                     vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                       vfloat32mf2_t vs2, size_t vl);
```

```
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2(vfloat32mf2_t vd, float rs1,
                                        vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1(vfloat32m1_t vd, vfloat32m1_t vs1,
                                      vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1(vfloat32m1_t vd, float rs1,
                                      vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2(vfloat32m2_t vd, vfloat32m2_t vs1,
                                      vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2(vfloat32m2_t vd, float rs1,
                                      vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vv_f32m4(vfloat32m4_t vd, vfloat32m4_t vs1,
                                      vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4(vfloat32m4_t vd, float rs1,
                                      vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8(vfloat32m8_t vd, vfloat32m8_t vs1,
                                      vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8(vfloat32m8_t vd, float rs1,
                                      vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1(vfloat64m1_t vd, vfloat64m1_t vs1,
                                      vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1(vfloat64m1_t vd, double rs1,
                                      vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2(vfloat64m2_t vd, vfloat64m2_t vs1,
                                      vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2(vfloat64m2_t vd, double rs1,
                                      vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4(vfloat64m4_t vd, vfloat64m4_t vs1,
                                      vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4(vfloat64m4_t vd, double rs1,
                                      vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vv_f64m8(vfloat64m8_t vd, vfloat64m8_t vs1,
                                      vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8(vfloat64m8_t vd, double rs1,
                                      vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                       vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4(vfloat16mf4_t vd, _Float16 rs1,
                                       vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2(vfloat16mf2_t vd, _Float16 rs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1(vfloat16m1_t vd, vfloat16m1_t vs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1(vfloat16m1_t vd, _Float16 rs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2(vfloat16m2_t vd, vfloat16m2_t vs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2(vfloat16m2_t vd, _Float16 rs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4(vfloat16m4_t vd, vfloat16m4_t vs1,
                                     vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4(vfloat16m4_t vd, _Float16 rs1,
                                     vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac_vv_f16m8(vfloat16m8_t vd, vfloat16m8_t vs1,
                                     vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8(vfloat16m8_t vd, _Float16 rs1,
                                     vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                       vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2(vfloat32mf2_t vd, float rs1,
                                       vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac_vv_f32m1(vfloat32m1_t vd, vfloat32m1_t vs1,
                                     vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac_vf_f32m1(vfloat32m1_t vd, float rs1,
                                     vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2(vfloat32m2_t vd, vfloat32m2_t vs1,
```

```
                                    vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2(vfloat32m2_t vd, float rs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4(vfloat32m4_t vd, vfloat32m4_t vs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_vf_f32m4(vfloat32m4_t vd, float rs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_vv_f32m8(vfloat32m8_t vd, vfloat32m8_t vs1,
                                    vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8(vfloat32m8_t vd, float rs1,
                                    vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1(vfloat64m1_t vd, vfloat64m1_t vs1,
                                    vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1(vfloat64m1_t vd, double rs1,
                                    vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2(vfloat64m2_t vd, vfloat64m2_t vs1,
                                    vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2(vfloat64m2_t vd, double rs1,
                                    vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4(vfloat64m4_t vd, vfloat64m4_t vs1,
                                    vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4(vfloat64m4_t vd, double rs1,
                                    vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8(vfloat64m8_t vd, vfloat64m8_t vs1,
                                    vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8(vfloat64m8_t vd, double rs1,
                                    vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                      vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4(vfloat16mf4_t vd, _Float16 rs1,
                                      vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                      vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2(vfloat16mf2_t vd, _Float16 rs1,
                                      vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1(vfloat16m1_t vd, vfloat16m1_t vs1,
                                    vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1(vfloat16m1_t vd, _Float16 rs1,
                                    vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2(vfloat16m2_t vd, vfloat16m2_t vs1,
                                    vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2(vfloat16m2_t vd, _Float16 rs1,
                                    vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4(vfloat16m4_t vd, vfloat16m4_t vs1,
                                    vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4(vfloat16m4_t vd, _Float16 rs1,
                                    vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8(vfloat16m8_t vd, vfloat16m8_t vs1,
                                    vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8(vfloat16m8_t vd, _Float16 rs1,
                                    vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                      vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2(vfloat32mf2_t vd, float rs1,
                                      vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1(vfloat32m1_t vd, vfloat32m1_t vs1,
                                    vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1(vfloat32m1_t vd, float rs1,
                                    vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2(vfloat32m2_t vd, vfloat32m2_t vs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2(vfloat32m2_t vd, float rs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vv_f32m4(vfloat32m4_t vd, vfloat32m4_t vs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4(vfloat32m4_t vd, float rs1,
                                    vfloat32m4_t vs2, size_t vl);
```

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vfloat32m8_t __riscv_vfnmsac_vv_f32m8(vfloat32m8_t vd, vfloat32m8_t vs1,
                                      vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8(vfloat32m8_t vd, float rs1,
                                      vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1(vfloat64m1_t vd, vfloat64m1_t vs1,
                                      vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1(vfloat64m1_t vd, double rs1,
                                      vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2(vfloat64m2_t vd, vfloat64m2_t vs1,
                                      vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2(vfloat64m2_t vd, double rs1,
                                      vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vv_f64m4(vfloat64m4_t vd, vfloat64m4_t vs1,
                                      vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4(vfloat64m4_t vd, double rs1,
                                      vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8(vfloat64m8_t vd, vfloat64m8_t vs1,
                                      vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8(vfloat64m8_t vd, double rs1,
                                      vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                       vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4(vfloat16mf4_t vd, _Float16 rs1,
                                       vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vv_f16mf2(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2(vfloat16mf2_t vd, _Float16 rs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1(vfloat16m1_t vd, vfloat16m1_t vs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_vf_f16m1(vfloat16m1_t vd, _Float16 rs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2(vfloat16m2_t vd, vfloat16m2_t vs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2(vfloat16m2_t vd, _Float16 rs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4(vfloat16m4_t vd, vfloat16m4_t vs1,
                                     vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4(vfloat16m4_t vd, _Float16 rs1,
                                     vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8(vfloat16m8_t vd, vfloat16m8_t vs1,
                                     vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8(vfloat16m8_t vd, _Float16 rs1,
                                     vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                       vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2(vfloat32mf2_t vd, float rs1,
                                       vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmadd_vv_f32m1(vfloat32m1_t vd, vfloat32m1_t vs1,
                                     vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmadd_vf_f32m1(vfloat32m1_t vd, float rs1,
                                     vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd_vv_f32m2(vfloat32m2_t vd, vfloat32m2_t vs1,
                                     vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd_vf_f32m2(vfloat32m2_t vd, float rs1,
                                     vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4(vfloat32m4_t vd, vfloat32m4_t vs1,
                                     vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_vf_f32m4(vfloat32m4_t vd, float rs1,
                                     vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_vv_f32m8(vfloat32m8_t vd, vfloat32m8_t vs1,
                                     vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8(vfloat32m8_t vd, float rs1,
                                     vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1(vfloat64m1_t vd, vfloat64m1_t vs1,
                                     vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1(vfloat64m1_t vd, double rs1,
```

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                                    vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmadd_vv_f64m2(vfloat64m2_t vd, vfloat64m2_t vs1,
                                    vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmadd_vf_f64m2(vfloat64m2_t vd, double rs1,
                                    vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd_vv_f64m4(vfloat64m4_t vd, vfloat64m4_t vs1,
                                    vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd_vf_f64m4(vfloat64m4_t vd, double rs1,
                                    vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd_vv_f64m8(vfloat64m8_t vd, vfloat64m8_t vs1,
                                    vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8(vfloat64m8_t vd, double rs1,
                                    vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                      vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4(vfloat16mf4_t vd, _Float16 rs1,
                                      vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                      vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2(vfloat16mf2_t vd, _Float16 rs1,
                                      vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1(vfloat16m1_t vd, vfloat16m1_t vs1,
                                    vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1(vfloat16m1_t vd, _Float16 rs1,
                                    vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd_vv_f16m2(vfloat16m2_t vd, vfloat16m2_t vs1,
                                    vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2(vfloat16m2_t vd, _Float16 rs1,
                                    vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vv_f16m4(vfloat16m4_t vd, vfloat16m4_t vs1,
                                    vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4(vfloat16m4_t vd, _Float16 rs1,
                                    vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmadd_vv_f16m8(vfloat16m8_t vd, vfloat16m8_t vs1,
                                    vfloat16m8_t vs2, size_t vl);
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                                    vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                      vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2(vfloat32mf2_t vd, float rs1,
                                      vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1(vfloat32m1_t vd, vfloat32m1_t vs1,
                                    vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1(vfloat32m1_t vd, float rs1,
                                    vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2(vfloat32m2_t vd, vfloat32m2_t vs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2(vfloat32m2_t vd, float rs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4(vfloat32m4_t vd, vfloat32m4_t vs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vf_f32m4(vfloat32m4_t vd, float rs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8(vfloat32m8_t vd, vfloat32m8_t vs1,
                                    vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vf_f32m8(vfloat32m8_t vd, float rs1,
                                    vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1(vfloat64m1_t vd, vfloat64m1_t vs1,
                                    vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1(vfloat64m1_t vd, double rs1,
                                    vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2(vfloat64m2_t vd, vfloat64m2_t vs1,
                                    vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vf_f64m2(vfloat64m2_t vd, double rs1,
                                    vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4(vfloat64m4_t vd, vfloat64m4_t vs1,
                                    vfloat64m4_t vs2, size_t vl);
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vfloat64m4_t __riscv_vfnmadd_vf_f64m4(vfloat64m4_t vd, double rs1,
                                      vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8(vfloat64m8_t vd, vfloat64m8_t vs1,
                                      vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8(vfloat64m8_t vd, double rs1,
                                      vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                       vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4(vfloat16mf4_t vd, _Float16 rs1,
                                       vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vf_f16mf2(vfloat16mf2_t vd, _Float16 rs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1(vfloat16m1_t vd, vfloat16m1_t vs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1(vfloat16m1_t vd, _Float16 rs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2(vfloat16m2_t vd, vfloat16m2_t vs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub_vf_f16m2(vfloat16m2_t vd, _Float16 rs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4(vfloat16m4_t vd, vfloat16m4_t vs1,
                                     vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4(vfloat16m4_t vd, _Float16 rs1,
                                     vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8(vfloat16m8_t vd, vfloat16m8_t vs1,
                                     vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8(vfloat16m8_t vd, _Float16 rs1,
                                     vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vv_f32mf2(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                       vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vf_f32mf2(vfloat32mf2_t vd, float rs1,
                                       vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1(vfloat32m1_t vd, vfloat32m1_t vs1,
                                     vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub_vf_f32m1(vfloat32m1_t vd, float rs1,
                                     vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_vv_f32m2(vfloat32m2_t vd, vfloat32m2_t vs1,
                                     vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_vf_f32m2(vfloat32m2_t vd, float rs1,
                                     vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_vv_f32m4(vfloat32m4_t vd, vfloat32m4_t vs1,
                                     vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_vf_f32m4(vfloat32m4_t vd, float rs1,
                                     vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_vv_f32m8(vfloat32m8_t vd, vfloat32m8_t vs1,
                                     vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_vf_f32m8(vfloat32m8_t vd, float rs1,
                                     vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1(vfloat64m1_t vd, vfloat64m1_t vs1,
                                     vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1(vfloat64m1_t vd, double rs1,
                                     vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_vv_f64m2(vfloat64m2_t vd, vfloat64m2_t vs1,
                                     vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_vf_f64m2(vfloat64m2_t vd, double rs1,
                                     vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub_vv_f64m4(vfloat64m4_t vd, vfloat64m4_t vs1,
                                     vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub_vf_f64m4(vfloat64m4_t vd, double rs1,
                                     vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_vv_f64m8(vfloat64m8_t vd, vfloat64m8_t vs1,
                                     vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_vf_f64m8(vfloat64m8_t vd, double rs1,
                                     vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vv_f16mf4(vfloat16mf4_t vd, vfloat16mf4_t vs1,
```

```
                                        vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vf_f16mf4(vfloat16mf4_t vd, _Float16 rs1,
                                        vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vv_f16mf2(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                        vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2(vfloat16mf2_t vd, _Float16 rs1,
                                        vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1(vfloat16m1_t vd, vfloat16m1_t vs1,
                                      vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1(vfloat16m1_t vd, _Float16 rs1,
                                      vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2(vfloat16m2_t vd, vfloat16m2_t vs1,
                                      vfloat16m2_t vs2, size_t vl);
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                                      vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vv_f16m4(vfloat16m4_t vd, vfloat16m4_t vs1,
                                      vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4(vfloat16m4_t vd, _Float16 rs1,
                                      vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8(vfloat16m8_t vd, vfloat16m8_t vs1,
                                      vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8(vfloat16m8_t vd, _Float16 rs1,
                                      vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                        vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2(vfloat32mf2_t vd, float rs1,
                                        vfloat32mf2_t vs2, size_t vl);
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                                      vfloat32m1_t vs2, size_t vl);
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                                      vfloat32m1_t vs2, size_t vl);
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                                      vfloat32m2_t vs2, size_t vl);
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                                      vfloat32m4_t vs2, size_t vl);
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                                      vfloat32m4_t vs2, size_t vl);
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                                      vfloat32m8_t vs2, size_t vl);
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                                      vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1(vfloat64m1_t vd, vfloat64m1_t vs1,
                                      vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1(vfloat64m1_t vd, double rs1,
                                      vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2(vfloat64m2_t vd, vfloat64m2_t vs1,
                                      vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2(vfloat64m2_t vd, double rs1,
                                      vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4(vfloat64m4_t vd, vfloat64m4_t vs1,
                                      vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4(vfloat64m4_t vd, double rs1,
                                      vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8(vfloat64m8_t vd, vfloat64m8_t vs1,
                                      vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8(vfloat64m8_t vd, double rs1,
                                      vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                         _Float16 rs1, vfloat16mf4_t vs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
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                                      vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                      size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                      _Float16 rs1, vfloat16mf2_t vs2,
                                      size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                    vfloat16m1_t vs1, vfloat16m1_t vs2,
                                    size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                    _Float16 rs1, vfloat16m1_t vs2,
                                    size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                    vfloat16m2_t vs1, vfloat16m2_t vs2,
                                    size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                    _Float16 rs1, vfloat16m2_t vs2,
                                    size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                    vfloat16m4_t vs1, vfloat16m4_t vs2,
                                    size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                    _Float16 rs1, vfloat16m4_t vs2,
                                    size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                    vfloat16m8_t vs1, vfloat16m8_t vs2,
                                    size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                    _Float16 rs1, vfloat16m8_t vs2,
                                    size_t vl);
vfloat32mf2_t __riscv_vfmacc_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                      vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                      size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                      float rs1, vfloat32mf2_t vs2,
                                      size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs1, vfloat32m1_t vs2,
                                    size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                    vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs1, vfloat32m2_t vs2,
                                    size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs1, vfloat32m4_t vs2,
                                    size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs1, vfloat32m8_t vs2,
                                    size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                    vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs1, vfloat64m1_t vs2,
                                    size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                    double rs1, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs1, vfloat64m2_t vs2,
                                    size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                    double rs1, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs1, vfloat64m4_t vs2,
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                                      size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                      double rs1, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs1, vfloat64m8_t vs2,
                                      size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                      vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                        _Float16 rs1, vfloat16mf4_t vs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                        _Float16 rs1, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs1, vfloat16m1_t vs2,
                                       size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                       _Float16 rs1, vfloat16m1_t vs2,
                                       size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs1, vfloat16m2_t vs2,
                                       size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                       _Float16 rs1, vfloat16m2_t vs2,
                                       size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs1, vfloat16m4_t vs2,
                                       size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                       _Float16 rs1, vfloat16m4_t vs2,
                                       size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs1, vfloat16m8_t vs2,
                                       size_t vl);
vfloat16m8_t __riscv_vfnmacc_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                       _Float16 rs1, vfloat16m8_t vs2,
                                       size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                        float rs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs1, vfloat32m1_t vs2,
                                       size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                       float rs1, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs1, vfloat32m2_t vs2,
                                       size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                       float rs1, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs1, vfloat32m4_t vs2,
                                       size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                       vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs1, vfloat32m8_t vs2,
```

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                                     size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                     vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                     vfloat64m1_t vs1, vfloat64m1_t vs2,
                                     size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                     double rs1, vfloat64m1_t vs2,
                                     size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                     vfloat64m2_t vs1, vfloat64m2_t vs2,
                                     size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                     double rs1, vfloat64m2_t vs2,
                                     size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                     vfloat64m4_t vs1, vfloat64m4_t vs2,
                                     size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                     double rs1, vfloat64m4_t vs2,
                                     size_t vl);
vfloat64m8_t __riscv_vfnmacc_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                     vfloat64m8_t vs1, vfloat64m8_t vs2,
                                     size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                     double rs1, vfloat64m8_t vs2,
                                     size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                      vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                      size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                      _Float16 rs1, vfloat16mf4_t vs2,
                                      size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                      vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                      size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                      _Float16 rs1, vfloat16mf2_t vs2,
                                      size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                    vfloat16m1_t vs1, vfloat16m1_t vs2,
                                    size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                    _Float16 rs1, vfloat16m1_t vs2,
                                    size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                    vfloat16m2_t vs1, vfloat16m2_t vs2,
                                    size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                    _Float16 rs1, vfloat16m2_t vs2,
                                    size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                    vfloat16m4_t vs1, vfloat16m4_t vs2,
                                    size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                    _Float16 rs1, vfloat16m4_t vs2,
                                    size_t vl);
vfloat16m8_t __riscv_vfmsac_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                    vfloat16m8_t vs1, vfloat16m8_t vs2,
                                    size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                    _Float16 rs1, vfloat16m8_t vs2,
                                    size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                      vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                      size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
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                                      float rs1, vfloat32mf2_t vs2,
                                      size_t vl);
vfloat32m1_t __riscv_vfmsac_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs1, vfloat32m1_t vs2,
                                       size_t vl);
vfloat32m1_t __riscv_vfmsac_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                       vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs1, vfloat32m2_t vs2,
                                       size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                       vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs1, vfloat32m4_t vs2,
                                       size_t vl);
vfloat32m4_t __riscv_vfmsac_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                       vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs1, vfloat32m8_t vs2,
                                       size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                       vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs1, vfloat64m1_t vs2,
                                       size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                       double rs1, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs1, vfloat64m2_t vs2,
                                       size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                       double rs1, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs1, vfloat64m4_t vs2,
                                       size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                       double rs1, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs1, vfloat64m8_t vs2,
                                       size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                       vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
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                                      vfloat16m4_t vs1, vfloat16m4_t vs2,
                                      size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                      _Float16 rs1, vfloat16m4_t vs2,
                                      size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs1, vfloat16m8_t vs2,
                                      size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                      _Float16 rs1, vfloat16m8_t vs2,
                                      size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                        float rs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs1, vfloat32m1_t vs2,
                                      size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                      float rs1, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs1, vfloat32m2_t vs2,
                                      size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                      float rs1, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs1, vfloat32m4_t vs2,
                                      size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                      vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs1, vfloat32m8_t vs2,
                                      size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                      vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs1, vfloat64m1_t vs2,
                                      size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                      double rs1, vfloat64m1_t vs2,
                                      size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs1, vfloat64m2_t vs2,
                                      size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                      double rs1, vfloat64m2_t vs2,
                                      size_t vl);
vfloat64m4_t __riscv_vfnmsac_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs1, vfloat64m4_t vs2,
                                      size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                      double rs1, vfloat64m4_t vs2,
                                      size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs1, vfloat64m8_t vs2,
                                      size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                      double rs1, vfloat64m8_t vs2,
                                      size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                       vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                       size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                       _Float16 rs1, vfloat16mf4_t vs2,
                                       size_t vl);
```

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vfloat16mf2_t __riscv_vfmadd_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                         _Float16 rs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs1, vfloat16m1_t vs2,
                                       size_t vl);
vfloat16m1_t __riscv_vfmadd_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                       _Float16 rs1, vfloat16m1_t vs2,
                                       size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs1, vfloat16m2_t vs2,
                                       size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                       _Float16 rs1, vfloat16m2_t vs2,
                                       size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs1, vfloat16m4_t vs2,
                                       size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                       _Float16 rs1, vfloat16m4_t vs2,
                                       size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs1, vfloat16m8_t vs2,
                                       size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                       _Float16 rs1, vfloat16m8_t vs2,
                                       size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                         float rs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfmadd_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs1, vfloat32m1_t vs2,
                                       size_t vl);
vfloat32m1_t __riscv_vfmadd_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                       vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs1, vfloat32m2_t vs2,
                                       size_t vl);
vfloat32m2_t __riscv_vfmadd_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                       vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs1, vfloat32m4_t vs2,
                                       size_t vl);
vfloat32m4_t __riscv_vfmadd_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                       vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs1, vfloat32m8_t vs2,
                                       size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                       vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs1, vfloat64m1_t vs2,
                                       size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                       double rs1, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmadd_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs1, vfloat64m2_t vs2,
                                       size_t vl);
vfloat64m2_t __riscv_vfmadd_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                       double rs1, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
```

```
                                    vfloat64m4_t vs1, vfloat64m4_t vs2,
                                    size_t vl);
vfloat64m4_t __riscv_vfmadd_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                    double rs1, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs1, vfloat64m8_t vs2,
                                    size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                    vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                      vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                      size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                      _Float16 rs1, vfloat16mf4_t vs2,
                                      size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                      vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                      size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                      _Float16 rs1, vfloat16mf2_t vs2,
                                      size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                    vfloat16m1_t vs1, vfloat16m1_t vs2,
                                    size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                    _Float16 rs1, vfloat16m1_t vs2,
                                    size_t vl);
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                                    vfloat16m2_t vs1, vfloat16m2_t vs2,
                                    size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                    _Float16 rs1, vfloat16m2_t vs2,
                                    size_t vl);
vfloat16m4_t __riscv_vfnmadd_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                    vfloat16m4_t vs1, vfloat16m4_t vs2,
                                    size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                    _Float16 rs1, vfloat16m4_t vs2,
                                    size_t vl);
vfloat16m8_t __riscv_vfnmadd_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                    vfloat16m8_t vs1, vfloat16m8_t vs2,
                                    size_t vl);
vfloat16m8_t __riscv_vfnmadd_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                    _Float16 rs1, vfloat16m8_t vs2,
                                    size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                      vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                      size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                      float rs1, vfloat32mf2_t vs2,
                                      size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs1, vfloat32m1_t vs2,
                                    size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                    float rs1, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs1, vfloat32m2_t vs2,
                                    size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                    float rs1, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs1, vfloat32m4_t vs2,
                                    size_t vl);
vfloat32m4_t __riscv_vfnmadd_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
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                                      vfloat32m8_t vs1, vfloat32m8_t vs2,
                                      size_t vl);
vfloat32m8_t __riscv_vfnmadd_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                      vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs1, vfloat64m1_t vs2,
                                      size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                      double rs1, vfloat64m1_t vs2,
                                      size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs1, vfloat64m2_t vs2,
                                      size_t vl);
vfloat64m2_t __riscv_vfnmadd_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                      double rs1, vfloat64m2_t vs2,
                                      size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs1, vfloat64m4_t vs2,
                                      size_t vl);
vfloat64m4_t __riscv_vfnmadd_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                      double rs1, vfloat64m4_t vs2,
                                      size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs1, vfloat64m8_t vs2,
                                      size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                      double rs1, vfloat64m8_t vs2,
                                      size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                       vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                       size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                       _Float16 rs1, vfloat16mf4_t vs2,
                                       size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                       vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                       size_t vl);
vfloat16mf2_t __riscv_vfmsub_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                       _Float16 rs1, vfloat16mf2_t vs2,
                                       size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                     vfloat16m1_t vs1, vfloat16m1_t vs2,
                                     size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                     _Float16 rs1, vfloat16m1_t vs2,
                                     size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                     vfloat16m2_t vs1, vfloat16m2_t vs2,
                                     size_t vl);
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                                     _Float16 rs1, vfloat16m2_t vs2,
                                     size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                     vfloat16m4_t vs1, vfloat16m4_t vs2,
                                     size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                     _Float16 rs1, vfloat16m4_t vs2,
                                     size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                     vfloat16m8_t vs1, vfloat16m8_t vs2,
                                     size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                     _Float16 rs1, vfloat16m8_t vs2,
                                     size_t vl);
vfloat32mf2_t __riscv_vfmsub_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                       vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                       size_t vl);
```

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vfloat32mf2_t __riscv_vfmsub_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                         float rs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs1, vfloat32m1_t vs2,
                                       size_t vl);
vfloat32m1_t __riscv_vfmsub_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                       vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs1, vfloat32m2_t vs2,
                                       size_t vl);
vfloat32m2_t __riscv_vfmsub_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                       vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs1, vfloat32m4_t vs2,
                                       size_t vl);
vfloat32m4_t __riscv_vfmsub_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                       vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs1, vfloat32m8_t vs2,
                                       size_t vl);
vfloat32m8_t __riscv_vfmsub_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                       vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs1, vfloat64m1_t vs2,
                                       size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                       double rs1, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs1, vfloat64m2_t vs2,
                                       size_t vl);
vfloat64m2_t __riscv_vfmsub_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
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                                       size_t vl);
vfloat64m4_t __riscv_vfmsub_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                       double rs1, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs1, vfloat64m8_t vs2,
                                       size_t vl);
vfloat64m8_t __riscv_vfmsub_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                       vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfnmsub_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        size_t vl);
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vfloat16m4_t __riscv_vfnmsub_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfnmsub_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfnmsub_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsub_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfnmsub_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfnmsub_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsub_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfnmsub_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                        vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4_rm(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4_rm(vfloat16mf4_t vd, _Float16 rs1,
                                          vfloat16mf4_t vs2, unsigned int frm,
```

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                                        size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2_rm(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                        vfloat16mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2_rm(vfloat16mf2_t vd, _Float16 rs1,
                                        vfloat16mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1_rm(vfloat16m1_t vd, vfloat16m1_t vs1,
                                      vfloat16m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1_rm(vfloat16m1_t vd, _Float16 rs1,
                                      vfloat16m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2_rm(vfloat16m2_t vd, vfloat16m2_t vs1,
                                      vfloat16m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2_rm(vfloat16m2_t vd, _Float16 rs1,
                                      vfloat16m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4_rm(vfloat16m4_t vd, vfloat16m4_t vs1,
                                      vfloat16m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4_rm(vfloat16m4_t vd, _Float16 rs1,
                                      vfloat16m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8_rm(vfloat16m8_t vd, vfloat16m8_t vs1,
                                      vfloat16m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8_rm(vfloat16m8_t vd, _Float16 rs1,
                                      vfloat16m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32mf2_t __riscv_vfmacc_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                        vfloat32mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2_rm(vfloat32mf2_t vd, float rs1,
                                        vfloat32mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1_rm(vfloat32m1_t vd, vfloat32m1_t vs1,
                                      vfloat32m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1_rm(vfloat32m1_t vd, float rs1,
                                      vfloat32m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2_rm(vfloat32m2_t vd, vfloat32m2_t vs1,
                                      vfloat32m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2_rm(vfloat32m2_t vd, float rs1,
                                      vfloat32m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4_rm(vfloat32m4_t vd, vfloat32m4_t vs1,
                                      vfloat32m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4_rm(vfloat32m4_t vd, float rs1,
                                      vfloat32m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8_rm(vfloat32m8_t vd, vfloat32m8_t vs1,
                                      vfloat32m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8_rm(vfloat32m8_t vd, float rs1,
                                      vfloat32m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1_rm(vfloat64m1_t vd, vfloat64m1_t vs1,
                                      vfloat64m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1_rm(vfloat64m1_t vd, double rs1,
                                      vfloat64m1_t vs2, unsigned int frm,
                                      size_t vl);
```

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vfloat64m2_t __riscv_vfmacc_vv_f64m2_rm(vfloat64m2_t vd, vfloat64m2_t vs1,
                                        vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2_rm(vfloat64m2_t vd, double rs1,
                                        vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfmacc_vv_f64m4_rm(vfloat64m4_t vd, vfloat64m4_t vs1,
                                        vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4_rm(vfloat64m4_t vd, double rs1,
                                        vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8_rm(vfloat64m8_t vd, vfloat64m8_t vs1,
                                        vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8_rm(vfloat64m8_t vd, double rs1,
                                        vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4_rm(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4_rm(vfloat16mf4_t vd, _Float16 rs1,
                                           vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2_rm(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2_rm(vfloat16mf2_t vd, _Float16 rs1,
                                           vfloat16mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1_rm(vfloat16m1_t vd, vfloat16m1_t vs1,
                                         vfloat16m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1_rm(vfloat16m1_t vd, _Float16 rs1,
                                         vfloat16m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2_rm(vfloat16m2_t vd, vfloat16m2_t vs1,
                                         vfloat16m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2_rm(vfloat16m2_t vd, _Float16 rs1,
                                         vfloat16m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4_rm(vfloat16m4_t vd, vfloat16m4_t vs1,
                                         vfloat16m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4_rm(vfloat16m4_t vd, _Float16 rs1,
                                         vfloat16m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8_rm(vfloat16m8_t vd, vfloat16m8_t vs1,
                                         vfloat16m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmacc_vf_f16m8_rm(vfloat16m8_t vd, _Float16 rs1,
                                         vfloat16m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2_rm(vfloat32mf2_t vd, float rs1,
                                           vfloat32mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1_rm(vfloat32m1_t vd, vfloat32m1_t vs1,
                                         vfloat32m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1_rm(vfloat32m1_t vd, float rs1,
                                         vfloat32m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2_rm(vfloat32m2_t vd, vfloat32m2_t vs1,
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                                      vfloat32m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2_rm(vfloat32m2_t vd, float rs1,
                                      vfloat32m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m4_t __riscv_vfnmacc_vv_f32m4_rm(vfloat32m4_t vd, vfloat32m4_t vs1,
                                      vfloat32m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4_rm(vfloat32m4_t vd, float rs1,
                                      vfloat32m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8_rm(vfloat32m8_t vd, vfloat32m8_t vs1,
                                      vfloat32m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8_rm(vfloat32m8_t vd, float rs1,
                                      vfloat32m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1_rm(vfloat64m1_t vd, vfloat64m1_t vs1,
                                      vfloat64m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1_rm(vfloat64m1_t vd, double rs1,
                                      vfloat64m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2_rm(vfloat64m2_t vd, vfloat64m2_t vs1,
                                      vfloat64m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2_rm(vfloat64m2_t vd, double rs1,
                                      vfloat64m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4_rm(vfloat64m4_t vd, vfloat64m4_t vs1,
                                      vfloat64m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4_rm(vfloat64m4_t vd, double rs1,
                                      vfloat64m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m8_t __riscv_vfnmacc_vv_f64m8_rm(vfloat64m8_t vd, vfloat64m8_t vs1,
                                      vfloat64m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8_rm(vfloat64m8_t vd, double rs1,
                                      vfloat64m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4_rm(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                       vfloat16mf4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4_rm(vfloat16mf4_t vd, _Float16 rs1,
                                       vfloat16mf4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2_rm(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                       vfloat16mf2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2_rm(vfloat16mf2_t vd, _Float16 rs1,
                                       vfloat16mf2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1_rm(vfloat16m1_t vd, vfloat16m1_t vs1,
                                     vfloat16m1_t vs2, unsigned int frm,
                                     size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1_rm(vfloat16m1_t vd, _Float16 rs1,
                                     vfloat16m1_t vs2, unsigned int frm,
                                     size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2_rm(vfloat16m2_t vd, vfloat16m2_t vs1,
                                     vfloat16m2_t vs2, unsigned int frm,
                                     size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2_rm(vfloat16m2_t vd, _Float16 rs1,
                                     vfloat16m2_t vs2, unsigned int frm,
                                     size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4_rm(vfloat16m4_t vd, vfloat16m4_t vs1,
                                     vfloat16m4_t vs2, unsigned int frm,
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                                        size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4_rm(vfloat16m4_t vd, _Float16 rs1,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfmsac_vv_f16m8_rm(vfloat16m8_t vd, vfloat16m8_t vs1,
                                        vfloat16m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8_rm(vfloat16m8_t vd, _Float16 rs1,
                                        vfloat16m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2_rm(vfloat32mf2_t vd, float rs1,
                                          vfloat32mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfmsac_vv_f32m1_rm(vfloat32m1_t vd, vfloat32m1_t vs1,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfmsac_vf_f32m1_rm(vfloat32m1_t vd, float rs1,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2_rm(vfloat32m2_t vd, vfloat32m2_t vs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2_rm(vfloat32m2_t vd, float rs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4_rm(vfloat32m4_t vd, vfloat32m4_t vs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfmsac_vf_f32m4_rm(vfloat32m4_t vd, float rs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfmsac_vv_f32m8_rm(vfloat32m8_t vd, vfloat32m8_t vs1,
                                        vfloat32m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8_rm(vfloat32m8_t vd, float rs1,
                                        vfloat32m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1_rm(vfloat64m1_t vd, vfloat64m1_t vs1,
                                        vfloat64m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1_rm(vfloat64m1_t vd, double rs1,
                                        vfloat64m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2_rm(vfloat64m2_t vd, vfloat64m2_t vs1,
                                        vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2_rm(vfloat64m2_t vd, double rs1,
                                        vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4_rm(vfloat64m4_t vd, vfloat64m4_t vs1,
                                        vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4_rm(vfloat64m4_t vd, double rs1,
                                        vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8_rm(vfloat64m8_t vd, vfloat64m8_t vs1,
                                        vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8_rm(vfloat64m8_t vd, double rs1,
                                        vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4_rm(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
```

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vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4_rm(vfloat16mf4_t vd, _Float16 rs1,
                                           vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2_rm(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2_rm(vfloat16mf2_t vd, _Float16 rs1,
                                           vfloat16mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1_rm(vfloat16m1_t vd, vfloat16m1_t vs1,
                                         vfloat16m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1_rm(vfloat16m1_t vd, _Float16 rs1,
                                         vfloat16m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2_rm(vfloat16m2_t vd, vfloat16m2_t vs1,
                                         vfloat16m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2_rm(vfloat16m2_t vd, _Float16 rs1,
                                         vfloat16m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4_rm(vfloat16m4_t vd, vfloat16m4_t vs1,
                                         vfloat16m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4_rm(vfloat16m4_t vd, _Float16 rs1,
                                         vfloat16m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8_rm(vfloat16m8_t vd, vfloat16m8_t vs1,
                                         vfloat16m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8_rm(vfloat16m8_t vd, _Float16 rs1,
                                         vfloat16m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2_rm(vfloat32mf2_t vd, float rs1,
                                           vfloat32mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1_rm(vfloat32m1_t vd, vfloat32m1_t vs1,
                                         vfloat32m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1_rm(vfloat32m1_t vd, float rs1,
                                         vfloat32m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2_rm(vfloat32m2_t vd, vfloat32m2_t vs1,
                                         vfloat32m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2_rm(vfloat32m2_t vd, float rs1,
                                         vfloat32m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmsac_vv_f32m4_rm(vfloat32m4_t vd, vfloat32m4_t vs1,
                                         vfloat32m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4_rm(vfloat32m4_t vd, float rs1,
                                         vfloat32m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmsac_vv_f32m8_rm(vfloat32m8_t vd, vfloat32m8_t vs1,
                                         vfloat32m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8_rm(vfloat32m8_t vd, float rs1,
                                         vfloat32m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1_rm(vfloat64m1_t vd, vfloat64m1_t vs1,
                                         vfloat64m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1_rm(vfloat64m1_t vd, double rs1,
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                                      vfloat64m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2_rm(vfloat64m2_t vd, vfloat64m2_t vs1,
                                      vfloat64m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2_rm(vfloat64m2_t vd, double rs1,
                                      vfloat64m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m4_t __riscv_vfnmsac_vv_f64m4_rm(vfloat64m4_t vd, vfloat64m4_t vs1,
                                      vfloat64m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4_rm(vfloat64m4_t vd, double rs1,
                                      vfloat64m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8_rm(vfloat64m8_t vd, vfloat64m8_t vs1,
                                      vfloat64m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8_rm(vfloat64m8_t vd, double rs1,
                                      vfloat64m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4_rm(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                       vfloat16mf4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4_rm(vfloat16mf4_t vd, _Float16 rs1,
                                       vfloat16mf4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16mf2_t __riscv_vfmadd_vv_f16mf2_rm(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                       vfloat16mf2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2_rm(vfloat16mf2_t vd, _Float16 rs1,
                                       vfloat16mf2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1_rm(vfloat16m1_t vd, vfloat16m1_t vs1,
                                     vfloat16m1_t vs2, unsigned int frm,
                                     size_t vl);
vfloat16m1_t __riscv_vfmadd_vf_f16m1_rm(vfloat16m1_t vd, _Float16 rs1,
                                     vfloat16m1_t vs2, unsigned int frm,
                                     size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2_rm(vfloat16m2_t vd, vfloat16m2_t vs1,
                                     vfloat16m2_t vs2, unsigned int frm,
                                     size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2_rm(vfloat16m2_t vd, _Float16 rs1,
                                     vfloat16m2_t vs2, unsigned int frm,
                                     size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4_rm(vfloat16m4_t vd, vfloat16m4_t vs1,
                                     vfloat16m4_t vs2, unsigned int frm,
                                     size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4_rm(vfloat16m4_t vd, _Float16 rs1,
                                     vfloat16m4_t vs2, unsigned int frm,
                                     size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8_rm(vfloat16m8_t vd, vfloat16m8_t vs1,
                                     vfloat16m8_t vs2, unsigned int frm,
                                     size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8_rm(vfloat16m8_t vd, _Float16 rs1,
                                     vfloat16m8_t vs2, unsigned int frm,
                                     size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                       vfloat32mf2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2_rm(vfloat32mf2_t vd, float rs1,
                                       vfloat32mf2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat32m1_t __riscv_vfmadd_vv_f32m1_rm(vfloat32m1_t vd, vfloat32m1_t vs1,
                                     vfloat32m1_t vs2, unsigned int frm,
                                     size_t vl);
vfloat32m1_t __riscv_vfmadd_vf_f32m1_rm(vfloat32m1_t vd, float rs1,
                                     vfloat32m1_t vs2, unsigned int frm,
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                                        size_t vl);
vfloat32m2_t __riscv_vfmadd_vv_f32m2_rm(vfloat32m2_t vd, vfloat32m2_t vs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfmadd_vf_f32m2_rm(vfloat32m2_t vd, float rs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4_rm(vfloat32m4_t vd, vfloat32m4_t vs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfmadd_vf_f32m4_rm(vfloat32m4_t vd, float rs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfmadd_vv_f32m8_rm(vfloat32m8_t vd, vfloat32m8_t vs1,
                                        vfloat32m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8_rm(vfloat32m8_t vd, float rs1,
                                        vfloat32m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1_rm(vfloat64m1_t vd, vfloat64m1_t vs1,
                                        vfloat64m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1_rm(vfloat64m1_t vd, double rs1,
                                        vfloat64m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfmadd_vv_f64m2_rm(vfloat64m2_t vd, vfloat64m2_t vs1,
                                        vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfmadd_vf_f64m2_rm(vfloat64m2_t vd, double rs1,
                                        vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfmadd_vv_f64m4_rm(vfloat64m4_t vd, vfloat64m4_t vs1,
                                        vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfmadd_vf_f64m4_rm(vfloat64m4_t vd, double rs1,
                                        vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfmadd_vv_f64m8_rm(vfloat64m8_t vd, vfloat64m8_t vs1,
                                        vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8_rm(vfloat64m8_t vd, double rs1,
                                        vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4_rm(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4_rm(vfloat16mf4_t vd, _Float16 rs1,
                                           vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2_rm(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2_rm(vfloat16mf2_t vd, _Float16 rs1,
                                           vfloat16mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1_rm(vfloat16m1_t vd, vfloat16m1_t vs1,
                                         vfloat16m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1_rm(vfloat16m1_t vd, _Float16 rs1,
                                         vfloat16m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmadd_vv_f16m2_rm(vfloat16m2_t vd, vfloat16m2_t vs1,
                                         vfloat16m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2_rm(vfloat16m2_t vd, _Float16 rs1,
                                         vfloat16m2_t vs2, unsigned int frm,
                                         size_t vl);
```

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vfloat16m4_t __riscv_vfnmadd_vv_f16m4_rm(vfloat16m4_t vd, vfloat16m4_t vs1,
                                         vfloat16m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4_rm(vfloat16m4_t vd, _Float16 rs1,
                                         vfloat16m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmadd_vv_f16m8_rm(vfloat16m8_t vd, vfloat16m8_t vs1,
                                         vfloat16m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmadd_vf_f16m8_rm(vfloat16m8_t vd, _Float16 rs1,
                                         vfloat16m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2_rm(vfloat32mf2_t vd, float rs1,
                                           vfloat32mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1_rm(vfloat32m1_t vd, vfloat32m1_t vs1,
                                         vfloat32m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1_rm(vfloat32m1_t vd, float rs1,
                                         vfloat32m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2_rm(vfloat32m2_t vd, vfloat32m2_t vs1,
                                         vfloat32m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2_rm(vfloat32m2_t vd, float rs1,
                                         vfloat32m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4_rm(vfloat32m4_t vd, vfloat32m4_t vs1,
                                         vfloat32m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmadd_vf_f32m4_rm(vfloat32m4_t vd, float rs1,
                                         vfloat32m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8_rm(vfloat32m8_t vd, vfloat32m8_t vs1,
                                         vfloat32m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmadd_vf_f32m8_rm(vfloat32m8_t vd, float rs1,
                                         vfloat32m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1_rm(vfloat64m1_t vd, vfloat64m1_t vs1,
                                         vfloat64m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1_rm(vfloat64m1_t vd, double rs1,
                                         vfloat64m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2_rm(vfloat64m2_t vd, vfloat64m2_t vs1,
                                         vfloat64m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmadd_vf_f64m2_rm(vfloat64m2_t vd, double rs1,
                                         vfloat64m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4_rm(vfloat64m4_t vd, vfloat64m4_t vs1,
                                         vfloat64m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m4_t __riscv_vfnmadd_vf_f64m4_rm(vfloat64m4_t vd, double rs1,
                                         vfloat64m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8_rm(vfloat64m8_t vd, vfloat64m8_t vs1,
                                         vfloat64m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8_rm(vfloat64m8_t vd, double rs1,
                                         vfloat64m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4_rm(vfloat16mf4_t vd, vfloat16mf4_t vs1,
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                                        vfloat16mf4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4_rm(vfloat16mf4_t vd, _Float16 rs1,
                                        vfloat16mf4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2_rm(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                        vfloat16mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16mf2_t __riscv_vfmsub_vf_f16mf2_rm(vfloat16mf2_t vd, _Float16 rs1,
                                        vfloat16mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1_rm(vfloat16m1_t vd, vfloat16m1_t vs1,
                                      vfloat16m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1_rm(vfloat16m1_t vd, _Float16 rs1,
                                      vfloat16m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2_rm(vfloat16m2_t vd, vfloat16m2_t vs1,
                                      vfloat16m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m2_t __riscv_vfmsub_vf_f16m2_rm(vfloat16m2_t vd, _Float16 rs1,
                                      vfloat16m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4_rm(vfloat16m4_t vd, vfloat16m4_t vs1,
                                      vfloat16m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4_rm(vfloat16m4_t vd, _Float16 rs1,
                                      vfloat16m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8_rm(vfloat16m8_t vd, vfloat16m8_t vs1,
                                      vfloat16m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8_rm(vfloat16m8_t vd, _Float16 rs1,
                                      vfloat16m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32mf2_t __riscv_vfmsub_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                        vfloat32mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmsub_vf_f32mf2_rm(vfloat32mf2_t vd, float rs1,
                                        vfloat32mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1_rm(vfloat32m1_t vd, vfloat32m1_t vs1,
                                      vfloat32m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m1_t __riscv_vfmsub_vf_f32m1_rm(vfloat32m1_t vd, float rs1,
                                      vfloat32m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m2_t __riscv_vfmsub_vv_f32m2_rm(vfloat32m2_t vd, vfloat32m2_t vs1,
                                      vfloat32m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m2_t __riscv_vfmsub_vf_f32m2_rm(vfloat32m2_t vd, float rs1,
                                      vfloat32m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m4_t __riscv_vfmsub_vv_f32m4_rm(vfloat32m4_t vd, vfloat32m4_t vs1,
                                      vfloat32m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m4_t __riscv_vfmsub_vf_f32m4_rm(vfloat32m4_t vd, float rs1,
                                      vfloat32m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m8_t __riscv_vfmsub_vv_f32m8_rm(vfloat32m8_t vd, vfloat32m8_t vs1,
                                      vfloat32m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m8_t __riscv_vfmsub_vf_f32m8_rm(vfloat32m8_t vd, float rs1,
                                      vfloat32m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1_rm(vfloat64m1_t vd, vfloat64m1_t vs1,
                                      vfloat64m1_t vs2, unsigned int frm,
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                                       size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1_rm(vfloat64m1_t vd, double rs1,
                                       vfloat64m1_t vs2, unsigned int frm,
                                       size_t vl);
vfloat64m2_t __riscv_vfmsub_vv_f64m2_rm(vfloat64m2_t vd, vfloat64m2_t vs1,
                                       vfloat64m2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat64m2_t __riscv_vfmsub_vf_f64m2_rm(vfloat64m2_t vd, double rs1,
                                       vfloat64m2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat64m4_t __riscv_vfmsub_vv_f64m4_rm(vfloat64m4_t vd, vfloat64m4_t vs1,
                                       vfloat64m4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat64m4_t __riscv_vfmsub_vf_f64m4_rm(vfloat64m4_t vd, double rs1,
                                       vfloat64m4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat64m8_t __riscv_vfmsub_vv_f64m8_rm(vfloat64m8_t vd, vfloat64m8_t vs1,
                                       vfloat64m8_t vs2, unsigned int frm,
                                       size_t vl);
vfloat64m8_t __riscv_vfmsub_vf_f64m8_rm(vfloat64m8_t vd, double rs1,
                                       vfloat64m8_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vv_f16mf4_rm(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vf_f16mf4_rm(vfloat16mf4_t vd, _Float16 rs1,
                                          vfloat16mf4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vv_f16mf2_rm(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2_rm(vfloat16mf2_t vd, _Float16 rs1,
                                          vfloat16mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1_rm(vfloat16m1_t vd, vfloat16m1_t vs1,
                                        vfloat16m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1_rm(vfloat16m1_t vd, _Float16 rs1,
                                        vfloat16m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2_rm(vfloat16m2_t vd, vfloat16m2_t vs1,
                                        vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfnmsub_vf_f16m2_rm(vfloat16m2_t vd, _Float16 rs1,
                                        vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfnmsub_vv_f16m4_rm(vfloat16m4_t vd, vfloat16m4_t vs1,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4_rm(vfloat16m4_t vd, _Float16 rs1,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8_rm(vfloat16m8_t vd, vfloat16m8_t vs1,
                                        vfloat16m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8_rm(vfloat16m8_t vd, _Float16 rs1,
                                        vfloat16m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2_rm(vfloat32mf2_t vd, float rs1,
                                          vfloat32mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfnmsub_vv_f32m1_rm(vfloat32m1_t vd, vfloat32m1_t vs1,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
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vfloat32m1_t __riscv_vfnmsub_vf_f32m1_rm(vfloat32m1_t vd, float rs1,
                                         vfloat32m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsub_vv_f32m2_rm(vfloat32m2_t vd, vfloat32m2_t vs1,
                                         vfloat32m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsub_vf_f32m2_rm(vfloat32m2_t vd, float rs1,
                                         vfloat32m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmsub_vv_f32m4_rm(vfloat32m4_t vd, vfloat32m4_t vs1,
                                         vfloat32m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmsub_vf_f32m4_rm(vfloat32m4_t vd, float rs1,
                                         vfloat32m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmsub_vv_f32m8_rm(vfloat32m8_t vd, vfloat32m8_t vs1,
                                         vfloat32m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmsub_vf_f32m8_rm(vfloat32m8_t vd, float rs1,
                                         vfloat32m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1_rm(vfloat64m1_t vd, vfloat64m1_t vs1,
                                         vfloat64m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1_rm(vfloat64m1_t vd, double rs1,
                                         vfloat64m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2_rm(vfloat64m2_t vd, vfloat64m2_t vs1,
                                         vfloat64m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2_rm(vfloat64m2_t vd, double rs1,
                                         vfloat64m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4_rm(vfloat64m4_t vd, vfloat64m4_t vs1,
                                         vfloat64m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4_rm(vfloat64m4_t vd, double rs1,
                                         vfloat64m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8_rm(vfloat64m8_t vd, vfloat64m8_t vs1,
                                         vfloat64m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8_rm(vfloat64m8_t vd, double rs1,
                                         vfloat64m8_t vs2, unsigned int frm,
                                         size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                            _Float16 rs1, vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                            _Float16 rs1, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                          _Float16 rs1, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
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                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
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                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
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                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
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                                        _Float16 rs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                             _Float16 rs1, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
```

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                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
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                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                         _Float16 rs1, vfloat16m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
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vfloat32m2_t __riscv_vfmadd_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                             _Float16 rs1, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                             _Float16 rs1, vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                           _Float16 rs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                           _Float16 rs1, vfloat16m2_t vs2,
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                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
```

```
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                            _Float16 rs1, vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfmsub_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                            _Float16 rs1, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                          _Float16 rs1, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                          _Float16 rs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                          _Float16 rs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfmsub_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
```

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vfloat32m8_t __riscv_vfmsub_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vv_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vf_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vd,
                                             _Float16 rs1, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vv_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vd,
                                             _Float16 rs1, vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vd,
                                           _Float16 rs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_vf_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vd,
                                           _Float16 rs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vv_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs1, vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vd,
                                           _Float16 rs1, vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs1, vfloat16m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vd,
                                           _Float16 rs1, vfloat16m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs1,
```

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                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        unsigned int frm, size_t vl);
```

A.5.6. Vector Widening Floating-Point Fused Multiply-Add Intrinsics

```
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                     vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2(vfloat32mf2_t vd, _Float16 vs1,
                                     vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                   vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1(vfloat32m1_t vd, _Float16 vs1,
                                   vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2(vfloat32m2_t vd, vfloat16m1_t vs1,
```

```
                                    vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2(vfloat32m2_t vd, _Float16 vs1,
                                    vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4(vfloat32m4_t vd, vfloat16m2_t vs1,
                                    vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4(vfloat32m4_t vd, _Float16 vs1,
                                    vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8(vfloat32m8_t vd, vfloat16m4_t vs1,
                                    vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8(vfloat32m8_t vd, _Float16 vs1,
                                    vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                    vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1(vfloat64m1_t vd, float vs1,
                                    vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2(vfloat64m2_t vd, vfloat32m1_t vs1,
                                    vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc_vf_f64m2(vfloat64m2_t vd, float vs1,
                                    vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4(vfloat64m4_t vd, vfloat32m2_t vs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vf_f64m4(vfloat64m4_t vd, float vs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8(vfloat64m8_t vd, vfloat32m4_t vs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8(vfloat64m8_t vd, float vs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                      vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2(vfloat32mf2_t vd, _Float16 vs1,
                                      vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                     vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1(vfloat32m1_t vd, _Float16 vs1,
                                     vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2(vfloat32m2_t vd, vfloat16m1_t vs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2(vfloat32m2_t vd, _Float16 vs1,
                                     vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4(vfloat32m4_t vd, vfloat16m2_t vs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4(vfloat32m4_t vd, _Float16 vs1,
                                     vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8(vfloat32m8_t vd, vfloat16m4_t vs1,
                                     vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8(vfloat32m8_t vd, _Float16 vs1,
                                     vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                     vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1(vfloat64m1_t vd, float vs1,
                                     vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2(vfloat64m2_t vd, vfloat32m1_t vs1,
                                     vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2(vfloat64m2_t vd, float vs1,
                                     vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4(vfloat64m4_t vd, vfloat32m2_t vs1,
                                     vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4(vfloat64m4_t vd, float vs1,
                                     vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8(vfloat64m8_t vd, vfloat32m4_t vs1,
                                     vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8(vfloat64m8_t vd, float vs1,
                                     vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                      vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2(vfloat32mf2_t vd, _Float16 vs1,
                                      vfloat16mf4_t vs2, size_t vl);
```

```
vfloat32m1_t __riscv_vfwmsac_vv_f32m1(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                      vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1(vfloat32m1_t vd, _Float16 vs1,
                                      vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2(vfloat32m2_t vd, vfloat16m1_t vs1,
                                      vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vf_f32m2(vfloat32m2_t vd, _Float16 vs1,
                                      vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4(vfloat32m4_t vd, vfloat16m2_t vs1,
                                      vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4(vfloat32m4_t vd, _Float16 vs1,
                                      vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac_vv_f32m8(vfloat32m8_t vd, vfloat16m4_t vs1,
                                      vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac_vf_f32m8(vfloat32m8_t vd, _Float16 vs1,
                                      vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                      vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1(vfloat64m1_t vd, float vs1,
                                      vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vv_f64m2(vfloat64m2_t vd, vfloat32m1_t vs1,
                                      vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2(vfloat64m2_t vd, float vs1,
                                      vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4(vfloat64m4_t vd, vfloat32m2_t vs1,
                                      vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4(vfloat64m4_t vd, float vs1,
                                      vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8(vfloat64m8_t vd, vfloat32m4_t vs1,
                                      vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8(vfloat64m8_t vd, float vs1,
                                      vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                         vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2(vfloat32mf2_t vd, _Float16 vs1,
                                         vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1(vfloat32m1_t vd, _Float16 vs1,
                                       vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2(vfloat32m2_t vd, vfloat16m1_t vs1,
                                       vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2(vfloat32m2_t vd, _Float16 vs1,
                                       vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4(vfloat32m4_t vd, vfloat16m2_t vs1,
                                       vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4(vfloat32m4_t vd, _Float16 vs1,
                                       vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8(vfloat32m8_t vd, vfloat16m4_t vs1,
                                       vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8(vfloat32m8_t vd, _Float16 vs1,
                                       vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                       vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vf_f64m1(vfloat64m1_t vd, float vs1,
                                       vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2(vfloat64m2_t vd, vfloat32m1_t vs1,
                                       vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2(vfloat64m2_t vd, float vs1,
                                       vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4(vfloat64m4_t vd, vfloat32m2_t vs1,
                                       vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4(vfloat64m4_t vd, float vs1,
                                       vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8(vfloat64m8_t vd, vfloat32m4_t vs1,
                                       vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8(vfloat64m8_t vd, float vs1,
```

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                                      vfloat32m4_t vs2, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                          _Float16 vs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                        _Float16 vs1, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                        _Float16 vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                        _Float16 vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                        _Float16 vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                        float vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmacc_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                        float vs1, vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmacc_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                        float vs1, vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                           _Float16 vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                         _Float16 vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
```

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                                        size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                         _Float16 vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                         _Float16 vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                         _Float16 vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                         float vs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                         float vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                         float vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                         float vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                          _Float16 vs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfwmsac_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                        _Float16 vs1, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmsac_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                        _Float16 vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                        _Float16 vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmsac_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
```

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vfloat32m8_t __riscv_vfwmsac_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                        _Float16 vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                        float vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmsac_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                        float vs1, vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                        float vs1, vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                           _Float16 vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                         _Float16 vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                         _Float16 vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                         _Float16 vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                         _Float16 vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                         float vs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                         float vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
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                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                        float vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                        float vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2_rm(vfloat32mf2_t vd, _Float16 vs1,
                                          vfloat16mf4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1_rm(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                        vfloat16mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1_rm(vfloat32m1_t vd, _Float16 vs1,
                                        vfloat16mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2_rm(vfloat32m2_t vd, vfloat16m1_t vs1,
                                        vfloat16m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2_rm(vfloat32m2_t vd, _Float16 vs1,
                                        vfloat16m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4_rm(vfloat32m4_t vd, vfloat16m2_t vs1,
                                        vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4_rm(vfloat32m4_t vd, _Float16 vs1,
                                        vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8_rm(vfloat32m8_t vd, vfloat16m4_t vs1,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8_rm(vfloat32m8_t vd, _Float16 vs1,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1_rm(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                        vfloat32mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1_rm(vfloat64m1_t vd, float vs1,
                                        vfloat32mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2_rm(vfloat64m2_t vd, vfloat32m1_t vs1,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmacc_vf_f64m2_rm(vfloat64m2_t vd, float vs1,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4_rm(vfloat64m4_t vd, vfloat32m2_t vs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmacc_vf_f64m4_rm(vfloat64m4_t vd, float vs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8_rm(vfloat64m8_t vd, vfloat32m4_t vs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8_rm(vfloat64m8_t vd, float vs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, unsigned int frm,
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                                          size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2_rm(vfloat32mf2_t vd, _Float16 vs1,
                                            vfloat16mf4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1_rm(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1_rm(vfloat32m1_t vd, _Float16 vs1,
                                          vfloat16mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2_rm(vfloat32m2_t vd, vfloat16m1_t vs1,
                                          vfloat16m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2_rm(vfloat32m2_t vd, _Float16 vs1,
                                          vfloat16m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4_rm(vfloat32m4_t vd, vfloat16m2_t vs1,
                                          vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4_rm(vfloat32m4_t vd, _Float16 vs1,
                                          vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8_rm(vfloat32m8_t vd, vfloat16m4_t vs1,
                                          vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8_rm(vfloat32m8_t vd, _Float16 vs1,
                                          vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1_rm(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1_rm(vfloat64m1_t vd, float vs1,
                                          vfloat32mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2_rm(vfloat64m2_t vd, vfloat32m1_t vs1,
                                          vfloat32m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2_rm(vfloat64m2_t vd, float vs1,
                                          vfloat32m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4_rm(vfloat64m4_t vd, vfloat32m2_t vs1,
                                          vfloat32m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4_rm(vfloat64m4_t vd, float vs1,
                                          vfloat32m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8_rm(vfloat64m8_t vd, vfloat32m4_t vs1,
                                          vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8_rm(vfloat64m8_t vd, float vs1,
                                          vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2_rm(vfloat32mf2_t vd, _Float16 vs1,
                                           vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfwmsac_vv_f32m1_rm(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                         vfloat16mf2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1_rm(vfloat32m1_t vd, _Float16 vs1,
                                         vfloat16mf2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2_rm(vfloat32m2_t vd, vfloat16m1_t vs1,
                                         vfloat16m1_t vs2, unsigned int frm,
                                         size_t vl);
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vfloat32m2_t __riscv_vfwmsac_vf_f32m2_rm(vfloat32m2_t vd, _Float16 vs1,
                                         vfloat16m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4_rm(vfloat32m4_t vd, vfloat16m2_t vs1,
                                         vfloat16m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4_rm(vfloat32m4_t vd, _Float16 vs1,
                                         vfloat16m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfwmsac_vv_f32m8_rm(vfloat32m8_t vd, vfloat16m4_t vs1,
                                         vfloat16m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m8_t __riscv_vfwmsac_vf_f32m8_rm(vfloat32m8_t vd, _Float16 vs1,
                                         vfloat16m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1_rm(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                         vfloat32mf2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1_rm(vfloat64m1_t vd, float vs1,
                                         vfloat32mf2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m2_t __riscv_vfwmsac_vv_f64m2_rm(vfloat64m2_t vd, vfloat32m1_t vs1,
                                         vfloat32m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2_rm(vfloat64m2_t vd, float vs1,
                                         vfloat32m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4_rm(vfloat64m4_t vd, vfloat32m2_t vs1,
                                         vfloat32m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4_rm(vfloat64m4_t vd, float vs1,
                                         vfloat32m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8_rm(vfloat64m8_t vd, vfloat32m4_t vs1,
                                         vfloat32m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8_rm(vfloat64m8_t vd, float vs1,
                                         vfloat32m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2_rm(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2_rm(vfloat32mf2_t vd, _Float16 vs1,
                                            vfloat16mf4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1_rm(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1_rm(vfloat32m1_t vd, _Float16 vs1,
                                          vfloat16mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2_rm(vfloat32m2_t vd, vfloat16m1_t vs1,
                                          vfloat16m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2_rm(vfloat32m2_t vd, _Float16 vs1,
                                          vfloat16m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4_rm(vfloat32m4_t vd, vfloat16m2_t vs1,
                                          vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4_rm(vfloat32m4_t vd, _Float16 vs1,
                                          vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8_rm(vfloat32m8_t vd, vfloat16m4_t vs1,
                                          vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8_rm(vfloat32m8_t vd, _Float16 vs1,
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                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1_rm(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                        vfloat32mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vf_f64m1_rm(vfloat64m1_t vd, float vs1,
                                        vfloat32mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2_rm(vfloat64m2_t vd, vfloat32m1_t vs1,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2_rm(vfloat64m2_t vd, float vs1,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4_rm(vfloat64m4_t vd, vfloat32m2_t vs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4_rm(vfloat64m4_t vd, float vs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8_rm(vfloat64m8_t vd, vfloat32m4_t vs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8_rm(vfloat64m8_t vd, float vs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                           _Float16 vs1, vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                         _Float16 vs1, vfloat16mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                         _Float16 vs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                         _Float16 vs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                         _Float16 vs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                         float vs1, vfloat32mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
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vfloat64m2_t __riscv_vfwmacc_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                           float vs1, vfloat32m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat32m2_t vs1, vfloat32m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                           float vs1, vfloat32m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat32m4_t vs1, vfloat32m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                           float vs1, vfloat32m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat16mf4_t vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                              _Float16 vs1, vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                            _Float16 vs1, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat16m1_t vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                            _Float16 vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat16m2_t vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                            _Float16 vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat16m4_t vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                            _Float16 vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                            float vs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                            float vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                            float vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
```

```
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                          float vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                          _Float16 vs1, vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                         _Float16 vs1, vfloat16mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                         _Float16 vs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                         _Float16 vs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                         _Float16 vs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                         float vs1, vfloat32mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                         float vs1, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                         float vs1, vfloat32m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                         float vs1, vfloat32m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vd,
                                            _Float16 vs1, vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
```

```
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vd,
                                            _Float16 vs1, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat16m1_t vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vd,
                                            _Float16 vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat16m2_t vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vd,
                                            _Float16 vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat16m4_t vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vd,
                                            _Float16 vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vf_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vd,
                                            float vs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vd,
                                            float vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vd,
                                            float vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vd,
                                            float vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
```

A.5.7. Vector Floating-Point Square-Root Intrinsics

```
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4(vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2(vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1(vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2(vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfsqrt_v_f16m4(vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8(vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2(vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1(vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2(vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfsqrt_v_f32m4(vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8(vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1(vfloat64m1_t vs2, size_t vl);
```

```
vfloat64m2_t __riscv_vfsqrt_v_f64m2(vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4(vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8(vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                      size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2_m(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfsqrt_v_f16m4_m(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8_m(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                      size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                      size_t vl);
vfloat32m4_t __riscv_vfsqrt_v_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                      size_t vl);
vfloat64m2_t __riscv_vfsqrt_v_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                      size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                      size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8_m(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4_rm(vfloat16mf4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2_rm(vfloat16mf2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1_rm(vfloat16m1_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2_rm(vfloat16m2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m4_t __riscv_vfsqrt_v_f16m4_rm(vfloat16m4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8_rm(vfloat16m8_t vs2, unsigned int frm,
                                       size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2_rm(vfloat32mf2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1_rm(vfloat32m1_t vs2, unsigned int frm,
                                       size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2_rm(vfloat32m2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat32m4_t __riscv_vfsqrt_v_f32m4_rm(vfloat32m4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8_rm(vfloat32m8_t vs2, unsigned int frm,
                                       size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1_rm(vfloat64m1_t vs2, unsigned int frm,
                                       size_t vl);
vfloat64m2_t __riscv_vfsqrt_v_f64m2_rm(vfloat64m2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4_rm(vfloat64m4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8_rm(vfloat64m8_t vs2, unsigned int frm,
                                       size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
```

```
vfloat16m4_t __riscv_vfsqrt_v_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsqrt_v_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsqrt_v_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                         unsigned int frm, size_t vl);
```

A.5.8. Vector Floating-Point Reciprocal Square-Root Estimate Intrinsics

```
vfloat16mf4_t __riscv_vfrsqrt7_v_f16mf4(vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7_v_f16mf2(vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrsqrt7_v_f16m1(vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrsqrt7_v_f16m2(vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrsqrt7_v_f16m4(vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrsqrt7_v_f16m8(vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7_v_f32mf2(vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrsqrt7_v_f32m1(vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrsqrt7_v_f32m2(vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrsqrt7_v_f32m4(vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrsqrt7_v_f32m8(vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrsqrt7_v_f64m1(vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrsqrt7_v_f64m2(vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrsqrt7_v_f64m4(vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrsqrt7_v_f64m8(vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrsqrt7_v_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7_v_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfrsqrt7_v_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfrsqrt7_v_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfrsqrt7_v_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfrsqrt7_v_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7_v_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfrsqrt7_v_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfrsqrt7_v_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfrsqrt7_v_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfrsqrt7_v_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfrsqrt7_v_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                        size_t vl);
```

```
vfloat64m2_t __riscv_vfrsqrt7_v_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfrsqrt7_v_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfrsqrt7_v_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                        size_t vl);
```

[[#1410-vector-floating-point-reciprocal-estimate]] ==== Vector Floating-Point Reciprocal Estimate Intrinsics

```
vfloat16mf4_t __riscv_vfrec7_v_f16mf4(vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2(vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1(vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2(vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4(vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8(vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrec7_v_f32mf2(vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1(vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2(vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4(vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8(vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1(vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2(vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4(vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8(vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_v_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                      size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2_m(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4_m(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8_m(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrec7_v_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                      size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                      size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                      size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                      size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                      size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8_m(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfrec7_v_f16mf4_rm(vfloat16mf4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2_rm(vfloat16mf2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1_rm(vfloat16m1_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2_rm(vfloat16m2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4_rm(vfloat16m4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8_rm(vfloat16m8_t vs2, unsigned int frm,
                                       size_t vl);
vfloat32mf2_t __riscv_vfrec7_v_f32mf2_rm(vfloat32mf2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1_rm(vfloat32m1_t vs2, unsigned int frm,
```

```
                                        size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2_rm(vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4_rm(vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8_rm(vfloat32m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1_rm(vfloat64m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2_rm(vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4_rm(vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8_rm(vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_v_f16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrec7_v_f32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                         unsigned int frm, size_t vl);
```

A.5.9. Vector Floating-Point MIN/MAX Intrinsics

```
vfloat16mf4_t __riscv_vfmin_vv_f16mf4(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vfloat16mf4_t __riscv_vfmin_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfmin_vv_f16mf2(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfmin_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfmin_vv_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfmin_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmin_vv_f16m2(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vfloat16m2_t __riscv_vfmin_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmin_vv_f16m4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
```

```
vfloat16m4_t __riscv_vfmin_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmin_vv_f16m8(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                    size_t vl);
vfloat16m8_t __riscv_vfmin_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmin_vv_f32mf2(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfmin_vf_f32mf2(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmin_vv_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfmin_vf_f32m1(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmin_vv_f32m2(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                    size_t vl);
vfloat32m2_t __riscv_vfmin_vf_f32m2(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmin_vv_f32m4(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfmin_vf_f32m4(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmin_vv_f32m8(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfmin_vf_f32m8(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmin_vv_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfmin_vf_f64m1(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfmin_vv_f64m2(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                    size_t vl);
vfloat64m2_t __riscv_vfmin_vf_f64m2(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfmin_vv_f64m4(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vfmin_vf_f64m4(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfmin_vv_f64m8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfmin_vf_f64m8(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfmax_vv_f16mf4(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vfloat16mf4_t __riscv_vfmax_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfmax_vv_f16mf2(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfmax_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfmax_vv_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfmax_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmax_vv_f16m2(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vfloat16m2_t __riscv_vfmax_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmax_vv_f16m4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vfloat16m4_t __riscv_vfmax_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmax_vv_f16m8(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                    size_t vl);
vfloat16m8_t __riscv_vfmax_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmax_vv_f32mf2(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfmax_vf_f32mf2(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmax_vv_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfmax_vf_f32m1(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmax_vv_f32m2(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                    size_t vl);
vfloat32m2_t __riscv_vfmax_vf_f32m2(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmax_vv_f32m4(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfmax_vf_f32m4(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmax_vv_f32m8(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfmax_vf_f32m8(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmax_vv_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
```

```
                                    size_t vl);
vfloat64m1_t __riscv_vfmax_vf_f64m1(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfmax_vv_f64m2(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                    size_t vl);
vfloat64m2_t __riscv_vfmax_vf_f64m2(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfmax_vv_f64m4(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vfmax_vf_f64m4(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfmax_vv_f64m8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfmax_vf_f64m8(vfloat64m8_t vs2, double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmin_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmin_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmin_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmin_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmin_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                      vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmin_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmin_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                      vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmin_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmin_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                      vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmin_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmin_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                      vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmin_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmin_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmin_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vfloat32m1_t __riscv_vfmin_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                      vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmin_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfmin_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                      vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmin_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfmin_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                      vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmin_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfmin_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                      vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmin_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfmin_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                      vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmin_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                      double rs1, size_t vl);
vfloat64m2_t __riscv_vfmin_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                      vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmin_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                      double rs1, size_t vl);
vfloat64m4_t __riscv_vfmin_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                      vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmin_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
```

```
                                    double rs1, size_t vl);
vfloat64m8_t __riscv_vfmin_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                    vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmin_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                    size_t vl);
vfloat16mf4_t __riscv_vfmax_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                      vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmax_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmax_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                      vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmax_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmax_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                    vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmax_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmax_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                    vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmax_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmax_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                    vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmax_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmax_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                    vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmax_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmax_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                      vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmax_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                      float rs1, size_t vl);
vfloat32m1_t __riscv_vfmax_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmax_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                                    size_t vl);
vfloat32m2_t __riscv_vfmax_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                    vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmax_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfmax_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                    vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmax_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfmax_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                    vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmax_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfmax_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                    vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmax_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                    double rs1, size_t vl);
vfloat64m2_t __riscv_vfmax_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                    vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmax_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                    double rs1, size_t vl);
vfloat64m4_t __riscv_vfmax_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                    vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmax_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                    double rs1, size_t vl);
vfloat64m8_t __riscv_vfmax_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                    vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmax_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                    size_t vl);
```

A.5.10. Vector Floating-Point Sign-Injection Intrinsics

```
vfloat16mf4_t __riscv_vfsgnj_vv_f16mf4(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                       size_t vl);
vfloat16mf4_t __riscv_vfsgnj_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vv_f16mf2(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                       size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m1_t __riscv_vfsgnj_vv_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vfloat16m1_t __riscv_vfsgnj_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_vv_f16m2(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                     size_t vl);
vfloat16m2_t __riscv_vfsgnj_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_vv_f16m4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                     size_t vl);
vfloat16m4_t __riscv_vfsgnj_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_vv_f16m8(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                     size_t vl);
vfloat16m8_t __riscv_vfsgnj_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vv_f32mf2(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vf_f32mf2(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_vv_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vfloat32m1_t __riscv_vfsgnj_vf_f32m1(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_vv_f32m2(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vfloat32m2_t __riscv_vfsgnj_vf_f32m2(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_vv_f32m4(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                     size_t vl);
vfloat32m4_t __riscv_vfsgnj_vf_f32m4(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_vv_f32m8(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                     size_t vl);
vfloat32m8_t __riscv_vfsgnj_vf_f32m8(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj_vv_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                     size_t vl);
vfloat64m1_t __riscv_vfsgnj_vf_f64m1(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj_vv_f64m2(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                     size_t vl);
vfloat64m2_t __riscv_vfsgnj_vf_f64m2(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_vv_f64m4(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                     size_t vl);
vfloat64m4_t __riscv_vfsgnj_vf_f64m4(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_vv_f64m8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                     size_t vl);
vfloat64m8_t __riscv_vfsgnj_vf_f64m8(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vv_f16mf4(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vv_f16mf2(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vv_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vv_f16m2(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vv_f16m4(vfloat16m4_t vs2, vfloat16m4_t vs1,
```

```
                                    size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1,
                                    size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vv_f16m8(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                    size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1,
                                    size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vv_f32mf2(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vf_f32mf2(vfloat32mf2_t vs2, float rs1,
                                      size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vv_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vf_f32m1(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vv_f32m2(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                    size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vf_f32m2(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vv_f32m4(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vf_f32m4(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vv_f32m8(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vf_f32m8(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vv_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vf_f64m1(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vv_f64m2(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                    size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vf_f64m2(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vv_f64m4(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vf_f64m4(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vv_f64m8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vf_f64m8(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vv_f16mf4(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vv_f16mf2(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfsgnjx_vv_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfsgnjx_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1,
                                    size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vv_f16m2(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1,
                                    size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vv_f16m4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1,
                                    size_t vl);
vfloat16m8_t __riscv_vfsgnjx_vv_f16m8(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                    size_t vl);
vfloat16m8_t __riscv_vfsgnjx_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1,
                                    size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vv_f32mf2(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vf_f32mf2(vfloat32mf2_t vs2, float rs1,
                                      size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vv_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vf_f32m1(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vv_f32m2(vfloat32m2_t vs2, vfloat32m2_t vs1,
```

```
                                    size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vf_f32m2(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vv_f32m4(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vf_f32m4(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vv_f32m8(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vf_f32m8(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vv_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vf_f64m1(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vv_f64m2(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                    size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vf_f64m2(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vv_f64m4(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vf_f64m4(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vv_f64m8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vf_f64m8(vfloat64m8_t vs2, double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsgnj_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                      vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnj_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                      vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                    vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                    vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                    vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                    vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                      vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                      float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                    float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                    vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                    float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                    vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfsgnj_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                    vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfsgnj_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                    vfloat64m1_t vs1, size_t vl);
```

```
vfloat64m1_t __riscv_vfsgnj_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                       vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                       vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                       vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                       double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                        vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                        vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                        vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                        float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                        vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                        float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                        vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                        float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                        vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                        float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                        vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                        double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                        vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                        double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
```

```
                                        vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                        double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                        vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                        double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                        vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                        vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                        vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                        float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                        vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                        float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                        vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                        float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                        vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                        float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                        vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                        double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                        vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                        double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                        vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                        double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                        vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                        double rs1, size_t vl);
```

A.5.11. Vector Floating-Point Absolute Value Intrinsics

```
vfloat16mf4_t __riscv_vfabs_v_f16mf4(vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfabs_v_f16mf2(vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfabs_v_f16m1(vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfabs_v_f16m2(vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfabs_v_f16m4(vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfabs_v_f16m8(vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfabs_v_f32mf2(vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfabs_v_f32m1(vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfabs_v_f32m2(vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfabs_v_f32m4(vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfabs_v_f32m8(vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfabs_v_f64m1(vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfabs_v_f64m2(vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfabs_v_f64m4(vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfabs_v_f64m8(vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfabs_v_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                       size_t vl);
vfloat16mf2_t __riscv_vfabs_v_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                       size_t vl);
vfloat16m1_t __riscv_vfabs_v_f16m1_m(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfabs_v_f16m2_m(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfabs_v_f16m4_m(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfabs_v_f16m8_m(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfabs_v_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                       size_t vl);
vfloat32m1_t __riscv_vfabs_v_f32m1_m(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfabs_v_f32m2_m(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfabs_v_f32m4_m(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfabs_v_f32m8_m(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfabs_v_f64m1_m(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfabs_v_f64m2_m(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfabs_v_f64m4_m(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfabs_v_f64m8_m(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
```

A.5.12. Vector Floating-Point Compare Intrinsics

```
vbool64_t __riscv_vmfeq_vv_f16mf4_b64(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfeq_vf_f16mf4_b64(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vbool32_t __riscv_vmfeq_vv_f16mf2_b32(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmfeq_vf_f16mf2_b32(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vbool16_t __riscv_vmfeq_vv_f16m1_b16(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfeq_vf_f16m1_b16(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfeq_vv_f16m2_b8(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfeq_vf_f16m2_b8(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfeq_vv_f16m4_b4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmfeq_vf_f16m4_b4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfeq_vv_f16m8_b2(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                   size_t vl);
vbool2_t __riscv_vmfeq_vf_f16m8_b2(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfeq_vv_f32mf2_b64(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfeq_vf_f32mf2_b64(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfeq_vv_f32m1_b32(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
```

```
vbool32_t __riscv_vmfeq_vf_f32m1_b32(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfeq_vv_f32m2_b16(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfeq_vf_f32m2_b16(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfeq_vv_f32m4_b8(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfeq_vf_f32m4_b8(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfeq_vv_f32m8_b4(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmfeq_vf_f32m8_b4(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfeq_vv_f64m1_b64(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmfeq_vf_f64m1_b64(vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfeq_vv_f64m2_b32(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfeq_vf_f64m2_b32(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfeq_vv_f64m4_b16(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfeq_vf_f64m4_b16(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfeq_vv_f64m8_b8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfeq_vf_f64m8_b8(vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfne_vv_f16mf4_b64(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfne_vf_f16mf4_b64(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vbool32_t __riscv_vmfne_vv_f16mf2_b32(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmfne_vf_f16mf2_b32(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vbool16_t __riscv_vmfne_vv_f16m1_b16(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfne_vf_f16m1_b16(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfne_vv_f16m2_b8(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfne_vf_f16m2_b8(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfne_vv_f16m4_b4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmfne_vf_f16m4_b4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfne_vv_f16m8_b2(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                   size_t vl);
vbool2_t __riscv_vmfne_vf_f16m8_b2(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfne_vv_f32mf2_b64(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfne_vf_f32mf2_b64(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfne_vv_f32m1_b32(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfne_vf_f32m1_b32(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfne_vv_f32m2_b16(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfne_vf_f32m2_b16(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfne_vv_f32m4_b8(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfne_vf_f32m4_b8(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfne_vv_f32m8_b4(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmfne_vf_f32m8_b4(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfne_vv_f64m1_b64(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmfne_vf_f64m1_b64(vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfne_vv_f64m2_b32(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfne_vf_f64m2_b32(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfne_vv_f64m4_b16(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfne_vf_f64m4_b16(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfne_vv_f64m8_b8(vfloat64m8_t vs2, vfloat64m8_t vs1,
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                                    size_t vl);
vbool8_t __riscv_vmfne_vf_f64m8_b8(vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmflt_vv_f16mf4_b64(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmflt_vf_f16mf4_b64(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vbool32_t __riscv_vmflt_vv_f16mf2_b32(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmflt_vf_f16mf2_b32(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vbool16_t __riscv_vmflt_vv_f16m1_b16(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmflt_vf_f16m1_b16(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmflt_vv_f16m2_b8(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmflt_vf_f16m2_b8(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmflt_vv_f16m4_b4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmflt_vf_f16m4_b4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmflt_vv_f16m8_b2(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                   size_t vl);
vbool2_t __riscv_vmflt_vf_f16m8_b2(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmflt_vv_f32mf2_b64(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmflt_vf_f32mf2_b64(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmflt_vv_f32m1_b32(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmflt_vf_f32m1_b32(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmflt_vv_f32m2_b16(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmflt_vf_f32m2_b16(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmflt_vv_f32m4_b8(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmflt_vf_f32m4_b8(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmflt_vv_f32m8_b4(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmflt_vf_f32m8_b4(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmflt_vv_f64m1_b64(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmflt_vf_f64m1_b64(vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmflt_vv_f64m2_b32(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmflt_vf_f64m2_b32(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmflt_vv_f64m4_b16(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmflt_vf_f64m4_b16(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmflt_vv_f64m8_b8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmflt_vf_f64m8_b8(vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfle_vv_f16mf4_b64(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfle_vf_f16mf4_b64(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vbool32_t __riscv_vmfle_vv_f16mf2_b32(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmfle_vf_f16mf2_b32(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vbool16_t __riscv_vmfle_vv_f16m1_b16(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfle_vf_f16m1_b16(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfle_vv_f16m2_b8(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfle_vf_f16m2_b8(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfle_vv_f16m4_b4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmfle_vf_f16m4_b4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfle_vv_f16m8_b2(vfloat16m8_t vs2, vfloat16m8_t vs1,
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                                    size_t vl);
vbool2_t __riscv_vmfle_vf_f16m8_b2(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfle_vv_f32mf2_b64(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfle_vf_f32mf2_b64(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfle_vv_f32m1_b32(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfle_vf_f32m1_b32(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfle_vv_f32m2_b16(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfle_vf_f32m2_b16(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfle_vv_f32m4_b8(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfle_vf_f32m4_b8(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfle_vv_f32m8_b4(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmfle_vf_f32m8_b4(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfle_vv_f64m1_b64(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmfle_vf_f64m1_b64(vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfle_vv_f64m2_b32(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfle_vf_f64m2_b32(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfle_vv_f64m4_b16(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfle_vf_f64m4_b16(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfle_vv_f64m8_b8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfle_vf_f64m8_b8(vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfgt_vv_f16mf4_b64(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfgt_vf_f16mf4_b64(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vbool32_t __riscv_vmfgt_vv_f16mf2_b32(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmfgt_vf_f16mf2_b32(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vbool16_t __riscv_vmfgt_vv_f16m1_b16(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfgt_vf_f16m1_b16(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfgt_vv_f16m2_b8(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfgt_vf_f16m2_b8(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfgt_vv_f16m4_b4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmfgt_vf_f16m4_b4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfgt_vv_f16m8_b2(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                   size_t vl);
vbool2_t __riscv_vmfgt_vf_f16m8_b2(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfgt_vv_f32mf2_b64(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfgt_vf_f32mf2_b64(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfgt_vv_f32m1_b32(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfgt_vf_f32m1_b32(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfgt_vv_f32m2_b16(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfgt_vf_f32m2_b16(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfgt_vv_f32m4_b8(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfgt_vf_f32m4_b8(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfgt_vv_f32m8_b4(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmfgt_vf_f32m8_b4(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfgt_vv_f64m1_b64(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmfgt_vf_f64m1_b64(vfloat64m1_t vs2, double rs1, size_t vl);
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vbool32_t __riscv_vmfgt_vv_f64m2_b32(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfgt_vf_f64m2_b32(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfgt_vv_f64m4_b16(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfgt_vf_f64m4_b16(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfgt_vv_f64m8_b8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfgt_vf_f64m8_b8(vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfge_vv_f16mf4_b64(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfge_vf_f16mf4_b64(vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vbool32_t __riscv_vmfge_vv_f16mf2_b32(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmfge_vf_f16mf2_b32(vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vbool16_t __riscv_vmfge_vv_f16m1_b16(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfge_vf_f16m1_b16(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfge_vv_f16m2_b8(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfge_vf_f16m2_b8(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfge_vv_f16m4_b4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmfge_vf_f16m4_b4(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfge_vv_f16m8_b2(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                   size_t vl);
vbool2_t __riscv_vmfge_vf_f16m8_b2(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfge_vv_f32mf2_b64(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfge_vf_f32mf2_b64(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfge_vv_f32m1_b32(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfge_vf_f32m1_b32(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfge_vv_f32m2_b16(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfge_vf_f32m2_b16(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfge_vv_f32m4_b8(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfge_vf_f32m4_b8(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfge_vv_f32m8_b4(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                   size_t vl);
vbool4_t __riscv_vmfge_vf_f32m8_b4(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfge_vv_f64m1_b64(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmfge_vf_f64m1_b64(vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfge_vv_f64m2_b32(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfge_vf_f64m2_b32(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfge_vv_f64m4_b16(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfge_vf_f64m4_b16(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfge_vv_f64m8_b8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                   size_t vl);
vbool8_t __riscv_vmfge_vf_f64m8_b8(vfloat64m8_t vs2, double rs1, size_t vl);
// masked functions
vbool64_t __riscv_vmfeq_vv_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfeq_vf_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfeq_vv_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfeq_vf_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfeq_vv_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
```

```
vbool16_t __riscv_vmfeq_vf_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfeq_vv_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                     vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfeq_vf_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                     _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfeq_vv_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
                                     vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfeq_vf_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
                                     _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfeq_vv_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                     vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfeq_vf_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                     _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfeq_vv_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfeq_vf_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vbool32_t __riscv_vmfeq_vv_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfeq_vf_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vbool16_t __riscv_vmfeq_vv_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfeq_vf_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vbool8_t __riscv_vmfeq_vv_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2,
                                     vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfeq_vf_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                     size_t vl);
vbool4_t __riscv_vmfeq_vv_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2,
                                     vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfeq_vf_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                     size_t vl);
vbool64_t __riscv_vmfeq_vv_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
                                       vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfeq_vf_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vbool32_t __riscv_vmfeq_vv_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                       vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfeq_vf_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vbool16_t __riscv_vmfeq_vv_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                       vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfeq_vf_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vbool8_t __riscv_vmfeq_vv_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2,
                                     vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfeq_vf_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                     size_t vl);
vbool64_t __riscv_vmfne_vv_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfne_vf_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfne_vv_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfne_vf_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfne_vv_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfne_vf_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfne_vv_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                     vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfne_vf_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                     _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfne_vv_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
```

```
                                    vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfne_vf_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
                                     _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfne_vv_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                    vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfne_vf_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                     _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfne_vv_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfne_vf_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vbool32_t __riscv_vmfne_vv_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfne_vf_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vbool16_t __riscv_vmfne_vv_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfne_vf_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vbool8_t __riscv_vmfne_vv_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2,
                                    vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfne_vf_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                    size_t vl);
vbool4_t __riscv_vmfne_vv_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2,
                                    vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfne_vf_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                    size_t vl);
vbool64_t __riscv_vmfne_vv_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
                                       vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfne_vf_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vbool32_t __riscv_vmfne_vv_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                       vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfne_vf_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vbool16_t __riscv_vmfne_vv_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                       vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfne_vf_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vbool8_t __riscv_vmfne_vv_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2,
                                    vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfne_vf_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                    size_t vl);
vbool64_t __riscv_vmflt_vv_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmflt_vf_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        _Float16 rs1, size_t vl);
vbool32_t __riscv_vmflt_vv_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmflt_vf_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vbool16_t __riscv_vmflt_vv_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmflt_vf_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vbool8_t __riscv_vmflt_vv_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                    vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmflt_vf_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                    _Float16 rs1, size_t vl);
vbool4_t __riscv_vmflt_vv_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
                                    vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmflt_vf_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
                                    _Float16 rs1, size_t vl);
vbool2_t __riscv_vmflt_vv_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                    vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmflt_vf_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                    _Float16 rs1, size_t vl);
```

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vbool64_t __riscv_vmflt_vv_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmflt_vf_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vbool32_t __riscv_vmflt_vv_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmflt_vf_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vbool16_t __riscv_vmflt_vv_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmflt_vf_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vbool8_t __riscv_vmflt_vv_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2,
                                     vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmflt_vf_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                     size_t vl);
vbool4_t __riscv_vmflt_vv_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2,
                                     vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmflt_vf_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                     size_t vl);
vbool64_t __riscv_vmflt_vv_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
                                       vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmflt_vf_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vbool32_t __riscv_vmflt_vv_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                       vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmflt_vf_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vbool16_t __riscv_vmflt_vv_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                       vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmflt_vf_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vbool8_t __riscv_vmflt_vv_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2,
                                     vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmflt_vf_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                     size_t vl);
vbool64_t __riscv_vmfle_vv_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfle_vf_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfle_vv_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfle_vf_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfle_vv_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfle_vf_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfle_vv_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                     vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfle_vf_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                     _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfle_vv_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
                                     vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfle_vf_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
                                     _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfle_vv_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                     vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfle_vf_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                     _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfle_vv_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfle_vf_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vbool32_t __riscv_vmfle_vv_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfle_vf_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
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                                     float rs1, size_t vl);
vbool16_t __riscv_vmfle_vv_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfle_vf_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vbool8_t __riscv_vmfle_vv_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2,
                                     vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfle_vf_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                     size_t vl);
vbool4_t __riscv_vmfle_vv_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2,
                                     vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfle_vf_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                     size_t vl);
vbool64_t __riscv_vmfle_vv_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
                                       vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfle_vf_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vbool32_t __riscv_vmfle_vv_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                       vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfle_vf_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vbool16_t __riscv_vmfle_vv_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                       vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfle_vf_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vbool8_t __riscv_vmfle_vv_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2,
                                     vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfle_vf_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                     size_t vl);
vbool64_t __riscv_vmfgt_vv_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfgt_vf_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfgt_vv_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfgt_vf_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfgt_vv_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfgt_vf_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfgt_vv_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                     vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfgt_vf_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                     _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfgt_vv_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
                                     vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfgt_vf_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
                                     _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfgt_vv_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                     vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfgt_vf_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                     _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfgt_vv_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfgt_vf_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vbool32_t __riscv_vmfgt_vv_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfgt_vf_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vbool16_t __riscv_vmfgt_vv_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfgt_vf_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vbool8_t __riscv_vmfgt_vv_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2,
                                     vfloat32m4_t vs1, size_t vl);
```

```
vbool8_t __riscv_vmfgt_vf_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                     size_t vl);
vbool4_t __riscv_vmfgt_vv_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2,
                                     vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfgt_vf_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                     size_t vl);
vbool64_t __riscv_vmfgt_vv_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
                                       vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfgt_vf_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vbool32_t __riscv_vmfgt_vv_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                       vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfgt_vf_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vbool16_t __riscv_vmfgt_vv_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                       vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfgt_vf_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vbool8_t __riscv_vmfgt_vv_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2,
                                     vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfgt_vf_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                     size_t vl);
vbool64_t __riscv_vmfge_vv_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfge_vf_f16mf4_b64_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfge_vv_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfge_vf_f16mf2_b32_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfge_vv_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfge_vf_f16m1_b16_m(vbool16_t vm, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfge_vv_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                     vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfge_vf_f16m2_b8_m(vbool8_t vm, vfloat16m2_t vs2,
                                     _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfge_vv_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
                                     vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfge_vf_f16m4_b4_m(vbool4_t vm, vfloat16m4_t vs2,
                                     _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfge_vv_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                     vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfge_vf_f16m8_b2_m(vbool2_t vm, vfloat16m8_t vs2,
                                     _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfge_vv_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfge_vf_f32mf2_b64_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vbool32_t __riscv_vmfge_vv_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfge_vf_f32m1_b32_m(vbool32_t vm, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vbool16_t __riscv_vmfge_vv_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfge_vf_f32m2_b16_m(vbool16_t vm, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vbool8_t __riscv_vmfge_vv_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2,
                                     vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfge_vf_f32m4_b8_m(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                     size_t vl);
vbool4_t __riscv_vmfge_vv_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2,
                                     vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfge_vf_f32m8_b4_m(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                     size_t vl);
vbool64_t __riscv_vmfge_vv_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
```

```
                                      vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfge_vf_f64m1_b64_m(vbool64_t vm, vfloat64m1_t vs2,
                                      double rs1, size_t vl);
vbool32_t __riscv_vmfge_vv_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                      vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfge_vf_f64m2_b32_m(vbool32_t vm, vfloat64m2_t vs2,
                                      double rs1, size_t vl);
vbool16_t __riscv_vmfge_vv_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                      vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfge_vf_f64m4_b16_m(vbool16_t vm, vfloat64m4_t vs2,
                                      double rs1, size_t vl);
vbool8_t __riscv_vmfge_vv_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2,
                                     vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfge_vf_f64m8_b8_m(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                     size_t vl);
```

A.5.13. Vector Floating-Point Classify Intrinsics

```
vuint16mf4_t __riscv_vfclass_v_u16mf4(vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfclass_v_u16mf2(vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfclass_v_u16m1(vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfclass_v_u16m2(vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfclass_v_u16m4(vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfclass_v_u16m8(vfloat16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfclass_v_u32mf2(vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfclass_v_u32m1(vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfclass_v_u32m2(vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfclass_v_u32m4(vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfclass_v_u32m8(vfloat32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfclass_v_u64m1(vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfclass_v_u64m2(vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfclass_v_u64m4(vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfclass_v_u64m8(vfloat64m8_t vs2, size_t vl);
// masked functions
vuint16mf4_t __riscv_vfclass_v_u16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                       size_t vl);
vuint16mf2_t __riscv_vfclass_v_u16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                       size_t vl);
vuint16m1_t __riscv_vfclass_v_u16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                     size_t vl);
vuint16m2_t __riscv_vfclass_v_u16m2_m(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfclass_v_u16m4_m(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfclass_v_u16m8_m(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfclass_v_u32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                       size_t vl);
vuint32m1_t __riscv_vfclass_v_u32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                     size_t vl);
vuint32m2_t __riscv_vfclass_v_u32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                     size_t vl);
vuint32m4_t __riscv_vfclass_v_u32m4_m(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfclass_v_u32m8_m(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfclass_v_u64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                     size_t vl);
vuint64m2_t __riscv_vfclass_v_u64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                     size_t vl);
vuint64m4_t __riscv_vfclass_v_u64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                     size_t vl);
vuint64m8_t __riscv_vfclass_v_u64m8_m(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
```

A.5.14. Vector Floating-Point Merge Intrinsics

```
vfloat16mf4_t __riscv_vmerge_vvm_f16mf4(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
```

```
                                        vbool64_t v0, size_t vl);
vfloat16mf4_t __riscv_vfmerge_vfm_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                         vbool64_t v0, size_t vl);
vfloat16mf2_t __riscv_vmerge_vvm_f16mf2(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        vbool32_t v0, size_t vl);
vfloat16mf2_t __riscv_vfmerge_vfm_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                         vbool32_t v0, size_t vl);
vfloat16m1_t __riscv_vmerge_vvm_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                      vbool16_t v0, size_t vl);
vfloat16m1_t __riscv_vfmerge_vfm_f16m1(vfloat16m1_t vs2, _Float16 rs1,
                                       vbool16_t v0, size_t vl);
vfloat16m2_t __riscv_vmerge_vvm_f16m2(vfloat16m2_t vs2, vfloat16m2_t vs1,
                                      vbool8_t v0, size_t vl);
vfloat16m2_t __riscv_vfmerge_vfm_f16m2(vfloat16m2_t vs2, _Float16 rs1,
                                       vbool8_t v0, size_t vl);
vfloat16m4_t __riscv_vmerge_vvm_f16m4(vfloat16m4_t vs2, vfloat16m4_t vs1,
                                      vbool4_t v0, size_t vl);
vfloat16m4_t __riscv_vfmerge_vfm_f16m4(vfloat16m4_t vs2, _Float16 rs1,
                                       vbool4_t v0, size_t vl);
vfloat16m8_t __riscv_vmerge_vvm_f16m8(vfloat16m8_t vs2, vfloat16m8_t vs1,
                                      vbool2_t v0, size_t vl);
vfloat16m8_t __riscv_vfmerge_vfm_f16m8(vfloat16m8_t vs2, _Float16 rs1,
                                       vbool2_t v0, size_t vl);
vfloat32mf2_t __riscv_vmerge_vvm_f32mf2(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                        vbool64_t v0, size_t vl);
vfloat32mf2_t __riscv_vfmerge_vfm_f32mf2(vfloat32mf2_t vs2, float rs1,
                                         vbool64_t v0, size_t vl);
vfloat32m1_t __riscv_vmerge_vvm_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                      vbool32_t v0, size_t vl);
vfloat32m1_t __riscv_vfmerge_vfm_f32m1(vfloat32m1_t vs2, float rs1,
                                       vbool32_t v0, size_t vl);
vfloat32m2_t __riscv_vmerge_vvm_f32m2(vfloat32m2_t vs2, vfloat32m2_t vs1,
                                      vbool16_t v0, size_t vl);
vfloat32m2_t __riscv_vfmerge_vfm_f32m2(vfloat32m2_t vs2, float rs1,
                                       vbool16_t v0, size_t vl);
vfloat32m4_t __riscv_vmerge_vvm_f32m4(vfloat32m4_t vs2, vfloat32m4_t vs1,
                                      vbool8_t v0, size_t vl);
vfloat32m4_t __riscv_vfmerge_vfm_f32m4(vfloat32m4_t vs2, float rs1, vbool8_t v0,
                                       size_t vl);
vfloat32m8_t __riscv_vmerge_vvm_f32m8(vfloat32m8_t vs2, vfloat32m8_t vs1,
                                      vbool4_t v0, size_t vl);
vfloat32m8_t __riscv_vfmerge_vfm_f32m8(vfloat32m8_t vs2, float rs1, vbool4_t v0,
                                       size_t vl);
vfloat64m1_t __riscv_vmerge_vvm_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                      vbool64_t v0, size_t vl);
vfloat64m1_t __riscv_vfmerge_vfm_f64m1(vfloat64m1_t vs2, double rs1,
                                       vbool64_t v0, size_t vl);
vfloat64m2_t __riscv_vmerge_vvm_f64m2(vfloat64m2_t vs2, vfloat64m2_t vs1,
                                      vbool32_t v0, size_t vl);
vfloat64m2_t __riscv_vfmerge_vfm_f64m2(vfloat64m2_t vs2, double rs1,
                                       vbool32_t v0, size_t vl);
vfloat64m4_t __riscv_vmerge_vvm_f64m4(vfloat64m4_t vs2, vfloat64m4_t vs1,
                                      vbool16_t v0, size_t vl);
vfloat64m4_t __riscv_vfmerge_vfm_f64m4(vfloat64m4_t vs2, double rs1,
                                       vbool16_t v0, size_t vl);
vfloat64m8_t __riscv_vmerge_vvm_f64m8(vfloat64m8_t vs2, vfloat64m8_t vs1,
                                      vbool8_t v0, size_t vl);
vfloat64m8_t __riscv_vfmerge_vfm_f64m8(vfloat64m8_t vs2, double rs1,
                                       vbool8_t v0, size_t vl);
```

A.5.15. Vector Floating-Point Move Intrinsics

```
vfloat16mf4_t __riscv_vmv_v_v_f16mf4(vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmv_v_f_f16mf4(_Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vmv_v_v_f16mf2(vfloat16mf2_t vs1, size_t vl);
```

```
vfloat16mf2_t __riscv_vfmv_v_f_f16mf2(_Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vmv_v_v_f16m1(vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmv_v_f_f16m1(_Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vmv_v_v_f16m2(vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmv_v_f_f16m2(_Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vmv_v_v_f16m4(vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmv_v_f_f16m4(_Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vmv_v_v_f16m8(vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmv_v_f_f16m8(_Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vmv_v_v_f32mf2(vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmv_v_f_f32mf2(float rs1, size_t vl);
vfloat32m1_t __riscv_vmv_v_v_f32m1(vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmv_v_f_f32m1(float rs1, size_t vl);
vfloat32m2_t __riscv_vmv_v_v_f32m2(vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmv_v_f_f32m2(float rs1, size_t vl);
vfloat32m4_t __riscv_vmv_v_v_f32m4(vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmv_v_f_f32m4(float rs1, size_t vl);
vfloat32m8_t __riscv_vmv_v_v_f32m8(vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmv_v_f_f32m8(float rs1, size_t vl);
vfloat64m1_t __riscv_vmv_v_v_f64m1(vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmv_v_f_f64m1(double rs1, size_t vl);
vfloat64m2_t __riscv_vmv_v_v_f64m2(vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmv_v_f_f64m2(double rs1, size_t vl);
vfloat64m4_t __riscv_vmv_v_v_f64m4(vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmv_v_f_f64m4(double rs1, size_t vl);
vfloat64m8_t __riscv_vmv_v_v_f64m8(vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmv_v_f_f64m8(double rs1, size_t vl);
```

A.5.16. Single-Width Floating-Point/Integer Type-Convert Intrinsics

```
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4(vfloat16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x_f_v_i16mf4(vfloat16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2(vfloat16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x_f_v_i16mf2(vfloat16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1(vfloat16m1_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x_f_v_i16m1(vfloat16m1_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2(vfloat16m2_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_rtz_x_f_v_i16m2(vfloat16m2_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4(vfloat16m4_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_rtz_x_f_v_i16m4(vfloat16m4_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8(vfloat16m8_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x_f_v_i16m8(vfloat16m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4(vfloat16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu_f_v_u16mf4(vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2(vfloat16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu_f_v_u16mf2(vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1(vfloat16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_rtz_xu_f_v_u16m1(vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2(vfloat16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu_f_v_u16m2(vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4(vfloat16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu_f_v_u16m4(vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8(vfloat16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu_f_v_u16m8(vfloat16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4(vint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2(vint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1(vint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2(vint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4(vint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8(vint16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4(vuint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2(vuint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1(vuint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2(vuint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4(vuint16m4_t vs2, size_t vl);
```

```
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8(vuint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2(vfloat32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x_f_v_i32mf2(vfloat32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1(vfloat32m1_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x_f_v_i32m1(vfloat32m1_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2(vfloat32m2_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x_f_v_i32m2(vfloat32m2_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4(vfloat32m4_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x_f_v_i32m4(vfloat32m4_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8(vfloat32m8_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x_f_v_i32m8(vfloat32m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2(vfloat32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu_f_v_u32mf2(vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1(vfloat32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu_f_v_u32m1(vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2(vfloat32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu_f_v_u32m2(vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4(vfloat32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu_f_v_u32m4(vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8(vfloat32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu_f_v_u32m8(vfloat32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2(vint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1(vint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2(vint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4(vint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8(vint32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2(vuint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1(vuint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2(vuint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4(vuint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8(vuint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1(vfloat64m1_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x_f_v_i64m1(vfloat64m1_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2(vfloat64m2_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_rtz_x_f_v_i64m2(vfloat64m2_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4(vfloat64m4_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x_f_v_i64m4(vfloat64m4_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8(vfloat64m8_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x_f_v_i64m8(vfloat64m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1(vfloat64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu_f_v_u64m1(vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2(vfloat64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu_f_v_u64m2(vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4(vfloat64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_rtz_xu_f_v_u64m4(vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8(vfloat64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu_f_v_u64m8(vfloat64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1(vint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2(vint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4(vint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8(vint64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1(vuint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2(vuint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4(vuint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8(vuint64m8_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                         size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x_f_v_i16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                             size_t vl);
vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                         size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x_f_v_i16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                             size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                       size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x_f_v_i16m1_m(vbool16_t vm, vfloat16m1_t vs2,
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                                          size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                       size_t vl);
vint16m2_t __riscv_vfcvt_rtz_x_f_v_i16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                          size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                       size_t vl);
vint16m4_t __riscv_vfcvt_rtz_x_f_v_i16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                          size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                       size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x_f_v_i16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                          size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu_f_v_u16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                             size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu_f_v_u16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                             size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                         size_t vl);
vuint16m1_t __riscv_vfcvt_rtz_xu_f_v_u16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                            size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                         size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu_f_v_u16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                            size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                         size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu_f_v_u16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                            size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                         size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu_f_v_u16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                            size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1_m(vbool16_t vm, vint16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2_m(vbool8_t vm, vint16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4_m(vbool4_t vm, vint16m4_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8_m(vbool2_t vm, vint16m8_t vs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                            size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                            size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                          size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                          size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                          size_t vl);
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                          size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                         size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x_f_v_i32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                       size_t vl);
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vint32m1_t __riscv_vfcvt_rtz_x_f_v_i32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                           size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                       size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x_f_v_i32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                           size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                       size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x_f_v_i32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                           size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                       size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x_f_v_i32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                           size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                           size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu_f_v_u32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                               size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                         size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu_f_v_u32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                             size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                         size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu_f_v_u32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                             size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                         size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu_f_v_u32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                             size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                         size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu_f_v_u32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                             size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1_m(vbool32_t vm, vint32m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2_m(vbool16_t vm, vint32m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4_m(vbool8_t vm, vint32m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8_m(vbool4_t vm, vint32m8_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                          size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                       size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x_f_v_i64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                           size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                       size_t vl);
vint64m2_t __riscv_vfcvt_rtz_x_f_v_i64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                           size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                       size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x_f_v_i64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                           size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8_m(vbool8_t vm, vfloat64m8_t vs2,
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                                        size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x_f_v_i64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                           size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                         size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu_f_v_u64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                             size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                         size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu_f_v_u64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                             size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                         size_t vl);
vuint64m4_t __riscv_vfcvt_rtz_xu_f_v_u64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                             size_t vl);
vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                         size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu_f_v_u64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                             size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1_m(vbool64_t vm, vint64m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2_m(vbool32_t vm, vint64m2_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4_m(vbool16_t vm, vint64m4_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8_m(vbool8_t vm, vint64m8_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                          size_t vl);
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4_rm(vfloat16mf4_t vs2, unsigned int frm,
                                          size_t vl);
vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2_rm(vfloat16mf2_t vs2, unsigned int frm,
                                          size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1_rm(vfloat16m1_t vs2, unsigned int frm,
                                        size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2_rm(vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4_rm(vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8_rm(vfloat16m8_t vs2, unsigned int frm,
                                        size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4_rm(vfloat16mf4_t vs2, unsigned int frm,
                                            size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2_rm(vfloat16mf2_t vs2, unsigned int frm,
                                            size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1_rm(vfloat16m1_t vs2, unsigned int frm,
                                          size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2_rm(vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4_rm(vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8_rm(vfloat16m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4_rm(vint16mf4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2_rm(vint16mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1_rm(vint16m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2_rm(vint16m2_t vs2, unsigned int frm,
                                          size_t vl);
```

```
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4_rm(vint16m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8_rm(vint16m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4_rm(vuint16mf4_t vs2, unsigned int frm,
                                             size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2_rm(vuint16mf2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1_rm(vuint16m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2_rm(vuint16m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4_rm(vuint16m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8_rm(vuint16m8_t vs2, unsigned int frm,
                                           size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2_rm(vfloat32mf2_t vs2, unsigned int frm,
                                          size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1_rm(vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2_rm(vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4_rm(vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8_rm(vfloat32m8_t vs2, unsigned int frm,
                                        size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2_rm(vfloat32mf2_t vs2, unsigned int frm,
                                            size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1_rm(vfloat32m1_t vs2, unsigned int frm,
                                          size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2_rm(vfloat32m2_t vs2, unsigned int frm,
                                          size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4_rm(vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8_rm(vfloat32m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2_rm(vint32mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1_rm(vint32m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2_rm(vint32m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4_rm(vint32m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8_rm(vint32m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2_rm(vuint32mf2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1_rm(vuint32m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2_rm(vuint32m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4_rm(vuint32m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8_rm(vuint32m8_t vs2, unsigned int frm,
                                           size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1_rm(vfloat64m1_t vs2, unsigned int frm,
                                        size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2_rm(vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4_rm(vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8_rm(vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1_rm(vfloat64m1_t vs2, unsigned int frm,
                                          size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2_rm(vfloat64m2_t vs2, unsigned int frm,
```

```
                                        size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4_rm(vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8_rm(vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1_rm(vint64m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2_rm(vint64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4_rm(vint64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8_rm(vint64m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1_rm(vuint64m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2_rm(vuint64m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4_rm(vuint64m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8_rm(vuint64m8_t vs2, unsigned int frm,
                                         size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                        unsigned int frm, size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4_rm_m(vbool64_t vm, vint16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2_rm_m(vbool32_t vm, vint16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1_rm_m(vbool16_t vm, vint16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2_rm_m(vbool8_t vm, vint16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4_rm_m(vbool4_t vm, vint16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8_rm_m(vbool2_t vm, vint16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4_rm_m(vbool64_t vm, vuint16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2_rm_m(vbool32_t vm, vuint16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1_rm_m(vbool16_t vm, vuint16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2_rm_m(vbool8_t vm, vuint16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4_rm_m(vbool4_t vm, vuint16m4_t vs2,
```

```
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8_rm_m(vbool2_t vm, vuint16m8_t vs2,
                                             unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2_rm_m(vbool64_t vm, vint32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1_rm_m(vbool32_t vm, vint32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2_rm_m(vbool16_t vm, vint32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4_rm_m(vbool8_t vm, vint32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8_rm_m(vbool4_t vm, vint32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2_rm_m(vbool64_t vm, vuint32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1_rm_m(vbool32_t vm, vuint32m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2_rm_m(vbool16_t vm, vuint32m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4_rm_m(vbool8_t vm, vuint32m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8_rm_m(vbool4_t vm, vuint32m8_t vs2,
                                             unsigned int frm, size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1_rm_m(vbool64_t vm, vint64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2_rm_m(vbool32_t vm, vint64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4_rm_m(vbool16_t vm, vint64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8_rm_m(vbool8_t vm, vint64m8_t vs2,
                                            unsigned int frm, size_t vl);
```

```
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1_rm_m(vbool64_t vm, vuint64m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2_rm_m(vbool32_t vm, vuint64m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4_rm_m(vbool16_t vm, vuint64m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8_rm_m(vbool8_t vm, vuint64m8_t vs2,
                                             unsigned int frm, size_t vl);
```

A.5.17. Widening Floating-Point/Integer Type-Convert Intrinsics

```
vfloat16mf4_t __riscv_vfwcvt_f_x_v_f16mf4(vint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_x_v_f16mf2(vint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_x_v_f16m1(vint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_x_v_f16m2(vint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_x_v_f16m4(vint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_x_v_f16m8(vint8m4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f_xu_v_f16mf4(vuint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_xu_v_f16mf2(vuint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_xu_v_f16m1(vuint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_xu_v_f16m2(vuint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_xu_v_f16m4(vuint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_xu_v_f16m8(vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2(vfloat16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x_f_v_i32mf2(vfloat16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1(vfloat16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x_f_v_i32m1(vfloat16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2(vfloat16m1_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x_f_v_i32m2(vfloat16m1_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4(vfloat16m2_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x_f_v_i32m4(vfloat16m2_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8(vfloat16m4_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x_f_v_i32m8(vfloat16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2(vfloat16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu_f_v_u32mf2(vfloat16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1(vfloat16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu_f_v_u32m1(vfloat16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2(vfloat16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_rtz_xu_f_v_u32m2(vfloat16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4(vfloat16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu_f_v_u32m4(vfloat16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8(vfloat16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu_f_v_u32m8(vfloat16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_x_v_f32mf2(vint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_x_v_f32m1(vint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_x_v_f32m2(vint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_x_v_f32m4(vint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_x_v_f32m8(vint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_xu_v_f32mf2(vuint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_xu_v_f32m1(vuint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_xu_v_f32m2(vuint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_xu_v_f32m4(vuint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_xu_v_f32m8(vuint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_f_v_f32mf2(vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_f_v_f32m1(vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_f_v_f32m2(vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_f_v_f32m4(vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_f_v_f32m8(vfloat16m4_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1(vfloat32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x_f_v_i64m1(vfloat32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2(vfloat32m1_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x_f_v_i64m2(vfloat32m1_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4(vfloat32m2_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_rtz_x_f_v_i64m4(vfloat32m2_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8(vfloat32m4_t vs2, size_t vl);
```

```
vint64m8_t __riscv_vfwcvt_rtz_x_f_v_i64m8(vfloat32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1(vfloat32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_rtz_xu_f_v_u64m1(vfloat32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2(vfloat32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_rtz_xu_f_v_u64m2(vfloat32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4(vfloat32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu_f_v_u64m4(vfloat32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8(vfloat32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu_f_v_u64m8(vfloat32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_x_v_f64m1(vint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_x_v_f64m2(vint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_x_v_f64m4(vint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_x_v_f64m8(vint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_xu_v_f64m1(vuint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_xu_v_f64m2(vuint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_xu_v_f64m4(vuint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_xu_v_f64m8(vuint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_f_v_f64m1(vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_f_v_f64m2(vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_f_v_f64m4(vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_f_v_f64m8(vfloat32m4_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfwcvt_f_x_v_f16mf4_m(vbool64_t vm, vint8mf8_t vs2,
                                            size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_x_v_f16mf2_m(vbool32_t vm, vint8mf4_t vs2,
                                            size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_x_v_f16m1_m(vbool16_t vm, vint8mf2_t vs2,
                                          size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_x_v_f16m2_m(vbool8_t vm, vint8m1_t vs2,
                                          size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_x_v_f16m4_m(vbool4_t vm, vint8m2_t vs2,
                                          size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_x_v_f16m8_m(vbool2_t vm, vint8m4_t vs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f_xu_v_f16mf4_m(vbool64_t vm, vuint8mf8_t vs2,
                                             size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_xu_v_f16mf2_m(vbool32_t vm, vuint8mf4_t vs2,
                                             size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_xu_v_f16m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                           size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_xu_v_f16m2_m(vbool8_t vm, vuint8m1_t vs2,
                                           size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_xu_v_f16m4_m(vbool4_t vm, vuint8m2_t vs2,
                                           size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_xu_v_f16m8_m(vbool2_t vm, vuint8m4_t vs2,
                                           size_t vl);
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x_f_v_i32mf2_m(vbool64_t vm, vfloat16mf4_t vs2,
                                              size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x_f_v_i32m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                            size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2_m(vbool16_t vm, vfloat16m1_t vs2,
                                        size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x_f_v_i32m2_m(vbool16_t vm, vfloat16m1_t vs2,
                                            size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4_m(vbool8_t vm, vfloat16m2_t vs2,
                                        size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x_f_v_i32m4_m(vbool8_t vm, vfloat16m2_t vs2,
                                            size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8_m(vbool4_t vm, vfloat16m4_t vs2,
                                        size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x_f_v_i32m8_m(vbool4_t vm, vfloat16m4_t vs2,
                                            size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2_m(vbool64_t vm, vfloat16mf4_t vs2,
```

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                                          size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu_f_v_u32mf2_m(vbool64_t vm, vfloat16mf4_t vs2,
                                            size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu_f_v_u32m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                            size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2_m(vbool16_t vm, vfloat16m1_t vs2,
                                          size_t vl);
vuint32m2_t __riscv_vfwcvt_rtz_xu_f_v_u32m2_m(vbool16_t vm, vfloat16m1_t vs2,
                                            size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4_m(vbool8_t vm, vfloat16m2_t vs2,
                                          size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu_f_v_u32m4_m(vbool8_t vm, vfloat16m2_t vs2,
                                            size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8_m(vbool4_t vm, vfloat16m4_t vs2,
                                          size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu_f_v_u32m8_m(vbool4_t vm, vfloat16m4_t vs2,
                                            size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_x_v_f32mf2_m(vbool64_t vm, vint16mf4_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_x_v_f32m1_m(vbool32_t vm, vint16mf2_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_x_v_f32m2_m(vbool16_t vm, vint16m1_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_x_v_f32m4_m(vbool8_t vm, vint16m2_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_x_v_f32m8_m(vbool4_t vm, vint16m4_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_xu_v_f32mf2_m(vbool64_t vm, vuint16mf4_t vs2,
                                             size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_xu_v_f32m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_xu_v_f32m2_m(vbool16_t vm, vuint16m1_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_xu_v_f32m4_m(vbool8_t vm, vuint16m2_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_xu_v_f32m8_m(vbool4_t vm, vuint16m4_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_f_v_f32mf2_m(vbool64_t vm, vfloat16mf4_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_f_v_f32m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_f_v_f32m2_m(vbool16_t vm, vfloat16m1_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_f_v_f32m4_m(vbool8_t vm, vfloat16m2_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_f_v_f32m8_m(vbool4_t vm, vfloat16m4_t vs2,
                                          size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                        size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x_f_v_i64m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2_m(vbool32_t vm, vfloat32m1_t vs2,
                                        size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x_f_v_i64m2_m(vbool32_t vm, vfloat32m1_t vs2,
                                            size_t vl);
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4_m(vbool16_t vm, vfloat32m2_t vs2,
                                        size_t vl);
vint64m4_t __riscv_vfwcvt_rtz_x_f_v_i64m4_m(vbool16_t vm, vfloat32m2_t vs2,
                                            size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8_m(vbool8_t vm, vfloat32m4_t vs2,
                                        size_t vl);
vint64m8_t __riscv_vfwcvt_rtz_x_f_v_i64m8_m(vbool8_t vm, vfloat32m4_t vs2,
                                            size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          size_t vl);
```

```
vuint64m1_t __riscv_vfwcvt_rtz_xu_f_v_u64m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                              size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2_m(vbool32_t vm, vfloat32m1_t vs2,
                                          size_t vl);
vuint64m2_t __riscv_vfwcvt_rtz_xu_f_v_u64m2_m(vbool32_t vm, vfloat32m1_t vs2,
                                              size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4_m(vbool16_t vm, vfloat32m2_t vs2,
                                          size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu_f_v_u64m4_m(vbool16_t vm, vfloat32m2_t vs2,
                                              size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8_m(vbool8_t vm, vfloat32m4_t vs2,
                                          size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu_f_v_u64m8_m(vbool8_t vm, vfloat32m4_t vs2,
                                              size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_x_v_f64m1_m(vbool64_t vm, vint32mf2_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_x_v_f64m2_m(vbool32_t vm, vint32m1_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_x_v_f64m4_m(vbool16_t vm, vint32m2_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_x_v_f64m8_m(vbool8_t vm, vint32m4_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_xu_v_f64m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_xu_v_f64m2_m(vbool32_t vm, vuint32m1_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_xu_v_f64m4_m(vbool16_t vm, vuint32m2_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_xu_v_f64m8_m(vbool8_t vm, vuint32m4_t vs2,
                                           size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_f_v_f64m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_f_v_f64m2_m(vbool32_t vm, vfloat32m1_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_f_v_f64m4_m(vbool16_t vm, vfloat32m2_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_f_v_f64m8_m(vbool8_t vm, vfloat32m4_t vs2,
                                          size_t vl);
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2_rm(vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1_rm(vfloat16mf2_t vs2, unsigned int frm,
                                         size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2_rm(vfloat16m1_t vs2, unsigned int frm,
                                         size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4_rm(vfloat16m2_t vs2, unsigned int frm,
                                         size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8_rm(vfloat16m4_t vs2, unsigned int frm,
                                         size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2_rm(vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1_rm(vfloat16mf2_t vs2, unsigned int frm,
                                           size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2_rm(vfloat16m1_t vs2, unsigned int frm,
                                           size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4_rm(vfloat16m2_t vs2, unsigned int frm,
                                           size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8_rm(vfloat16m4_t vs2, unsigned int frm,
                                           size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1_rm(vfloat32mf2_t vs2, unsigned int frm,
                                         size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2_rm(vfloat32m1_t vs2, unsigned int frm,
                                         size_t vl);
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4_rm(vfloat32m2_t vs2, unsigned int frm,
                                         size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8_rm(vfloat32m4_t vs2, unsigned int frm,
                                         size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1_rm(vfloat32mf2_t vs2, unsigned int frm,
```

```
                                          size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2_rm(vfloat32m1_t vs2, unsigned int frm,
                                          size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4_rm(vfloat32m2_t vs2, unsigned int frm,
                                          size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8_rm(vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
// masked functions
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
```

A.5.18. Narrowing Floating-Point/Integer Type-Convert Intrinsics

```
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8(vfloat16mf4_t vs2, size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x_f_w_i8mf8(vfloat16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4(vfloat16mf2_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x_f_w_i8mf4(vfloat16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2(vfloat16m1_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x_f_w_i8mf2(vfloat16m1_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1(vfloat16m2_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x_f_w_i8m1(vfloat16m2_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_x_f_w_i8m2(vfloat16m4_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x_f_w_i8m2(vfloat16m4_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_x_f_w_i8m4(vfloat16m8_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x_f_w_i8m4(vfloat16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8(vfloat16mf4_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu_f_w_u8mf8(vfloat16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_f_w_u8mf4(vfloat16mf2_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu_f_w_u8mf4(vfloat16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_f_w_u8mf2(vfloat16m1_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu_f_w_u8mf2(vfloat16m1_t vs2, size_t vl);
```

```
vuint8m1_t __riscv_vfncvt_xu_f_w_u8m1(vfloat16m2_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu_f_w_u8m1(vfloat16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_f_w_u8m2(vfloat16m4_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu_f_w_u8m2(vfloat16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_f_w_u8m4(vfloat16m8_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu_f_w_u8m4(vfloat16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_x_f_w_i16mf4(vfloat32mf2_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x_f_w_i16mf4(vfloat32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_x_f_w_i16mf2(vfloat32m1_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x_f_w_i16mf2(vfloat32m1_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_x_f_w_i16m1(vfloat32m2_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_rtz_x_f_w_i16m1(vfloat32m2_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_x_f_w_i16m2(vfloat32m4_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x_f_w_i16m2(vfloat32m4_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_x_f_w_i16m4(vfloat32m8_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x_f_w_i16m4(vfloat32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_f_w_u16mf4(vfloat32mf2_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu_f_w_u16mf4(vfloat32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_f_w_u16mf2(vfloat32m1_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_rtz_xu_f_w_u16mf2(vfloat32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_f_w_u16m1(vfloat32m2_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_rtz_xu_f_w_u16m1(vfloat32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_f_w_u16m2(vfloat32m4_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_rtz_xu_f_w_u16m2(vfloat32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_f_w_u16m4(vfloat32m8_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_rtz_xu_f_w_u16m4(vfloat32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_x_w_f16mf4(vint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_x_w_f16mf2(vint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_x_w_f16m1(vint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_x_w_f16m2(vint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_x_w_f16m4(vint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_xu_w_f16mf4(vuint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_xu_w_f16mf2(vuint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_xu_w_f16m1(vuint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_xu_w_f16m2(vuint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_xu_w_f16m4(vuint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_f_w_f16mf4(vfloat32mf2_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_rod_f_f_w_f16mf4(vfloat32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_f_w_f16mf2(vfloat32m1_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_rod_f_f_w_f16mf2(vfloat32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_f_w_f16m1(vfloat32m2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_rod_f_f_w_f16m1(vfloat32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_f_w_f16m2(vfloat32m4_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_rod_f_f_w_f16m2(vfloat32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_f_w_f16m4(vfloat32m8_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_rod_f_f_w_f16m4(vfloat32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_x_f_w_i32mf2(vfloat64m1_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_rtz_x_f_w_i32mf2(vfloat64m1_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_x_f_w_i32m1(vfloat64m2_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_rtz_x_f_w_i32m1(vfloat64m2_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_x_f_w_i32m2(vfloat64m4_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_rtz_x_f_w_i32m2(vfloat64m4_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_x_f_w_i32m4(vfloat64m8_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_rtz_x_f_w_i32m4(vfloat64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_f_w_u32mf2(vfloat64m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_rtz_xu_f_w_u32mf2(vfloat64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_f_w_u32m1(vfloat64m2_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_rtz_xu_f_w_u32m1(vfloat64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_xu_f_w_u32m2(vfloat64m4_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_rtz_xu_f_w_u32m2(vfloat64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_f_w_u32m4(vfloat64m8_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_rtz_xu_f_w_u32m4(vfloat64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_x_w_f32mf2(vint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_x_w_f32m1(vint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_x_w_f32m2(vint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_x_w_f32m4(vint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_xu_w_f32mf2(vuint64m1_t vs2, size_t vl);
```

```
vfloat32m1_t __riscv_vfncvt_f_xu_w_f32m1(vuint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_xu_w_f32m2(vuint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_xu_w_f32m4(vuint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_f_w_f32mf2(vfloat64m1_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_rod_f_f_w_f32mf2(vfloat64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_f_w_f32m1(vfloat64m2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_rod_f_f_w_f32m1(vfloat64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_f_w_f32m2(vfloat64m4_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_rod_f_f_w_f32m2(vfloat64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_f_w_f32m4(vfloat64m8_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_rod_f_f_w_f32m4(vfloat64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8_m(vbool64_t vm, vfloat16mf4_t vs2,
                                        size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x_f_w_i8mf8_m(vbool64_t vm, vfloat16mf4_t vs2,
                                            size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4_m(vbool32_t vm, vfloat16mf2_t vs2,
                                        size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x_f_w_i8mf4_m(vbool32_t vm, vfloat16mf2_t vs2,
                                            size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2_m(vbool16_t vm, vfloat16m1_t vs2,
                                        size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x_f_w_i8mf2_m(vbool16_t vm, vfloat16m1_t vs2,
                                            size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1_m(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x_f_w_i8m1_m(vbool8_t vm, vfloat16m2_t vs2,
                                          size_t vl);
vint8m2_t __riscv_vfncvt_x_f_w_i8m2_m(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x_f_w_i8m2_m(vbool4_t vm, vfloat16m4_t vs2,
                                          size_t vl);
vint8m4_t __riscv_vfncvt_x_f_w_i8m4_m(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x_f_w_i8m4_m(vbool2_t vm, vfloat16m8_t vs2,
                                          size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8_m(vbool64_t vm, vfloat16mf4_t vs2,
                                          size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu_f_w_u8mf8_m(vbool64_t vm, vfloat16mf4_t vs2,
                                              size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_f_w_u8mf4_m(vbool32_t vm, vfloat16mf2_t vs2,
                                          size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu_f_w_u8mf4_m(vbool32_t vm, vfloat16mf2_t vs2,
                                              size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_f_w_u8mf2_m(vbool16_t vm, vfloat16m1_t vs2,
                                          size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu_f_w_u8mf2_m(vbool16_t vm, vfloat16m1_t vs2,
                                              size_t vl);
vuint8m1_t __riscv_vfncvt_xu_f_w_u8m1_m(vbool8_t vm, vfloat16m2_t vs2,
                                        size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu_f_w_u8m1_m(vbool8_t vm, vfloat16m2_t vs2,
                                            size_t vl);
vuint8m2_t __riscv_vfncvt_xu_f_w_u8m2_m(vbool4_t vm, vfloat16m4_t vs2,
                                        size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu_f_w_u8m2_m(vbool4_t vm, vfloat16m4_t vs2,
                                            size_t vl);
vuint8m4_t __riscv_vfncvt_xu_f_w_u8m4_m(vbool2_t vm, vfloat16m8_t vs2,
                                        size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu_f_w_u8m4_m(vbool2_t vm, vfloat16m8_t vs2,
                                            size_t vl);
vint16mf4_t __riscv_vfncvt_x_f_w_i16mf4_m(vbool64_t vm, vfloat32mf2_t vs2,
                                          size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x_f_w_i16mf4_m(vbool64_t vm, vfloat32mf2_t vs2,
                                              size_t vl);
vint16mf2_t __riscv_vfncvt_x_f_w_i16mf2_m(vbool32_t vm, vfloat32m1_t vs2,
                                          size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x_f_w_i16mf2_m(vbool32_t vm, vfloat32m1_t vs2,
                                              size_t vl);
vint16m1_t __riscv_vfncvt_x_f_w_i16m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                        size_t vl);
```

```
vint16m1_t __riscv_vfncvt_rtz_x_f_w_i16m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                            size_t vl);
vint16m2_t __riscv_vfncvt_x_f_w_i16m2_m(vbool8_t vm, vfloat32m4_t vs2,
                                        size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x_f_w_i16m2_m(vbool8_t vm, vfloat32m4_t vs2,
                                            size_t vl);
vint16m4_t __riscv_vfncvt_x_f_w_i16m4_m(vbool4_t vm, vfloat32m8_t vs2,
                                        size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x_f_w_i16m4_m(vbool4_t vm, vfloat32m8_t vs2,
                                            size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_f_w_u16mf4_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu_f_w_u16mf4_m(vbool64_t vm, vfloat32mf2_t vs2,
                                                size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_f_w_u16mf2_m(vbool32_t vm, vfloat32m1_t vs2,
                                            size_t vl);
vuint16mf2_t __riscv_vfncvt_rtz_xu_f_w_u16mf2_m(vbool32_t vm, vfloat32m1_t vs2,
                                                size_t vl);
vuint16m1_t __riscv_vfncvt_xu_f_w_u16m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                          size_t vl);
vuint16m1_t __riscv_vfncvt_rtz_xu_f_w_u16m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                              size_t vl);
vuint16m2_t __riscv_vfncvt_xu_f_w_u16m2_m(vbool8_t vm, vfloat32m4_t vs2,
                                          size_t vl);
vuint16m2_t __riscv_vfncvt_rtz_xu_f_w_u16m2_m(vbool8_t vm, vfloat32m4_t vs2,
                                              size_t vl);
vuint16m4_t __riscv_vfncvt_xu_f_w_u16m4_m(vbool4_t vm, vfloat32m8_t vs2,
                                          size_t vl);
vuint16m4_t __riscv_vfncvt_rtz_xu_f_w_u16m4_m(vbool4_t vm, vfloat32m8_t vs2,
                                              size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_x_w_f16mf4_m(vbool64_t vm, vint32mf2_t vs2,
                                            size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_x_w_f16mf2_m(vbool32_t vm, vint32m1_t vs2,
                                            size_t vl);
vfloat16m1_t __riscv_vfncvt_f_x_w_f16m1_m(vbool16_t vm, vint32m2_t vs2,
                                          size_t vl);
vfloat16m2_t __riscv_vfncvt_f_x_w_f16m2_m(vbool8_t vm, vint32m4_t vs2,
                                          size_t vl);
vfloat16m4_t __riscv_vfncvt_f_x_w_f16m4_m(vbool4_t vm, vint32m8_t vs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_xu_w_f16mf4_m(vbool64_t vm, vuint32mf2_t vs2,
                                             size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_xu_w_f16mf2_m(vbool32_t vm, vuint32m1_t vs2,
                                             size_t vl);
vfloat16m1_t __riscv_vfncvt_f_xu_w_f16m1_m(vbool16_t vm, vuint32m2_t vs2,
                                           size_t vl);
vfloat16m2_t __riscv_vfncvt_f_xu_w_f16m2_m(vbool8_t vm, vuint32m4_t vs2,
                                           size_t vl);
vfloat16m4_t __riscv_vfncvt_f_xu_w_f16m4_m(vbool4_t vm, vuint32m8_t vs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_f_w_f16mf4_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            size_t vl);
vfloat16mf4_t __riscv_vfncvt_rod_f_f_w_f16mf4_m(vbool64_t vm, vfloat32mf2_t vs2,
                                                size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_f_w_f16mf2_m(vbool32_t vm, vfloat32m1_t vs2,
                                            size_t vl);
vfloat16mf2_t __riscv_vfncvt_rod_f_f_w_f16mf2_m(vbool32_t vm, vfloat32m1_t vs2,
                                                size_t vl);
vfloat16m1_t __riscv_vfncvt_f_f_w_f16m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfncvt_rod_f_f_w_f16m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                              size_t vl);
vfloat16m2_t __riscv_vfncvt_f_f_w_f16m2_m(vbool8_t vm, vfloat32m4_t vs2,
                                          size_t vl);
vfloat16m2_t __riscv_vfncvt_rod_f_f_w_f16m2_m(vbool8_t vm, vfloat32m4_t vs2,
                                              size_t vl);
vfloat16m4_t __riscv_vfncvt_f_f_w_f16m4_m(vbool4_t vm, vfloat32m8_t vs2,
```

```
                                          size_t vl);
vfloat16m4_t __riscv_vfncvt_rod_f_f_w_f16m4_m(vbool4_t vm, vfloat32m8_t vs2,
                                              size_t vl);
vint32mf2_t __riscv_vfncvt_x_f_w_i32mf2_m(vbool64_t vm, vfloat64m1_t vs2,
                                          size_t vl);
vint32mf2_t __riscv_vfncvt_rtz_x_f_w_i32mf2_m(vbool64_t vm, vfloat64m1_t vs2,
                                              size_t vl);
vint32m1_t __riscv_vfncvt_x_f_w_i32m1_m(vbool32_t vm, vfloat64m2_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vfncvt_rtz_x_f_w_i32m1_m(vbool32_t vm, vfloat64m2_t vs2,
                                            size_t vl);
vint32m2_t __riscv_vfncvt_x_f_w_i32m2_m(vbool16_t vm, vfloat64m4_t vs2,
                                        size_t vl);
vint32m2_t __riscv_vfncvt_rtz_x_f_w_i32m2_m(vbool16_t vm, vfloat64m4_t vs2,
                                            size_t vl);
vint32m4_t __riscv_vfncvt_x_f_w_i32m4_m(vbool8_t vm, vfloat64m8_t vs2,
                                        size_t vl);
vint32m4_t __riscv_vfncvt_rtz_x_f_w_i32m4_m(vbool8_t vm, vfloat64m8_t vs2,
                                            size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_f_w_u32mf2_m(vbool64_t vm, vfloat64m1_t vs2,
                                            size_t vl);
vuint32mf2_t __riscv_vfncvt_rtz_xu_f_w_u32mf2_m(vbool64_t vm, vfloat64m1_t vs2,
                                                size_t vl);
vuint32m1_t __riscv_vfncvt_xu_f_w_u32m1_m(vbool32_t vm, vfloat64m2_t vs2,
                                          size_t vl);
vuint32m1_t __riscv_vfncvt_rtz_xu_f_w_u32m1_m(vbool32_t vm, vfloat64m2_t vs2,
                                              size_t vl);
vuint32m2_t __riscv_vfncvt_xu_f_w_u32m2_m(vbool16_t vm, vfloat64m4_t vs2,
                                          size_t vl);
vuint32m2_t __riscv_vfncvt_rtz_xu_f_w_u32m2_m(vbool16_t vm, vfloat64m4_t vs2,
                                              size_t vl);
vuint32m4_t __riscv_vfncvt_xu_f_w_u32m4_m(vbool8_t vm, vfloat64m8_t vs2,
                                          size_t vl);
vuint32m4_t __riscv_vfncvt_rtz_xu_f_w_u32m4_m(vbool8_t vm, vfloat64m8_t vs2,
                                              size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_x_w_f32mf2_m(vbool64_t vm, vint64m1_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfncvt_f_x_w_f32m1_m(vbool32_t vm, vint64m2_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfncvt_f_x_w_f32m2_m(vbool16_t vm, vint64m4_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfncvt_f_x_w_f32m4_m(vbool8_t vm, vint64m8_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_xu_w_f32mf2_m(vbool64_t vm, vuint64m1_t vs2,
                                             size_t vl);
vfloat32m1_t __riscv_vfncvt_f_xu_w_f32m1_m(vbool32_t vm, vuint64m2_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfncvt_f_xu_w_f32m2_m(vbool16_t vm, vuint64m4_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfncvt_f_xu_w_f32m4_m(vbool8_t vm, vuint64m8_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_f_w_f32mf2_m(vbool64_t vm, vfloat64m1_t vs2,
                                            size_t vl);
vfloat32mf2_t __riscv_vfncvt_rod_f_f_w_f32mf2_m(vbool64_t vm, vfloat64m1_t vs2,
                                                size_t vl);
vfloat32m1_t __riscv_vfncvt_f_f_w_f32m1_m(vbool32_t vm, vfloat64m2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfncvt_rod_f_f_w_f32m1_m(vbool32_t vm, vfloat64m2_t vs2,
                                              size_t vl);
vfloat32m2_t __riscv_vfncvt_f_f_w_f32m2_m(vbool16_t vm, vfloat64m4_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfncvt_rod_f_f_w_f32m2_m(vbool16_t vm, vfloat64m4_t vs2,
                                              size_t vl);
vfloat32m4_t __riscv_vfncvt_f_f_w_f32m4_m(vbool8_t vm, vfloat64m8_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfncvt_rod_f_f_w_f32m4_m(vbool8_t vm, vfloat64m8_t vs2,
                                              size_t vl);
```

```
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8_rm(vfloat16mf4_t vs2, unsigned int frm,
                                         size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4_rm(vfloat16mf2_t vs2, unsigned int frm,
                                         size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2_rm(vfloat16m1_t vs2, unsigned int frm,
                                         size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1_rm(vfloat16m2_t vs2, unsigned int frm,
                                       size_t vl);
vint8m2_t __riscv_vfncvt_x_f_w_i8m2_rm(vfloat16m4_t vs2, unsigned int frm,
                                       size_t vl);
vint8m4_t __riscv_vfncvt_x_f_w_i8m4_rm(vfloat16m8_t vs2, unsigned int frm,
                                       size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8_rm(vfloat16mf4_t vs2, unsigned int frm,
                                           size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_f_w_u8mf4_rm(vfloat16mf2_t vs2, unsigned int frm,
                                           size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_f_w_u8mf2_rm(vfloat16m1_t vs2, unsigned int frm,
                                           size_t vl);
vuint8m1_t __riscv_vfncvt_xu_f_w_u8m1_rm(vfloat16m2_t vs2, unsigned int frm,
                                         size_t vl);
vuint8m2_t __riscv_vfncvt_xu_f_w_u8m2_rm(vfloat16m4_t vs2, unsigned int frm,
                                         size_t vl);
vuint8m4_t __riscv_vfncvt_xu_f_w_u8m4_rm(vfloat16m8_t vs2, unsigned int frm,
                                         size_t vl);
vint16mf4_t __riscv_vfncvt_x_f_w_i16mf4_rm(vfloat32mf2_t vs2, unsigned int frm,
                                           size_t vl);
vint16mf2_t __riscv_vfncvt_x_f_w_i16mf2_rm(vfloat32m1_t vs2, unsigned int frm,
                                           size_t vl);
vint16m1_t __riscv_vfncvt_x_f_w_i16m1_rm(vfloat32m2_t vs2, unsigned int frm,
                                         size_t vl);
vint16m2_t __riscv_vfncvt_x_f_w_i16m2_rm(vfloat32m4_t vs2, unsigned int frm,
                                         size_t vl);
vint16m4_t __riscv_vfncvt_x_f_w_i16m4_rm(vfloat32m8_t vs2, unsigned int frm,
                                         size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_f_w_u16mf4_rm(vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_f_w_u16mf2_rm(vfloat32m1_t vs2, unsigned int frm,
                                             size_t vl);
vuint16m1_t __riscv_vfncvt_xu_f_w_u16m1_rm(vfloat32m2_t vs2, unsigned int frm,
                                           size_t vl);
vuint16m2_t __riscv_vfncvt_xu_f_w_u16m2_rm(vfloat32m4_t vs2, unsigned int frm,
                                           size_t vl);
vuint16m4_t __riscv_vfncvt_xu_f_w_u16m4_rm(vfloat32m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_x_w_f16mf4_rm(vint32mf2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_x_w_f16mf2_rm(vint32m1_t vs2, unsigned int frm,
                                             size_t vl);
vfloat16m1_t __riscv_vfncvt_f_x_w_f16m1_rm(vint32m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m2_t __riscv_vfncvt_f_x_w_f16m2_rm(vint32m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m4_t __riscv_vfncvt_f_x_w_f16m4_rm(vint32m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_xu_w_f16mf4_rm(vuint32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_xu_w_f16mf2_rm(vuint32m1_t vs2, unsigned int frm,
                                              size_t vl);
vfloat16m1_t __riscv_vfncvt_f_xu_w_f16m1_rm(vuint32m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m2_t __riscv_vfncvt_f_xu_w_f16m2_rm(vuint32m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m4_t __riscv_vfncvt_f_xu_w_f16m4_rm(vuint32m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_f_w_f16mf4_rm(vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_f_w_f16mf2_rm(vfloat32m1_t vs2, unsigned int frm,
```

```
                                          size_t vl);
vfloat16m1_t __riscv_vfncvt_f_f_w_f16m1_rm(vfloat32m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m2_t __riscv_vfncvt_f_f_w_f16m2_rm(vfloat32m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m4_t __riscv_vfncvt_f_f_w_f16m4_rm(vfloat32m8_t vs2, unsigned int frm,
                                           size_t vl);
vint32mf2_t __riscv_vfncvt_x_f_w_i32mf2_rm(vfloat64m1_t vs2, unsigned int frm,
                                           size_t vl);
vint32m1_t __riscv_vfncvt_x_f_w_i32m1_rm(vfloat64m2_t vs2, unsigned int frm,
                                         size_t vl);
vint32m2_t __riscv_vfncvt_x_f_w_i32m2_rm(vfloat64m4_t vs2, unsigned int frm,
                                         size_t vl);
vint32m4_t __riscv_vfncvt_x_f_w_i32m4_rm(vfloat64m8_t vs2, unsigned int frm,
                                         size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_f_w_u32mf2_rm(vfloat64m1_t vs2, unsigned int frm,
                                             size_t vl);
vuint32m1_t __riscv_vfncvt_xu_f_w_u32m1_rm(vfloat64m2_t vs2, unsigned int frm,
                                           size_t vl);
vuint32m2_t __riscv_vfncvt_xu_f_w_u32m2_rm(vfloat64m4_t vs2, unsigned int frm,
                                           size_t vl);
vuint32m4_t __riscv_vfncvt_xu_f_w_u32m4_rm(vfloat64m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_x_w_f32mf2_rm(vint64m1_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32m1_t __riscv_vfncvt_f_x_w_f32m1_rm(vint64m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfncvt_f_x_w_f32m2_rm(vint64m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfncvt_f_x_w_f32m4_rm(vint64m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_xu_w_f32mf2_rm(vuint64m1_t vs2, unsigned int frm,
                                              size_t vl);
vfloat32m1_t __riscv_vfncvt_f_xu_w_f32m1_rm(vuint64m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m2_t __riscv_vfncvt_f_xu_w_f32m2_rm(vuint64m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m4_t __riscv_vfncvt_f_xu_w_f32m4_rm(vuint64m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_f_w_f32mf2_rm(vfloat64m1_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32m1_t __riscv_vfncvt_f_f_w_f32m1_rm(vfloat64m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfncvt_f_f_w_f32m2_rm(vfloat64m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfncvt_f_f_w_f32m4_rm(vfloat64m8_t vs2, unsigned int frm,
                                           size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1_rm_m(vbool8_t vm, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vint8m2_t __riscv_vfncvt_x_f_w_i8m2_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vint8m4_t __riscv_vfncvt_x_f_w_i8m4_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                         unsigned int frm, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8_rm_m(vbool64_t vm, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_f_w_u8mf4_rm_m(vbool32_t vm, vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_f_w_u8mf2_rm_m(vbool16_t vm, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_f_w_u8m1_rm_m(vbool8_t vm, vfloat16m2_t vs2,
```

```
                                          unsigned int frm, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_f_w_u8m2_rm_m(vbool4_t vm, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_f_w_u8m4_rm_m(vbool2_t vm, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vint16mf4_t __riscv_vfncvt_x_f_w_i16mf4_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfncvt_x_f_w_i16mf2_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vint16m1_t __riscv_vfncvt_x_f_w_i16m1_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vint16m2_t __riscv_vfncvt_x_f_w_i16m2_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vint16m4_t __riscv_vfncvt_x_f_w_i16m4_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_f_w_u16mf4_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_f_w_u16mf2_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                              unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_f_w_u16m1_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_f_w_u16m2_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_f_w_u16m4_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_x_w_f16mf4_rm_m(vbool64_t vm, vint32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_x_w_f16mf2_rm_m(vbool32_t vm, vint32m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_x_w_f16m1_rm_m(vbool16_t vm, vint32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_x_w_f16m2_rm_m(vbool8_t vm, vint32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_x_w_f16m4_rm_m(vbool4_t vm, vint32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_xu_w_f16mf4_rm_m(vbool64_t vm, vuint32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_xu_w_f16mf2_rm_m(vbool32_t vm, vuint32m1_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_xu_w_f16m1_rm_m(vbool16_t vm, vuint32m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_xu_w_f16m2_rm_m(vbool8_t vm, vuint32m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_xu_w_f16m4_rm_m(vbool4_t vm, vuint32m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_f_w_f16mf4_rm_m(vbool64_t vm, vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_f_w_f16mf2_rm_m(vbool32_t vm, vfloat32m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_f_w_f16m1_rm_m(vbool16_t vm, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_f_w_f16m2_rm_m(vbool8_t vm, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_f_w_f16m4_rm_m(vbool4_t vm, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfncvt_x_f_w_i32mf2_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vint32m1_t __riscv_vfncvt_x_f_w_i32m1_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vint32m2_t __riscv_vfncvt_x_f_w_i32m2_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vint32m4_t __riscv_vfncvt_x_f_w_i32m4_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_f_w_u32mf2_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                              unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_f_w_u32m1_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
```

```
vuint32m2_t __riscv_vfncvt_xu_f_w_u32m2_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                             unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_f_w_u32m4_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_x_w_f32mf2_rm_m(vbool64_t vm, vint64m1_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_x_w_f32m1_rm_m(vbool32_t vm, vint64m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_x_w_f32m2_rm_m(vbool16_t vm, vint64m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_x_w_f32m4_rm_m(vbool8_t vm, vint64m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_xu_w_f32mf2_rm_m(vbool64_t vm, vuint64m1_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_xu_w_f32m1_rm_m(vbool32_t vm, vuint64m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_xu_w_f32m2_rm_m(vbool16_t vm, vuint64m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_xu_w_f32m4_rm_m(vbool8_t vm, vuint64m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_f_w_f32mf2_rm_m(vbool64_t vm, vfloat64m1_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_f_w_f32m1_rm_m(vbool32_t vm, vfloat64m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_f_w_f32m2_rm_m(vbool16_t vm, vfloat64m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_f_w_f32m4_rm_m(vbool8_t vm, vfloat64m8_t vs2,
                                             unsigned int frm, size_t vl);
```

A.6. Vector Reduction Operations

A.6.1. Vector Single-Width Integer Reduction Intrinsics

```
vint8m1_t __riscv_vredsum_vs_i8mf8_i8m1(vint8mf8_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredsum_vs_i8mf4_i8m1(vint8mf4_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredsum_vs_i8mf2_i8m1(vint8mf2_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m1_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m2_i8m1(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m4_i8m1(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m8_i8m1(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16mf4_i16m1(vint16mf4_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredsum_vs_i16mf2_i16m1(vint16mf2_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m1_i16m1(vint16m1_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m2_i16m1(vint16m2_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m4_i16m1(vint16m4_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m8_i16m1(vint16m8_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredsum_vs_i32mf2_i32m1(vint32mf2_t vs2, vint32m1_t vs1,
                                           size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m1_i32m1(vint32m1_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m2_i32m1(vint32m2_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m4_i32m1(vint32m4_t vs2, vint32m1_t vs1,
                                          size_t vl);
```

```
vint32m1_t __riscv_vredsum_vs_i32m8_i32m1(vint32m8_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m1_i64m1(vint64m1_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m2_i64m1(vint64m2_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m4_i64m1(vint64m4_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m8_i64m1(vint64m8_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf8_i8m1(vint8mf8_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf4_i8m1(vint8mf4_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf2_i8m1(vint8mf2_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m1_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m2_i8m1(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m4_i8m1(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m8_i8m1(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16mf4_i16m1(vint16mf4_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredmax_vs_i16mf2_i16m1(vint16mf2_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m1_i16m1(vint16m1_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m2_i16m1(vint16m2_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m4_i16m1(vint16m4_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m8_i16m1(vint16m8_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredmax_vs_i32mf2_i32m1(vint32mf2_t vs2, vint32m1_t vs1,
                                           size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m1_i32m1(vint32m1_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m2_i32m1(vint32m2_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m4_i32m1(vint32m4_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m8_i32m1(vint32m8_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m1_i64m1(vint64m1_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m2_i64m1(vint64m2_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m4_i64m1(vint64m4_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m8_i64m1(vint64m8_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf8_i8m1(vint8mf8_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf4_i8m1(vint8mf4_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf2_i8m1(vint8mf2_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m1_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m2_i8m1(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m4_i8m1(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m8_i8m1(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16mf4_i16m1(vint16mf4_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredmin_vs_i16mf2_i16m1(vint16mf2_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m1_i16m1(vint16m1_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m2_i16m1(vint16m2_t vs2, vint16m1_t vs1,
```

```
                                        size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m4_i16m1(vint16m4_t vs2, vint16m1_t vs1,
                                        size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m8_i16m1(vint16m8_t vs2, vint16m1_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vredmin_vs_i32mf2_i32m1(vint32mf2_t vs2, vint32m1_t vs1,
                                         size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m1_i32m1(vint32m1_t vs2, vint32m1_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m2_i32m1(vint32m2_t vs2, vint32m1_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m4_i32m1(vint32m4_t vs2, vint32m1_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m8_i32m1(vint32m8_t vs2, vint32m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m1_i64m1(vint64m1_t vs2, vint64m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m2_i64m1(vint64m2_t vs2, vint64m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m4_i64m1(vint64m4_t vs2, vint64m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m8_i64m1(vint64m8_t vs2, vint64m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf8_i8m1(vint8mf8_t vs2, vint8m1_t vs1,
                                       size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf4_i8m1(vint8mf4_t vs2, vint8m1_t vs1,
                                       size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf2_i8m1(vint8mf2_t vs2, vint8m1_t vs1,
                                       size_t vl);
vint8m1_t __riscv_vredand_vs_i8m1_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8m2_i8m1(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8m4_i8m1(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8m8_i8m1(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16mf4_i16m1(vint16mf4_t vs2, vint16m1_t vs1,
                                         size_t vl);
vint16m1_t __riscv_vredand_vs_i16mf2_i16m1(vint16mf2_t vs2, vint16m1_t vs1,
                                         size_t vl);
vint16m1_t __riscv_vredand_vs_i16m1_i16m1(vint16m1_t vs2, vint16m1_t vs1,
                                        size_t vl);
vint16m1_t __riscv_vredand_vs_i16m2_i16m1(vint16m2_t vs2, vint16m1_t vs1,
                                        size_t vl);
vint16m1_t __riscv_vredand_vs_i16m4_i16m1(vint16m4_t vs2, vint16m1_t vs1,
                                        size_t vl);
vint16m1_t __riscv_vredand_vs_i16m8_i16m1(vint16m8_t vs2, vint16m1_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vredand_vs_i32mf2_i32m1(vint32mf2_t vs2, vint32m1_t vs1,
                                         size_t vl);
vint32m1_t __riscv_vredand_vs_i32m1_i32m1(vint32m1_t vs2, vint32m1_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vredand_vs_i32m2_i32m1(vint32m2_t vs2, vint32m1_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vredand_vs_i32m4_i32m1(vint32m4_t vs2, vint32m1_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vredand_vs_i32m8_i32m1(vint32m8_t vs2, vint32m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vredand_vs_i64m1_i64m1(vint64m1_t vs2, vint64m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vredand_vs_i64m2_i64m1(vint64m2_t vs2, vint64m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vredand_vs_i64m4_i64m1(vint64m4_t vs2, vint64m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vredand_vs_i64m8_i64m1(vint64m8_t vs2, vint64m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredor_vs_i8mf8_i8m1(vint8mf8_t vs2, vint8m1_t vs1,
                                      size_t vl);
vint8m1_t __riscv_vredor_vs_i8mf4_i8m1(vint8mf4_t vs2, vint8m1_t vs1,
                                      size_t vl);
```

```
vint8m1_t __riscv_vredor_vs_i8mf2_i8m1(vint8mf2_t vs2, vint8m1_t vs1,
                                       size_t vl);
vint8m1_t __riscv_vredor_vs_i8m1_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8m2_i8m1(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8m4_i8m1(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8m8_i8m1(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16mf4_i16m1(vint16mf4_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredor_vs_i16mf2_i16m1(vint16mf2_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredor_vs_i16m1_i16m1(vint16m1_t vs2, vint16m1_t vs1,
                                         size_t vl);
vint16m1_t __riscv_vredor_vs_i16m2_i16m1(vint16m2_t vs2, vint16m1_t vs1,
                                         size_t vl);
vint16m1_t __riscv_vredor_vs_i16m4_i16m1(vint16m4_t vs2, vint16m1_t vs1,
                                         size_t vl);
vint16m1_t __riscv_vredor_vs_i16m8_i16m1(vint16m8_t vs2, vint16m1_t vs1,
                                         size_t vl);
vint32m1_t __riscv_vredor_vs_i32mf2_i32m1(vint32mf2_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredor_vs_i32m1_i32m1(vint32m1_t vs2, vint32m1_t vs1,
                                         size_t vl);
vint32m1_t __riscv_vredor_vs_i32m2_i32m1(vint32m2_t vs2, vint32m1_t vs1,
                                         size_t vl);
vint32m1_t __riscv_vredor_vs_i32m4_i32m1(vint32m4_t vs2, vint32m1_t vs1,
                                         size_t vl);
vint32m1_t __riscv_vredor_vs_i32m8_i32m1(vint32m8_t vs2, vint32m1_t vs1,
                                         size_t vl);
vint64m1_t __riscv_vredor_vs_i64m1_i64m1(vint64m1_t vs2, vint64m1_t vs1,
                                         size_t vl);
vint64m1_t __riscv_vredor_vs_i64m2_i64m1(vint64m2_t vs2, vint64m1_t vs1,
                                         size_t vl);
vint64m1_t __riscv_vredor_vs_i64m4_i64m1(vint64m4_t vs2, vint64m1_t vs1,
                                         size_t vl);
vint64m1_t __riscv_vredor_vs_i64m8_i64m1(vint64m8_t vs2, vint64m1_t vs1,
                                         size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf8_i8m1(vint8mf8_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf4_i8m1(vint8mf4_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf2_i8m1(vint8mf2_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m1_i8m1(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m2_i8m1(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m4_i8m1(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m8_i8m1(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_vs_i16mf4_i16m1(vint16mf4_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredxor_vs_i16mf2_i16m1(vint16mf2_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m1_i16m1(vint16m1_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m2_i16m1(vint16m2_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m4_i16m1(vint16m4_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m8_i16m1(vint16m8_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredxor_vs_i32mf2_i32m1(vint32mf2_t vs2, vint32m1_t vs1,
                                           size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m1_i32m1(vint32m1_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m2_i32m1(vint32m2_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m4_i32m1(vint32m4_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m8_i32m1(vint32m8_t vs2, vint32m1_t vs1,
```

```
                                        size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m1_i64m1(vint64m1_t vs2, vint64m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m2_i64m1(vint64m2_t vs2, vint64m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m4_i64m1(vint64m4_t vs2, vint64m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m8_i64m1(vint64m8_t vs2, vint64m1_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf8_u8m1(vuint8mf8_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf4_u8m1(vuint8mf4_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf2_u8m1(vuint8mf2_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m1_u8m1(vuint8m1_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m2_u8m1(vuint8m2_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m4_u8m1(vuint8m4_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m8_u8m1(vuint8m8_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16mf4_u16m1(vuint16mf4_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16mf2_u16m1(vuint16mf2_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m1_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m2_u16m1(vuint16m2_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m4_u16m1(vuint16m4_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m8_u16m1(vuint16m8_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32mf2_u32m1(vuint32mf2_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m1_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m2_u32m1(vuint32m2_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m4_u32m1(vuint32m4_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m8_u32m1(vuint32m8_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m1_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m2_u64m1(vuint64m2_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m4_u64m1(vuint64m4_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m8_u64m1(vuint64m8_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf8_u8m1(vuint8mf8_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf4_u8m1(vuint8mf4_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf2_u8m1(vuint8mf2_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m1_u8m1(vuint8m1_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m2_u8m1(vuint8m2_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m4_u8m1(vuint8m4_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m8_u8m1(vuint8m8_t vs2, vuint8m1_t vs1,
                                      size_t vl);
```

```
vuint16m1_t __riscv_vredmaxu_vs_u16mf4_u16m1(vuint16mf4_t vs2, vuint16m1_t vs1,
                                             size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16mf2_u16m1(vuint16mf2_t vs2, vuint16m1_t vs1,
                                             size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m1_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m2_u16m1(vuint16m2_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m4_u16m1(vuint16m4_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m8_u16m1(vuint16m8_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32mf2_u32m1(vuint32mf2_t vs2, vuint32m1_t vs1,
                                             size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m1_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m2_u32m1(vuint32m2_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m4_u32m1(vuint32m4_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m8_u32m1(vuint32m8_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m1_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                            size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m2_u64m1(vuint64m2_t vs2, vuint64m1_t vs1,
                                            size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m4_u64m1(vuint64m4_t vs2, vuint64m1_t vs1,
                                            size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m8_u64m1(vuint64m8_t vs2, vuint64m1_t vs1,
                                            size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8mf8_u8m1(vuint8mf8_t vs2, vuint8m1_t vs1,
                                          size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8mf4_u8m1(vuint8mf4_t vs2, vuint8m1_t vs1,
                                          size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8mf2_u8m1(vuint8mf2_t vs2, vuint8m1_t vs1,
                                          size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m1_u8m1(vuint8m1_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m2_u8m1(vuint8m2_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m4_u8m1(vuint8m4_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m8_u8m1(vuint8m8_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16mf4_u16m1(vuint16mf4_t vs2, vuint16m1_t vs1,
                                             size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16mf2_u16m1(vuint16mf2_t vs2, vuint16m1_t vs1,
                                             size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m1_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m2_u16m1(vuint16m2_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m4_u16m1(vuint16m4_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m8_u16m1(vuint16m8_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32mf2_u32m1(vuint32mf2_t vs2, vuint32m1_t vs1,
                                             size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m1_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m2_u32m1(vuint32m2_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m4_u32m1(vuint32m4_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m8_u32m1(vuint32m8_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m1_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
```

```
                                          size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m2_u64m1(vuint64m2_t vs2, vuint64m1_t vs1,
                                          size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m4_u64m1(vuint64m4_t vs2, vuint64m1_t vs1,
                                          size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m8_u64m1(vuint64m8_t vs2, vuint64m1_t vs1,
                                          size_t vl);
vuint8m1_t __riscv_vredand_vs_u8mf8_u8m1(vuint8mf8_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredand_vs_u8mf4_u8m1(vuint8mf4_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredand_vs_u8mf2_u8m1(vuint8mf2_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m1_u8m1(vuint8m1_t vs2, vuint8m1_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m2_u8m1(vuint8m2_t vs2, vuint8m1_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m4_u8m1(vuint8m4_t vs2, vuint8m1_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m8_u8m1(vuint8m8_t vs2, vuint8m1_t vs1,
                                        size_t vl);
vuint16m1_t __riscv_vredand_vs_u16mf4_u16m1(vuint16mf4_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vuint16m1_t __riscv_vredand_vs_u16mf2_u16m1(vuint16mf2_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m1_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m2_u16m1(vuint16m2_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m4_u16m1(vuint16m4_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m8_u16m1(vuint16m8_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vredand_vs_u32mf2_u32m1(vuint32mf2_t vs2, vuint32m1_t vs1,
                                          size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m1_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m2_u32m1(vuint32m2_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m4_u32m1(vuint32m4_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m8_u32m1(vuint32m8_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m1_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                         size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m2_u64m1(vuint64m2_t vs2, vuint64m1_t vs1,
                                         size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m4_u64m1(vuint64m4_t vs2, vuint64m1_t vs1,
                                         size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m8_u64m1(vuint64m8_t vs2, vuint64m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredor_vs_u8mf8_u8m1(vuint8mf8_t vs2, vuint8m1_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vredor_vs_u8mf4_u8m1(vuint8mf4_t vs2, vuint8m1_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vredor_vs_u8mf2_u8m1(vuint8mf2_t vs2, vuint8m1_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m1_u8m1(vuint8m1_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m2_u8m1(vuint8m2_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m4_u8m1(vuint8m4_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m8_u8m1(vuint8m8_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vredor_vs_u16mf4_u16m1(vuint16mf4_t vs2, vuint16m1_t vs1,
                                         size_t vl);
```

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vuint16m1_t __riscv_vredor_vs_u16mf2_u16m1(vuint16mf2_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m1_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m2_u16m1(vuint16m2_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m4_u16m1(vuint16m4_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m8_u16m1(vuint16m8_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vuint32m1_t __riscv_vredor_vs_u32mf2_u32m1(vuint32mf2_t vs2, vuint32m1_t vs1,
                                           size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m1_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                          size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m2_u32m1(vuint32m2_t vs2, vuint32m1_t vs1,
                                          size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m4_u32m1(vuint32m4_t vs2, vuint32m1_t vs1,
                                          size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m8_u32m1(vuint32m8_t vs2, vuint32m1_t vs1,
                                          size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m1_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                          size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m2_u64m1(vuint64m2_t vs2, vuint64m1_t vs1,
                                          size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m4_u64m1(vuint64m4_t vs2, vuint64m1_t vs1,
                                          size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m8_u64m1(vuint64m8_t vs2, vuint64m1_t vs1,
                                          size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf8_u8m1(vuint8mf8_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf4_u8m1(vuint8mf4_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf2_u8m1(vuint8mf2_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m1_u8m1(vuint8m1_t vs2, vuint8m1_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m2_u8m1(vuint8m2_t vs2, vuint8m1_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m4_u8m1(vuint8m4_t vs2, vuint8m1_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m8_u8m1(vuint8m8_t vs2, vuint8m1_t vs1,
                                        size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16mf4_u16m1(vuint16mf4_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16mf2_u16m1(vuint16mf2_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m1_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m2_u16m1(vuint16m2_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m4_u16m1(vuint16m4_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m8_u16m1(vuint16m8_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32mf2_u32m1(vuint32mf2_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m1_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                           size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m2_u32m1(vuint32m2_t vs2, vuint32m1_t vs1,
                                           size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m4_u32m1(vuint32m4_t vs2, vuint32m1_t vs1,
                                           size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m8_u32m1(vuint32m8_t vs2, vuint32m1_t vs1,
                                           size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m1_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                           size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m2_u64m1(vuint64m2_t vs2, vuint64m1_t vs1,
```

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                                          size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m4_u64m1(vuint64m4_t vs2, vuint64m1_t vs1,
                                          size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m8_u64m1(vuint64m8_t vs2, vuint64m1_t vs1,
                                          size_t vl);
// masked functions
vint8m1_t __riscv_vredsum_vs_i8mf8_i8m1_m(vbool64_t vm, vint8mf8_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8mf4_i8m1_m(vbool32_t vm, vint8mf4_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8mf2_i8m1_m(vbool16_t vm, vint8mf2_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m1_i8m1_m(vbool8_t vm, vint8m1_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m2_i8m1_m(vbool4_t vm, vint8m2_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m4_i8m1_m(vbool2_t vm, vint8m4_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m8_i8m1_m(vbool1_t vm, vint8m8_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16mf4_i16m1_m(vbool64_t vm, vint16mf4_t vs2,
                                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16mf2_i16m1_m(vbool32_t vm, vint16mf2_t vs2,
                                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m1_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m2_i16m1_m(vbool8_t vm, vint16m2_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m4_i16m1_m(vbool4_t vm, vint16m4_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m8_i16m1_m(vbool2_t vm, vint16m8_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_vs_i32mf2_i32m1_m(vbool64_t vm, vint32mf2_t vs2,
                                           vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m1_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m2_i32m1_m(vbool16_t vm, vint32m2_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m4_i32m1_m(vbool8_t vm, vint32m4_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m8_i32m1_m(vbool4_t vm, vint32m8_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m1_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m2_i64m1_m(vbool32_t vm, vint64m2_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m4_i64m1_m(vbool16_t vm, vint64m4_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m8_i64m1_m(vbool8_t vm, vint64m8_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf8_i8m1_m(vbool64_t vm, vint8mf8_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf4_i8m1_m(vbool32_t vm, vint8mf4_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf2_i8m1_m(vbool16_t vm, vint8mf2_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m1_i8m1_m(vbool8_t vm, vint8m1_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m2_i8m1_m(vbool4_t vm, vint8m2_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m4_i8m1_m(vbool2_t vm, vint8m4_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m8_i8m1_m(vbool1_t vm, vint8m8_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16mf4_i16m1_m(vbool64_t vm, vint16mf4_t vs2,
                                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16mf2_i16m1_m(vbool32_t vm, vint16mf2_t vs2,
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                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m1_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m2_i16m1_m(vbool8_t vm, vint16m2_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m4_i16m1_m(vbool4_t vm, vint16m4_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m8_i16m1_m(vbool2_t vm, vint16m8_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_vs_i32mf2_i32m1_m(vbool64_t vm, vint32mf2_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m1_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m2_i32m1_m(vbool16_t vm, vint32m2_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m4_i32m1_m(vbool8_t vm, vint32m4_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m8_i32m1_m(vbool4_t vm, vint32m8_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m1_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m2_i64m1_m(vbool32_t vm, vint64m2_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m4_i64m1_m(vbool16_t vm, vint64m4_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m8_i64m1_m(vbool8_t vm, vint64m8_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf8_i8m1_m(vbool64_t vm, vint8mf8_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf4_i8m1_m(vbool32_t vm, vint8mf4_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf2_i8m1_m(vbool16_t vm, vint8mf2_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m1_i8m1_m(vbool8_t vm, vint8m1_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m2_i8m1_m(vbool4_t vm, vint8m2_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m4_i8m1_m(vbool2_t vm, vint8m4_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m8_i8m1_m(vbool1_t vm, vint8m8_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16mf4_i16m1_m(vbool64_t vm, vint16mf4_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16mf2_i16m1_m(vbool32_t vm, vint16mf2_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m1_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m2_i16m1_m(vbool8_t vm, vint16m2_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m4_i16m1_m(vbool4_t vm, vint16m4_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m8_i16m1_m(vbool2_t vm, vint16m8_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_vs_i32mf2_i32m1_m(vbool64_t vm, vint32mf2_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m1_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m2_i32m1_m(vbool16_t vm, vint32m2_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m4_i32m1_m(vbool8_t vm, vint32m4_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m8_i32m1_m(vbool4_t vm, vint32m8_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m1_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m2_i64m1_m(vbool32_t vm, vint64m2_t vs2,
                                          vint64m1_t vs1, size_t vl);
```

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vint64m1_t __riscv_vredmin_vs_i64m4_i64m1_m(vbool16_t vm, vint64m4_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m8_i64m1_m(vbool8_t vm, vint64m8_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf8_i8m1_m(vbool64_t vm, vint8mf8_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf4_i8m1_m(vbool32_t vm, vint8mf4_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf2_i8m1_m(vbool16_t vm, vint8mf2_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8m1_i8m1_m(vbool8_t vm, vint8m1_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8m2_i8m1_m(vbool4_t vm, vint8m2_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8m4_i8m1_m(vbool2_t vm, vint8m4_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8m8_i8m1_m(vbool1_t vm, vint8m8_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16mf4_i16m1_m(vbool64_t vm, vint16mf4_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16mf2_i16m1_m(vbool32_t vm, vint16mf2_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16m1_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16m2_i16m1_m(vbool8_t vm, vint16m2_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16m4_i16m1_m(vbool4_t vm, vint16m4_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16m8_i16m1_m(vbool2_t vm, vint16m8_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_vs_i32mf2_i32m1_m(vbool64_t vm, vint32mf2_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_vs_i32m1_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_vs_i32m2_i32m1_m(vbool16_t vm, vint32m2_t vs2,
                                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_vs_i32m4_i32m1_m(vbool8_t vm, vint32m4_t vs2,
                                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_vs_i32m8_i32m1_m(vbool4_t vm, vint32m8_t vs2,
                                            vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_vs_i64m1_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_vs_i64m2_i64m1_m(vbool32_t vm, vint64m2_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_vs_i64m4_i64m1_m(vbool16_t vm, vint64m4_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_vs_i64m8_i64m1_m(vbool8_t vm, vint64m8_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8mf8_i8m1_m(vbool64_t vm, vint8mf8_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8mf4_i8m1_m(vbool32_t vm, vint8mf4_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8mf2_i8m1_m(vbool16_t vm, vint8mf2_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8m1_i8m1_m(vbool8_t vm, vint8m1_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8m2_i8m1_m(vbool4_t vm, vint8m2_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8m4_i8m1_m(vbool2_t vm, vint8m4_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8m8_i8m1_m(vbool1_t vm, vint8m8_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16mf4_i16m1_m(vbool64_t vm, vint16mf4_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16mf2_i16m1_m(vbool32_t vm, vint16mf2_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16m1_i16m1_m(vbool16_t vm, vint16m1_t vs2,
```

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                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16m2_i16m1_m(vbool8_t vm, vint16m2_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16m4_i16m1_m(vbool4_t vm, vint16m4_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16m8_i16m1_m(vbool2_t vm, vint16m8_t vs2,
                                          vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_vs_i32mf2_i32m1_m(vbool64_t vm, vint32mf2_t vs2,
                                           vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_vs_i32m1_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_vs_i32m2_i32m1_m(vbool16_t vm, vint32m2_t vs2,
                                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_vs_i32m4_i32m1_m(vbool8_t vm, vint32m4_t vs2,
                                          vint32m1_t vs1, size_t vl);
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                                          vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_vs_i64m1_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_vs_i64m2_i64m1_m(vbool32_t vm, vint64m2_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_vs_i64m4_i64m1_m(vbool16_t vm, vint64m4_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_vs_i64m8_i64m1_m(vbool8_t vm, vint64m8_t vs2,
                                          vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf8_i8m1_m(vbool64_t vm, vint8mf8_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf4_i8m1_m(vbool32_t vm, vint8mf4_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf2_i8m1_m(vbool16_t vm, vint8mf2_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m1_i8m1_m(vbool8_t vm, vint8m1_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m2_i8m1_m(vbool4_t vm, vint8m2_t vs2,
                                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m4_i8m1_m(vbool2_t vm, vint8m4_t vs2,
                                        vint8m1_t vs1, size_t vl);
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                                        vint8m1_t vs1, size_t vl);
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                                            vint16m1_t vs1, size_t vl);
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                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m1_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m2_i16m1_m(vbool8_t vm, vint16m2_t vs2,
                                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m4_i16m1_m(vbool4_t vm, vint16m4_t vs2,
                                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m8_i16m1_m(vbool2_t vm, vint16m8_t vs2,
                                           vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_vs_i32mf2_i32m1_m(vbool64_t vm, vint32mf2_t vs2,
                                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m1_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                           vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m2_i32m1_m(vbool16_t vm, vint32m2_t vs2,
                                           vint32m1_t vs1, size_t vl);
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                                           vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m8_i32m1_m(vbool4_t vm, vint32m8_t vs2,
                                           vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m1_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                           vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m2_i64m1_m(vbool32_t vm, vint64m2_t vs2,
                                           vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m4_i64m1_m(vbool16_t vm, vint64m4_t vs2,
                                           vint64m1_t vs1, size_t vl);
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vint64m1_t __riscv_vredxor_vs_i64m8_i64m1_m(vbool8_t vm, vint64m8_t vs2,
                                            vint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf8_u8m1_m(vbool64_t vm, vuint8mf8_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf4_u8m1_m(vbool32_t vm, vuint8mf4_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf2_u8m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m1_u8m1_m(vbool8_t vm, vuint8m1_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m2_u8m1_m(vbool4_t vm, vuint8m2_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m4_u8m1_m(vbool2_t vm, vuint8m4_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m8_u8m1_m(vbool1_t vm, vuint8m8_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16mf4_u16m1_m(vbool64_t vm, vuint16mf4_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16mf2_u16m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m1_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m2_u16m1_m(vbool8_t vm, vuint16m2_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m4_u16m1_m(vbool4_t vm, vuint16m4_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m8_u16m1_m(vbool2_t vm, vuint16m8_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32mf2_u32m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m1_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m2_u32m1_m(vbool16_t vm, vuint32m2_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m4_u32m1_m(vbool8_t vm, vuint32m4_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m8_u32m1_m(vbool4_t vm, vuint32m8_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m1_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m2_u64m1_m(vbool32_t vm, vuint64m2_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m4_u64m1_m(vbool16_t vm, vuint64m4_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m8_u64m1_m(vbool8_t vm, vuint64m8_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf8_u8m1_m(vbool64_t vm, vuint8mf8_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf4_u8m1_m(vbool32_t vm, vuint8mf4_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf2_u8m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m1_u8m1_m(vbool8_t vm, vuint8m1_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m2_u8m1_m(vbool4_t vm, vuint8m2_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m4_u8m1_m(vbool2_t vm, vuint8m4_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m8_u8m1_m(vbool1_t vm, vuint8m8_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16mf4_u16m1_m(vbool64_t vm, vuint16mf4_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16mf2_u16m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m1_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m2_u16m1_m(vbool8_t vm, vuint16m2_t vs2,
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                                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m4_u16m1_m(vbool4_t vm, vuint16m4_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m8_u16m1_m(vbool2_t vm, vuint16m8_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32mf2_u32m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m1_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                            vuint32m1_t vs1, size_t vl);
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                                            vuint32m1_t vs1, size_t vl);
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                                            vuint32m1_t vs1, size_t vl);
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                                            vuint64m1_t vs1, size_t vl);
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                                            vuint64m1_t vs1, size_t vl);
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                                            vuint64m1_t vs1, size_t vl);
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                                           vuint8m1_t vs1, size_t vl);
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                                           vuint8m1_t vs1, size_t vl);
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                                           vuint8m1_t vs1, size_t vl);
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                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m2_u8m1_m(vbool4_t vm, vuint8m2_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m4_u8m1_m(vbool2_t vm, vuint8m4_t vs2,
                                          vuint8m1_t vs1, size_t vl);
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                                             vuint16m1_t vs1, size_t vl);
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                                            vuint16m1_t vs1, size_t vl);
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                                            vuint16m1_t vs1, size_t vl);
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                                            vuint16m1_t vs1, size_t vl);
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                                            vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m4_u32m1_m(vbool8_t vm, vuint32m4_t vs2,
                                            vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m8_u32m1_m(vbool4_t vm, vuint32m8_t vs2,
                                            vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m1_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m2_u64m1_m(vbool32_t vm, vuint64m2_t vs2,
                                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m4_u64m1_m(vbool16_t vm, vuint64m4_t vs2,
                                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m8_u64m1_m(vbool8_t vm, vuint64m8_t vs2,
                                            vuint64m1_t vs1, size_t vl);
```

```
vuint8m1_t __riscv_vredand_vs_u8mf8_u8m1_m(vbool64_t vm, vuint8mf8_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8mf4_u8m1_m(vbool32_t vm, vuint8mf4_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8mf2_u8m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m1_u8m1_m(vbool8_t vm, vuint8m1_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m2_u8m1_m(vbool4_t vm, vuint8m2_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m4_u8m1_m(vbool2_t vm, vuint8m4_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m8_u8m1_m(vbool1_t vm, vuint8m8_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16mf4_u16m1_m(vbool64_t vm, vuint16mf4_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16mf2_u16m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m1_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m2_u16m1_m(vbool8_t vm, vuint16m2_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m4_u16m1_m(vbool4_t vm, vuint16m4_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m8_u16m1_m(vbool2_t vm, vuint16m8_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_vs_u32mf2_u32m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m1_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m2_u32m1_m(vbool16_t vm, vuint32m2_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m4_u32m1_m(vbool8_t vm, vuint32m4_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m8_u32m1_m(vbool4_t vm, vuint32m8_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m1_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m2_u64m1_m(vbool32_t vm, vuint64m2_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m4_u64m1_m(vbool16_t vm, vuint64m4_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m8_u64m1_m(vbool8_t vm, vuint64m8_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8mf8_u8m1_m(vbool64_t vm, vuint8mf8_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8mf4_u8m1_m(vbool32_t vm, vuint8mf4_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8mf2_u8m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m1_u8m1_m(vbool8_t vm, vuint8m1_t vs2,
                                         vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m2_u8m1_m(vbool4_t vm, vuint8m2_t vs2,
                                         vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m4_u8m1_m(vbool2_t vm, vuint8m4_t vs2,
                                         vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m8_u8m1_m(vbool1_t vm, vuint8m8_t vs2,
                                         vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16mf4_u16m1_m(vbool64_t vm, vuint16mf4_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16mf2_u16m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m1_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m2_u16m1_m(vbool8_t vm, vuint16m2_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m4_u16m1_m(vbool4_t vm, vuint16m4_t vs2,
```

```
                                          vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m8_u16m1_m(vbool2_t vm, vuint16m8_t vs2,
                                          vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_vs_u32mf2_u32m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                           vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m1_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                          vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m2_u32m1_m(vbool16_t vm, vuint32m2_t vs2,
                                          vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m4_u32m1_m(vbool8_t vm, vuint32m4_t vs2,
                                          vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m8_u32m1_m(vbool4_t vm, vuint32m8_t vs2,
                                          vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m1_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                          vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m2_u64m1_m(vbool32_t vm, vuint64m2_t vs2,
                                          vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m4_u64m1_m(vbool16_t vm, vuint64m4_t vs2,
                                          vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m8_u64m1_m(vbool8_t vm, vuint64m8_t vs2,
                                          vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf8_u8m1_m(vbool64_t vm, vuint8mf8_t vs2,
                                         vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf4_u8m1_m(vbool32_t vm, vuint8mf4_t vs2,
                                         vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf2_u8m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                         vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m1_u8m1_m(vbool8_t vm, vuint8m1_t vs2,
                                        vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m2_u8m1_m(vbool4_t vm, vuint8m2_t vs2,
                                        vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m4_u8m1_m(vbool2_t vm, vuint8m4_t vs2,
                                        vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m8_u8m1_m(vbool1_t vm, vuint8m8_t vs2,
                                        vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16mf4_u16m1_m(vbool64_t vm, vuint16mf4_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16mf2_u16m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m1_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                           vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m2_u16m1_m(vbool8_t vm, vuint16m2_t vs2,
                                           vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m4_u16m1_m(vbool4_t vm, vuint16m4_t vs2,
                                           vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m8_u16m1_m(vbool2_t vm, vuint16m8_t vs2,
                                           vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32mf2_u32m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                            vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m1_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                           vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m2_u32m1_m(vbool16_t vm, vuint32m2_t vs2,
                                           vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m4_u32m1_m(vbool8_t vm, vuint32m4_t vs2,
                                           vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m8_u32m1_m(vbool4_t vm, vuint32m8_t vs2,
                                           vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m1_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                           vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m2_u64m1_m(vbool32_t vm, vuint64m2_t vs2,
                                           vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m4_u64m1_m(vbool16_t vm, vuint64m4_t vs2,
                                           vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m8_u64m1_m(vbool8_t vm, vuint64m8_t vs2,
                                           vuint64m1_t vs1, size_t vl);
```

A.6.2. Vector Widening Integer Reduction Intrinsics

```
vint16m1_t __riscv_vwredsum_vs_i8mf8_i16m1(vint8mf8_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8mf4_i16m1(vint8mf4_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8mf2_i16m1(vint8mf2_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m1_i16m1(vint8m1_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m2_i16m1(vint8m2_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m4_i16m1(vint8m4_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m8_i16m1(vint8m8_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16mf4_i32m1(vint16mf4_t vs2, vint32m1_t vs1,
                                            size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16mf2_i32m1(vint16mf2_t vs2, vint32m1_t vs1,
                                            size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m1_i32m1(vint16m1_t vs2, vint32m1_t vs1,
                                           size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m2_i32m1(vint16m2_t vs2, vint32m1_t vs1,
                                           size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m4_i32m1(vint16m4_t vs2, vint32m1_t vs1,
                                           size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m8_i32m1(vint16m8_t vs2, vint32m1_t vs1,
                                           size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32mf2_i64m1(vint32mf2_t vs2, vint64m1_t vs1,
                                            size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m1_i64m1(vint32m1_t vs2, vint64m1_t vs1,
                                           size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m2_i64m1(vint32m2_t vs2, vint64m1_t vs1,
                                           size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m4_i64m1(vint32m4_t vs2, vint64m1_t vs1,
                                           size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m8_i64m1(vint32m8_t vs2, vint64m1_t vs1,
                                           size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf8_u16m1(vuint8mf8_t vs2, vuint16m1_t vs1,
                                             size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf4_u16m1(vuint8mf4_t vs2, vuint16m1_t vs1,
                                             size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf2_u16m1(vuint8mf2_t vs2, vuint16m1_t vs1,
                                             size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m1_u16m1(vuint8m1_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m2_u16m1(vuint8m2_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m4_u16m1(vuint8m4_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m8_u16m1(vuint8m8_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16mf4_u32m1(vuint16mf4_t vs2, vuint32m1_t vs1,
                                              size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16mf2_u32m1(vuint16mf2_t vs2, vuint32m1_t vs1,
                                              size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m1_u32m1(vuint16m1_t vs2, vuint32m1_t vs1,
                                             size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m2_u32m1(vuint16m2_t vs2, vuint32m1_t vs1,
                                             size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m4_u32m1(vuint16m4_t vs2, vuint32m1_t vs1,
                                             size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m8_u32m1(vuint16m8_t vs2, vuint32m1_t vs1,
                                             size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32mf2_u64m1(vuint32mf2_t vs2, vuint64m1_t vs1,
                                              size_t vl);
```

```
vuint64m1_t __riscv_vwredsumu_vs_u32m1_u64m1(vuint32m1_t vs2, vuint64m1_t vs1,
                                             size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m2_u64m1(vuint32m2_t vs2, vuint64m1_t vs1,
                                             size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m4_u64m1(vuint32m4_t vs2, vuint64m1_t vs1,
                                             size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m8_u64m1(vuint32m8_t vs2, vuint64m1_t vs1,
                                             size_t vl);
// masked functions
vint16m1_t __riscv_vwredsum_vs_i8mf8_i16m1_m(vbool64_t vm, vint8mf8_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8mf4_i16m1_m(vbool32_t vm, vint8mf4_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8mf2_i16m1_m(vbool16_t vm, vint8mf2_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m1_i16m1_m(vbool8_t vm, vint8m1_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m2_i16m1_m(vbool4_t vm, vint8m2_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m4_i16m1_m(vbool2_t vm, vint8m4_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m8_i16m1_m(vbool1_t vm, vint8m8_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16mf4_i32m1_m(vbool64_t vm, vint16mf4_t vs2,
                                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16mf2_i32m1_m(vbool32_t vm, vint16mf2_t vs2,
                                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m1_i32m1_m(vbool16_t vm, vint16m1_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m2_i32m1_m(vbool8_t vm, vint16m2_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m4_i32m1_m(vbool4_t vm, vint16m4_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m8_i32m1_m(vbool2_t vm, vint16m8_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32mf2_i64m1_m(vbool64_t vm, vint32mf2_t vs2,
                                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m1_i64m1_m(vbool32_t vm, vint32m1_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m2_i64m1_m(vbool16_t vm, vint32m2_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m4_i64m1_m(vbool8_t vm, vint32m4_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m8_i64m1_m(vbool4_t vm, vint32m8_t vs2,
                                             vint64m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf8_u16m1_m(vbool64_t vm, vuint8mf8_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf4_u16m1_m(vbool32_t vm, vuint8mf4_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf2_u16m1_m(vbool16_t vm, vuint8mf2_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m1_u16m1_m(vbool8_t vm, vuint8m1_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m2_u16m1_m(vbool4_t vm, vuint8m2_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m4_u16m1_m(vbool2_t vm, vuint8m4_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m8_u16m1_m(vbool1_t vm, vuint8m8_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16mf4_u32m1_m(vbool64_t vm, vuint16mf4_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16mf2_u32m1_m(vbool32_t vm, vuint16mf2_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m1_u32m1_m(vbool16_t vm, vuint16m1_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m2_u32m1_m(vbool8_t vm, vuint16m2_t vs2,
                                               vuint32m1_t vs1, size_t vl);
```

```
vuint32m1_t __riscv_vwredsumu_vs_u16m4_u32m1_m(vbool4_t vm, vuint16m4_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m8_u32m1_m(vbool2_t vm, vuint16m8_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32mf2_u64m1_m(vbool64_t vm, vuint32mf2_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m1_u64m1_m(vbool32_t vm, vuint32m1_t vs2,
                                               vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m2_u64m1_m(vbool16_t vm, vuint32m2_t vs2,
                                               vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m4_u64m1_m(vbool8_t vm, vuint32m4_t vs2,
                                               vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m8_u64m1_m(vbool4_t vm, vuint32m8_t vs2,
                                               vuint64m1_t vs1, size_t vl);
```

A.6.3. Vector Single-Width Floating-Point Reduction Intrinsics

```
vfloat16m1_t __riscv_vfredosum_vs_f16mf4_f16m1(vfloat16mf4_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16mf2_f16m1(vfloat16mf2_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m1_f16m1(vfloat16m1_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m2_f16m1(vfloat16m2_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m4_f16m1(vfloat16m4_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m8_f16m1(vfloat16m8_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32mf2_f32m1(vfloat32mf2_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m1_f32m1(vfloat32m1_t vs2,
                                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m2_f32m1(vfloat32m2_t vs2,
                                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m4_f32m1(vfloat32m4_t vs2,
                                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m8_f32m1(vfloat32m8_t vs2,
                                              vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m1_f64m1(vfloat64m1_t vs2,
                                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m2_f64m1(vfloat64m2_t vs2,
                                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m4_f64m1(vfloat64m4_t vs2,
                                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m8_f64m1(vfloat64m8_t vs2,
                                              vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf4_f16m1(vfloat16mf4_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf2_f16m1(vfloat16mf2_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m1_f16m1(vfloat16m1_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m2_f16m1(vfloat16m2_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m4_f16m1(vfloat16m4_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m8_f16m1(vfloat16m8_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32mf2_f32m1(vfloat32mf2_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m1_f32m1(vfloat32m1_t vs2,
                                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m2_f32m1(vfloat32m2_t vs2,
                                              vfloat32m1_t vs1, size_t vl);
```

```
vfloat32m1_t __riscv_vfredusum_vs_f32m4_f32m1(vfloat32m4_t vs2,
                                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m8_f32m1(vfloat32m8_t vs2,
                                              vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m1_f64m1(vfloat64m1_t vs2,
                                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m2_f64m1(vfloat64m2_t vs2,
                                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m4_f64m1(vfloat64m4_t vs2,
                                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m8_f64m1(vfloat64m8_t vs2,
                                              vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16mf4_f16m1(vfloat16mf4_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16mf2_f16m1(vfloat16mf2_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m1_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                             size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m2_f16m1(vfloat16m2_t vs2, vfloat16m1_t vs1,
                                             size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m4_f16m1(vfloat16m4_t vs2, vfloat16m1_t vs1,
                                             size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m8_f16m1(vfloat16m8_t vs2, vfloat16m1_t vs1,
                                             size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32mf2_f32m1(vfloat32mf2_t vs2,
                                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m1_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                             size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m2_f32m1(vfloat32m2_t vs2, vfloat32m1_t vs1,
                                             size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m4_f32m1(vfloat32m4_t vs2, vfloat32m1_t vs1,
                                             size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m8_f32m1(vfloat32m8_t vs2, vfloat32m1_t vs1,
                                             size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m1_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                             size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m2_f64m1(vfloat64m2_t vs2, vfloat64m1_t vs1,
                                             size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m4_f64m1(vfloat64m4_t vs2, vfloat64m1_t vs1,
                                             size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m8_f64m1(vfloat64m8_t vs2, vfloat64m1_t vs1,
                                             size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16mf4_f16m1(vfloat16mf4_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16mf2_f16m1(vfloat16mf2_t vs2,
                                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m1_f16m1(vfloat16m1_t vs2, vfloat16m1_t vs1,
                                             size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m2_f16m1(vfloat16m2_t vs2, vfloat16m1_t vs1,
                                             size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m4_f16m1(vfloat16m4_t vs2, vfloat16m1_t vs1,
                                             size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m8_f16m1(vfloat16m8_t vs2, vfloat16m1_t vs1,
                                             size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32mf2_f32m1(vfloat32mf2_t vs2,
                                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m1_f32m1(vfloat32m1_t vs2, vfloat32m1_t vs1,
                                             size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m2_f32m1(vfloat32m2_t vs2, vfloat32m1_t vs1,
                                             size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m4_f32m1(vfloat32m4_t vs2, vfloat32m1_t vs1,
                                             size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m8_f32m1(vfloat32m8_t vs2, vfloat32m1_t vs1,
                                             size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m1_f64m1(vfloat64m1_t vs2, vfloat64m1_t vs1,
                                             size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m2_f64m1(vfloat64m2_t vs2, vfloat64m1_t vs1,
```

```
                                          size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m4_f64m1(vfloat64m4_t vs2, vfloat64m1_t vs1,
                                          size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m8_f64m1(vfloat64m8_t vs2, vfloat64m1_t vs1,
                                          size_t vl);
// masked functions
vfloat16m1_t __riscv_vfredosum_vs_f16mf4_f16m1_m(vbool64_t vm,
                                           vfloat16mf4_t vs2,
                                           vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16mf2_f16m1_m(vbool32_t vm,
                                           vfloat16mf2_t vs2,
                                           vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m1_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                          vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m2_f16m1_m(vbool8_t vm, vfloat16m2_t vs2,
                                          vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m4_f16m1_m(vbool4_t vm, vfloat16m4_t vs2,
                                          vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m8_f16m1_m(vbool2_t vm, vfloat16m8_t vs2,
                                          vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32mf2_f32m1_m(vbool64_t vm,
                                           vfloat32mf2_t vs2,
                                           vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m1_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                          vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m2_f32m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                          vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m4_f32m1_m(vbool8_t vm, vfloat32m4_t vs2,
                                          vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m8_f32m1_m(vbool4_t vm, vfloat32m8_t vs2,
                                          vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m1_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                          vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m2_f64m1_m(vbool32_t vm, vfloat64m2_t vs2,
                                          vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m4_f64m1_m(vbool16_t vm, vfloat64m4_t vs2,
                                          vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m8_f64m1_m(vbool8_t vm, vfloat64m8_t vs2,
                                          vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf4_f16m1_m(vbool64_t vm,
                                           vfloat16mf4_t vs2,
                                           vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf2_f16m1_m(vbool32_t vm,
                                           vfloat16mf2_t vs2,
                                           vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m1_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                          vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m2_f16m1_m(vbool8_t vm, vfloat16m2_t vs2,
                                          vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m4_f16m1_m(vbool4_t vm, vfloat16m4_t vs2,
                                          vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m8_f16m1_m(vbool2_t vm, vfloat16m8_t vs2,
                                          vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32mf2_f32m1_m(vbool64_t vm,
                                           vfloat32mf2_t vs2,
                                           vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m1_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                          vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m2_f32m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                          vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m4_f32m1_m(vbool8_t vm, vfloat32m4_t vs2,
                                          vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m8_f32m1_m(vbool4_t vm, vfloat32m8_t vs2,
                                          vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m1_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                          vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m2_f64m1_m(vbool32_t vm, vfloat64m2_t vs2,
```

```
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m4_f64m1_m(vbool16_t vm, vfloat64m4_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m8_f64m1_m(vbool8_t vm, vfloat64m8_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16mf4_f16m1_m(vbool64_t vm, vfloat16mf4_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16mf2_f16m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m1_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m2_f16m1_m(vbool8_t vm, vfloat16m2_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m4_f16m1_m(vbool4_t vm, vfloat16m4_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m8_f16m1_m(vbool2_t vm, vfloat16m8_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32mf2_f32m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m1_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m2_f32m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m4_f32m1_m(vbool8_t vm, vfloat32m4_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m8_f32m1_m(vbool4_t vm, vfloat32m8_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m1_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m2_f64m1_m(vbool32_t vm, vfloat64m2_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m4_f64m1_m(vbool16_t vm, vfloat64m4_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m8_f64m1_m(vbool8_t vm, vfloat64m8_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16mf4_f16m1_m(vbool64_t vm, vfloat16mf4_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16mf2_f16m1_m(vbool32_t vm, vfloat16mf2_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m1_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m2_f16m1_m(vbool8_t vm, vfloat16m2_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m4_f16m1_m(vbool4_t vm, vfloat16m4_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m8_f16m1_m(vbool2_t vm, vfloat16m8_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32mf2_f32m1_m(vbool64_t vm, vfloat32mf2_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m1_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m2_f32m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m4_f32m1_m(vbool8_t vm, vfloat32m4_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m8_f32m1_m(vbool4_t vm, vfloat32m8_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m1_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m2_f64m1_m(vbool32_t vm, vfloat64m2_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m4_f64m1_m(vbool16_t vm, vfloat64m4_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m8_f64m1_m(vbool8_t vm, vfloat64m8_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16mf4_f16m1_rm(vfloat16mf4_t vs2,
                                                  vfloat16m1_t vs1,
```

```
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16mf2_f16m1_rm(vfloat16mf2_t vs2,
                                                  vfloat16m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m1_f16m1_rm(vfloat16m1_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m2_f16m1_rm(vfloat16m2_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m4_f16m1_rm(vfloat16m4_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m8_f16m1_rm(vfloat16m8_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32mf2_f32m1_rm(vfloat32mf2_t vs2,
                                                  vfloat32m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m1_f32m1_rm(vfloat32m1_t vs2,
                                                 vfloat32m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m2_f32m1_rm(vfloat32m2_t vs2,
                                                 vfloat32m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m4_f32m1_rm(vfloat32m4_t vs2,
                                                 vfloat32m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m8_f32m1_rm(vfloat32m8_t vs2,
                                                 vfloat32m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m1_f64m1_rm(vfloat64m1_t vs2,
                                                 vfloat64m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m2_f64m1_rm(vfloat64m2_t vs2,
                                                 vfloat64m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m4_f64m1_rm(vfloat64m4_t vs2,
                                                 vfloat64m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m8_f64m1_rm(vfloat64m8_t vs2,
                                                 vfloat64m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf4_f16m1_rm(vfloat16mf4_t vs2,
                                                  vfloat16m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf2_f16m1_rm(vfloat16mf2_t vs2,
                                                  vfloat16m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m1_f16m1_rm(vfloat16m1_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m2_f16m1_rm(vfloat16m2_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m4_f16m1_rm(vfloat16m4_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m8_f16m1_rm(vfloat16m8_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32mf2_f32m1_rm(vfloat32mf2_t vs2,
                                                  vfloat32m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m1_f32m1_rm(vfloat32m1_t vs2,
                                                 vfloat32m1_t vs1,
                                                 unsigned int frm, size_t vl);
```

```
vfloat32m1_t __riscv_vfredusum_vs_f32m2_f32m1_rm(vfloat32m2_t vs2,
                                                 vfloat32m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m4_f32m1_rm(vfloat32m4_t vs2,
                                                 vfloat32m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m8_f32m1_rm(vfloat32m8_t vs2,
                                                 vfloat32m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m1_f64m1_rm(vfloat64m1_t vs2,
                                                 vfloat64m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m2_f64m1_rm(vfloat64m2_t vs2,
                                                 vfloat64m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m4_f64m1_rm(vfloat64m4_t vs2,
                                                 vfloat64m1_t vs1,
                                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m8_f64m1_rm(vfloat64m8_t vs2,
                                                 vfloat64m1_t vs1,
                                                 unsigned int frm, size_t vl);
// masked functions
vfloat16m1_t __riscv_vfredosum_vs_f16mf4_f16m1_rm_m(vbool64_t vm,
                                                    vfloat16mf4_t vs2,
                                                    vfloat16m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16mf2_f16m1_rm_m(vbool32_t vm,
                                                    vfloat16mf2_t vs2,
                                                    vfloat16m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m1_f16m1_rm_m(vbool16_t vm,
                                                   vfloat16m1_t vs2,
                                                   vfloat16m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m2_f16m1_rm_m(vbool8_t vm,
                                                   vfloat16m2_t vs2,
                                                   vfloat16m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m4_f16m1_rm_m(vbool4_t vm,
                                                   vfloat16m4_t vs2,
                                                   vfloat16m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m8_f16m1_rm_m(vbool2_t vm,
                                                   vfloat16m8_t vs2,
                                                   vfloat16m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32mf2_f32m1_rm_m(vbool64_t vm,
                                                    vfloat32mf2_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m1_f32m1_rm_m(vbool32_t vm,
                                                   vfloat32m1_t vs2,
                                                   vfloat32m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m2_f32m1_rm_m(vbool16_t vm,
                                                   vfloat32m2_t vs2,
                                                   vfloat32m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m4_f32m1_rm_m(vbool8_t vm,
                                                   vfloat32m4_t vs2,
                                                   vfloat32m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m8_f32m1_rm_m(vbool4_t vm,
                                                   vfloat32m8_t vs2,
```

```
                                                vfloat32m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m1_f64m1_rm_m(vbool64_t vm,
                                                vfloat64m1_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m2_f64m1_rm_m(vbool32_t vm,
                                                vfloat64m2_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m4_f64m1_rm_m(vbool16_t vm,
                                                vfloat64m4_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m8_f64m1_rm_m(vbool8_t vm,
                                                vfloat64m8_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf4_f16m1_rm_m(vbool64_t vm,
                                                 vfloat16mf4_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm,
                                                 size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf2_f16m1_rm_m(vbool32_t vm,
                                                 vfloat16mf2_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm,
                                                 size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m1_f16m1_rm_m(vbool16_t vm,
                                                vfloat16m1_t vs2,
                                                vfloat16m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m2_f16m1_rm_m(vbool8_t vm,
                                                vfloat16m2_t vs2,
                                                vfloat16m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m4_f16m1_rm_m(vbool4_t vm,
                                                vfloat16m4_t vs2,
                                                vfloat16m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m8_f16m1_rm_m(vbool2_t vm,
                                                vfloat16m8_t vs2,
                                                vfloat16m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32mf2_f32m1_rm_m(vbool64_t vm,
                                                 vfloat32mf2_t vs2,
                                                 vfloat32m1_t vs1,
                                                 unsigned int frm,
                                                 size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m1_f32m1_rm_m(vbool32_t vm,
                                                vfloat32m1_t vs2,
                                                vfloat32m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m2_f32m1_rm_m(vbool16_t vm,
                                                vfloat32m2_t vs2,
                                                vfloat32m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m4_f32m1_rm_m(vbool8_t vm,
                                                vfloat32m4_t vs2,
                                                vfloat32m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m8_f32m1_rm_m(vbool4_t vm,
                                                vfloat32m8_t vs2,
                                                vfloat32m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m1_f64m1_rm_m(vbool64_t vm,
                                                vfloat64m1_t vs2,
```

```
                                                vfloat64m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m2_f64m1_rm_m(vbool32_t vm,
                                                vfloat64m2_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m4_f64m1_rm_m(vbool16_t vm,
                                                vfloat64m4_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m8_f64m1_rm_m(vbool8_t vm,
                                                vfloat64m8_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm, size_t vl);
```

A.6.4. Vector Widening Floating-Point Reduction Intrinsics

```
vfloat32m1_t __riscv_vfwredosum_vs_f16mf4_f32m1(vfloat16mf4_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16mf2_f32m1(vfloat16mf2_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m1_f32m1(vfloat16m1_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m2_f32m1(vfloat16m2_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m4_f32m1(vfloat16m4_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m8_f32m1(vfloat16m8_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32mf2_f64m1(vfloat32mf2_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m1_f64m1(vfloat32m1_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m2_f64m1(vfloat32m2_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m4_f64m1(vfloat32m4_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m8_f64m1(vfloat32m8_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf4_f32m1(vfloat16mf4_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf2_f32m1(vfloat16mf2_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m1_f32m1(vfloat16m1_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m2_f32m1(vfloat16m2_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m4_f32m1(vfloat16m4_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m8_f32m1(vfloat16m8_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32mf2_f64m1(vfloat32mf2_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m1_f64m1(vfloat32m1_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m2_f64m1(vfloat32m2_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m4_f64m1(vfloat32m4_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m8_f64m1(vfloat32m8_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
// masked functions
vfloat32m1_t __riscv_vfwredosum_vs_f16mf4_f32m1_m(vbool64_t vm,
                                                  vfloat16mf4_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
```

```
vfloat32m1_t __riscv_vfwredosum_vs_f16mf2_f32m1_m(vbool32_t vm,
                                                  vfloat16mf2_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m1_f32m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m2_f32m1_m(vbool8_t vm, vfloat16m2_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m4_f32m1_m(vbool4_t vm, vfloat16m4_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m8_f32m1_m(vbool2_t vm, vfloat16m8_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32mf2_f64m1_m(vbool64_t vm,
                                                  vfloat32mf2_t vs2,
                                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m1_f64m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m2_f64m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m4_f64m1_m(vbool8_t vm, vfloat32m4_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m8_f64m1_m(vbool4_t vm, vfloat32m8_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf4_f32m1_m(vbool64_t vm,
                                                  vfloat16mf4_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf2_f32m1_m(vbool32_t vm,
                                                  vfloat16mf2_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m1_f32m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m2_f32m1_m(vbool8_t vm, vfloat16m2_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m4_f32m1_m(vbool4_t vm, vfloat16m4_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m8_f32m1_m(vbool2_t vm, vfloat16m8_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32mf2_f64m1_m(vbool64_t vm,
                                                  vfloat32mf2_t vs2,
                                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m1_f64m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m2_f64m1_m(vbool16_t vm, vfloat32m2_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m4_f64m1_m(vbool8_t vm, vfloat32m4_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m8_f64m1_m(vbool4_t vm, vfloat32m8_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16mf4_f32m1_rm(vfloat16mf4_t vs2,
                                                   vfloat32m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16mf2_f32m1_rm(vfloat16mf2_t vs2,
                                                   vfloat32m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m1_f32m1_rm(vfloat16m1_t vs2,
                                                  vfloat32m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m2_f32m1_rm(vfloat16m2_t vs2,
                                                  vfloat32m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m4_f32m1_rm(vfloat16m4_t vs2,
                                                  vfloat32m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m8_f32m1_rm(vfloat16m8_t vs2,
                                                  vfloat32m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32mf2_f64m1_rm(vfloat32mf2_t vs2,
                                                   vfloat64m1_t vs1,
```

```
                                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m1_f64m1_rm(vfloat32m1_t vs2,
                                                  vfloat64m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m2_f64m1_rm(vfloat32m2_t vs2,
                                                  vfloat64m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m4_f64m1_rm(vfloat32m4_t vs2,
                                                  vfloat64m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m8_f64m1_rm(vfloat32m8_t vs2,
                                                  vfloat64m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf4_f32m1_rm(vfloat16mf4_t vs2,
                                                   vfloat32m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf2_f32m1_rm(vfloat16mf2_t vs2,
                                                   vfloat32m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m1_f32m1_rm(vfloat16m1_t vs2,
                                                  vfloat32m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m2_f32m1_rm(vfloat16m2_t vs2,
                                                  vfloat32m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m4_f32m1_rm(vfloat16m4_t vs2,
                                                  vfloat32m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m8_f32m1_rm(vfloat16m8_t vs2,
                                                  vfloat32m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32mf2_f64m1_rm(vfloat32mf2_t vs2,
                                                   vfloat64m1_t vs1,
                                                   unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m1_f64m1_rm(vfloat32m1_t vs2,
                                                  vfloat64m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m2_f64m1_rm(vfloat32m2_t vs2,
                                                  vfloat64m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m4_f64m1_rm(vfloat32m4_t vs2,
                                                  vfloat64m1_t vs1,
                                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m8_f64m1_rm(vfloat32m8_t vs2,
                                                  vfloat64m1_t vs1,
                                                  unsigned int frm, size_t vl);
// masked functions
vfloat32m1_t __riscv_vfwredosum_vs_f16mf4_f32m1_rm_m(vbool64_t vm,
                                                     vfloat16mf4_t vs2,
                                                     vfloat32m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16mf2_f32m1_rm_m(vbool32_t vm,
                                                     vfloat16mf2_t vs2,
                                                     vfloat32m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m1_f32m1_rm_m(vbool16_t vm,
                                                    vfloat16m1_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m2_f32m1_rm_m(vbool8_t vm,
                                                    vfloat16m2_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
```

```
vfloat32m1_t __riscv_vfwredosum_vs_f16m4_f32m1_rm_m(vbool4_t vm,
                                                    vfloat16m4_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m8_f32m1_rm_m(vbool2_t vm,
                                                    vfloat16m8_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32mf2_f64m1_rm_m(vbool64_t vm,
                                                     vfloat32mf2_t vs2,
                                                     vfloat64m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m1_f64m1_rm_m(vbool32_t vm,
                                                    vfloat32m1_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m2_f64m1_rm_m(vbool16_t vm,
                                                    vfloat32m2_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m4_f64m1_rm_m(vbool8_t vm,
                                                    vfloat32m4_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m8_f64m1_rm_m(vbool4_t vm,
                                                    vfloat32m8_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf4_f32m1_rm_m(vbool64_t vm,
                                                     vfloat16mf4_t vs2,
                                                     vfloat32m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf2_f32m1_rm_m(vbool32_t vm,
                                                     vfloat16mf2_t vs2,
                                                     vfloat32m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m1_f32m1_rm_m(vbool16_t vm,
                                                    vfloat16m1_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m2_f32m1_rm_m(vbool8_t vm,
                                                    vfloat16m2_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m4_f32m1_rm_m(vbool4_t vm,
                                                    vfloat16m4_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m8_f32m1_rm_m(vbool2_t vm,
                                                    vfloat16m8_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32mf2_f64m1_rm_m(vbool64_t vm,
                                                     vfloat32mf2_t vs2,
```

```
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m1_f64m1_rm_m(vbool32_t vm,
                                                    vfloat32m1_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m2_f64m1_rm_m(vbool16_t vm,
                                                    vfloat32m2_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m4_f64m1_rm_m(vbool8_t vm,
                                                    vfloat32m4_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m8_f64m1_rm_m(vbool4_t vm,
                                                    vfloat32m8_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
```

A.7. Vector Mask Intrinsics

A.7.1. Vector Mask-Register Logical

```
vbool1_t __riscv_vmand_mm_b1(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmand_mm_b2(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmand_mm_b4(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmand_mm_b8(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmand_mm_b16(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmand_mm_b32(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmand_mm_b64(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmnand_mm_b1(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmnand_mm_b2(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmnand_mm_b4(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmnand_mm_b8(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmnand_mm_b16(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmnand_mm_b32(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmnand_mm_b64(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmandn_mm_b1(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmandn_mm_b2(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmandn_mm_b4(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmandn_mm_b8(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmandn_mm_b16(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmandn_mm_b32(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmandn_mm_b64(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmxor_mm_b1(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmxor_mm_b2(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmxor_mm_b4(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmxor_mm_b8(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmxor_mm_b16(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmxor_mm_b32(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmxor_mm_b64(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmor_mm_b1(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmor_mm_b2(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmor_mm_b4(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmor_mm_b8(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmor_mm_b16(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmor_mm_b32(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmor_mm_b64(vbool64_t vs2, vbool64_t vs1, size_t vl);
```

```
vbool1_t __riscv_vmnor_mm_b1(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmnor_mm_b2(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmnor_mm_b4(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmnor_mm_b8(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmnor_mm_b16(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmnor_mm_b32(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmnor_mm_b64(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmorn_mm_b1(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmorn_mm_b2(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmorn_mm_b4(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmorn_mm_b8(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmorn_mm_b16(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmorn_mm_b32(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmorn_mm_b64(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmxnor_mm_b1(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmxnor_mm_b2(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmxnor_mm_b4(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmxnor_mm_b8(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmxnor_mm_b16(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmxnor_mm_b32(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmxnor_mm_b64(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmmv_m_b1(vbool1_t vs, size_t vl);
vbool2_t __riscv_vmmv_m_b2(vbool2_t vs, size_t vl);
vbool4_t __riscv_vmmv_m_b4(vbool4_t vs, size_t vl);
vbool8_t __riscv_vmmv_m_b8(vbool8_t vs, size_t vl);
vbool16_t __riscv_vmmv_m_b16(vbool16_t vs, size_t vl);
vbool32_t __riscv_vmmv_m_b32(vbool32_t vs, size_t vl);
vbool64_t __riscv_vmmv_m_b64(vbool64_t vs, size_t vl);
vbool1_t __riscv_vmclr_m_b1(size_t vl);
vbool2_t __riscv_vmclr_m_b2(size_t vl);
vbool4_t __riscv_vmclr_m_b4(size_t vl);
vbool8_t __riscv_vmclr_m_b8(size_t vl);
vbool16_t __riscv_vmclr_m_b16(size_t vl);
vbool32_t __riscv_vmclr_m_b32(size_t vl);
vbool64_t __riscv_vmclr_m_b64(size_t vl);
vbool1_t __riscv_vmset_m_b1(size_t vl);
vbool2_t __riscv_vmset_m_b2(size_t vl);
vbool4_t __riscv_vmset_m_b4(size_t vl);
vbool8_t __riscv_vmset_m_b8(size_t vl);
vbool16_t __riscv_vmset_m_b16(size_t vl);
vbool32_t __riscv_vmset_m_b32(size_t vl);
vbool64_t __riscv_vmset_m_b64(size_t vl);
vbool1_t __riscv_vmnot_m_b1(vbool1_t vs, size_t vl);
vbool2_t __riscv_vmnot_m_b2(vbool2_t vs, size_t vl);
vbool4_t __riscv_vmnot_m_b4(vbool4_t vs, size_t vl);
vbool8_t __riscv_vmnot_m_b8(vbool8_t vs, size_t vl);
vbool16_t __riscv_vmnot_m_b16(vbool16_t vs, size_t vl);
vbool32_t __riscv_vmnot_m_b32(vbool32_t vs, size_t vl);
vbool64_t __riscv_vmnot_m_b64(vbool64_t vs, size_t vl);
```

A.7.2. Vector count population in mask `vcpop.m`

```
unsigned long __riscv_vcpop_m_b1(vbool1_t vs2, size_t vl);
unsigned long __riscv_vcpop_m_b2(vbool2_t vs2, size_t vl);
unsigned long __riscv_vcpop_m_b4(vbool4_t vs2, size_t vl);
unsigned long __riscv_vcpop_m_b8(vbool8_t vs2, size_t vl);
unsigned long __riscv_vcpop_m_b16(vbool16_t vs2, size_t vl);
unsigned long __riscv_vcpop_m_b32(vbool32_t vs2, size_t vl);
unsigned long __riscv_vcpop_m_b64(vbool64_t vs2, size_t vl);
// masked functions
unsigned long __riscv_vcpop_m_b1_m(vbool1_t vm, vbool1_t vs2, size_t vl);
unsigned long __riscv_vcpop_m_b2_m(vbool2_t vm, vbool2_t vs2, size_t vl);
unsigned long __riscv_vcpop_m_b4_m(vbool4_t vm, vbool4_t vs2, size_t vl);
unsigned long __riscv_vcpop_m_b8_m(vbool8_t vm, vbool8_t vs2, size_t vl);
unsigned long __riscv_vcpop_m_b16_m(vbool16_t vm, vbool16_t vs2, size_t vl);
```

```
unsigned long __riscv_vcpop_m_b32_m(vbool32_t vm, vbool32_t vs2, size_t vl);
unsigned long __riscv_vcpop_m_b64_m(vbool64_t vm, vbool64_t vs2, size_t vl);
```

A.7.3. `vfirst` find-first-set mask bit

```
long __riscv_vfirst_m_b1(vbool1_t vs2, size_t vl);
long __riscv_vfirst_m_b2(vbool2_t vs2, size_t vl);
long __riscv_vfirst_m_b4(vbool4_t vs2, size_t vl);
long __riscv_vfirst_m_b8(vbool8_t vs2, size_t vl);
long __riscv_vfirst_m_b16(vbool16_t vs2, size_t vl);
long __riscv_vfirst_m_b32(vbool32_t vs2, size_t vl);
long __riscv_vfirst_m_b64(vbool64_t vs2, size_t vl);
// masked functions
long __riscv_vfirst_m_b1_m(vbool1_t vm, vbool1_t vs2, size_t vl);
long __riscv_vfirst_m_b2_m(vbool2_t vm, vbool2_t vs2, size_t vl);
long __riscv_vfirst_m_b4_m(vbool4_t vm, vbool4_t vs2, size_t vl);
long __riscv_vfirst_m_b8_m(vbool8_t vm, vbool8_t vs2, size_t vl);
long __riscv_vfirst_m_b16_m(vbool16_t vm, vbool16_t vs2, size_t vl);
long __riscv_vfirst_m_b32_m(vbool32_t vm, vbool32_t vs2, size_t vl);
long __riscv_vfirst_m_b64_m(vbool64_t vm, vbool64_t vs2, size_t vl);
```

A.7.4. `vmsbf.m` set-before-first mask bit

```
vbool1_t __riscv_vmsbf_m_b1(vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsbf_m_b2(vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsbf_m_b4(vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsbf_m_b8(vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsbf_m_b16(vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsbf_m_b32(vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsbf_m_b64(vbool64_t vs2, size_t vl);
// masked functions
vbool1_t __riscv_vmsbf_m_b1_m(vbool1_t vm, vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsbf_m_b2_m(vbool2_t vm, vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsbf_m_b4_m(vbool4_t vm, vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsbf_m_b8_m(vbool8_t vm, vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsbf_m_b16_m(vbool16_t vm, vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsbf_m_b32_m(vbool32_t vm, vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsbf_m_b64_m(vbool64_t vm, vbool64_t vs2, size_t vl);
```

A.7.5. `vmsif.m` set-including-first mask bit

```
vbool1_t __riscv_vmsif_m_b1(vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsif_m_b2(vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsif_m_b4(vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsif_m_b8(vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsif_m_b16(vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsif_m_b32(vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsif_m_b64(vbool64_t vs2, size_t vl);
// masked functions
vbool1_t __riscv_vmsif_m_b1_m(vbool1_t vm, vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsif_m_b2_m(vbool2_t vm, vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsif_m_b4_m(vbool4_t vm, vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsif_m_b8_m(vbool8_t vm, vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsif_m_b16_m(vbool16_t vm, vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsif_m_b32_m(vbool32_t vm, vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsif_m_b64_m(vbool64_t vm, vbool64_t vs2, size_t vl);
```

A.7.6. `vmsof.m` set-only-first mask bit

```
vbool1_t __riscv_vmsof_m_b1(vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsof_m_b2(vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsof_m_b4(vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsof_m_b8(vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsof_m_b16(vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsof_m_b32(vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsof_m_b64(vbool64_t vs2, size_t vl);
// masked functions
vbool1_t __riscv_vmsof_m_b1_m(vbool1_t vm, vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsof_m_b2_m(vbool2_t vm, vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsof_m_b4_m(vbool4_t vm, vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsof_m_b8_m(vbool8_t vm, vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsof_m_b16_m(vbool16_t vm, vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsof_m_b32_m(vbool32_t vm, vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsof_m_b64_m(vbool64_t vm, vbool64_t vs2, size_t vl);
```

A.7.7. Vector Iota Intrinsics

```
vuint8mf8_t __riscv_viota_m_u8mf8(vbool64_t vs2, size_t vl);
vuint8mf4_t __riscv_viota_m_u8mf4(vbool32_t vs2, size_t vl);
vuint8mf2_t __riscv_viota_m_u8mf2(vbool16_t vs2, size_t vl);
vuint8m1_t __riscv_viota_m_u8m1(vbool8_t vs2, size_t vl);
vuint8m2_t __riscv_viota_m_u8m2(vbool4_t vs2, size_t vl);
vuint8m4_t __riscv_viota_m_u8m4(vbool2_t vs2, size_t vl);
vuint8m8_t __riscv_viota_m_u8m8(vbool1_t vs2, size_t vl);
vuint16mf4_t __riscv_viota_m_u16mf4(vbool64_t vs2, size_t vl);
vuint16mf2_t __riscv_viota_m_u16mf2(vbool32_t vs2, size_t vl);
vuint16m1_t __riscv_viota_m_u16m1(vbool16_t vs2, size_t vl);
vuint16m2_t __riscv_viota_m_u16m2(vbool8_t vs2, size_t vl);
vuint16m4_t __riscv_viota_m_u16m4(vbool4_t vs2, size_t vl);
vuint16m8_t __riscv_viota_m_u16m8(vbool2_t vs2, size_t vl);
vuint32mf2_t __riscv_viota_m_u32mf2(vbool64_t vs2, size_t vl);
vuint32m1_t __riscv_viota_m_u32m1(vbool32_t vs2, size_t vl);
vuint32m2_t __riscv_viota_m_u32m2(vbool16_t vs2, size_t vl);
vuint32m4_t __riscv_viota_m_u32m4(vbool8_t vs2, size_t vl);
vuint32m8_t __riscv_viota_m_u32m8(vbool4_t vs2, size_t vl);
vuint64m1_t __riscv_viota_m_u64m1(vbool64_t vs2, size_t vl);
vuint64m2_t __riscv_viota_m_u64m2(vbool32_t vs2, size_t vl);
vuint64m4_t __riscv_viota_m_u64m4(vbool16_t vs2, size_t vl);
vuint64m8_t __riscv_viota_m_u64m8(vbool8_t vs2, size_t vl);
// masked functions
vuint8mf8_t __riscv_viota_m_u8mf8_m(vbool64_t vm, vbool64_t vs2, size_t vl);
vuint8mf4_t __riscv_viota_m_u8mf4_m(vbool32_t vm, vbool32_t vs2, size_t vl);
vuint8mf2_t __riscv_viota_m_u8mf2_m(vbool16_t vm, vbool16_t vs2, size_t vl);
vuint8m1_t __riscv_viota_m_u8m1_m(vbool8_t vm, vbool8_t vs2, size_t vl);
vuint8m2_t __riscv_viota_m_u8m2_m(vbool4_t vm, vbool4_t vs2, size_t vl);
vuint8m4_t __riscv_viota_m_u8m4_m(vbool2_t vm, vbool2_t vs2, size_t vl);
vuint8m8_t __riscv_viota_m_u8m8_m(vbool1_t vm, vbool1_t vs2, size_t vl);
vuint16mf4_t __riscv_viota_m_u16mf4_m(vbool64_t vm, vbool64_t vs2, size_t vl);
vuint16mf2_t __riscv_viota_m_u16mf2_m(vbool32_t vm, vbool32_t vs2, size_t vl);
vuint16m1_t __riscv_viota_m_u16m1_m(vbool16_t vm, vbool16_t vs2, size_t vl);
vuint16m2_t __riscv_viota_m_u16m2_m(vbool8_t vm, vbool8_t vs2, size_t vl);
vuint16m4_t __riscv_viota_m_u16m4_m(vbool4_t vm, vbool4_t vs2, size_t vl);
vuint16m8_t __riscv_viota_m_u16m8_m(vbool2_t vm, vbool2_t vs2, size_t vl);
vuint32mf2_t __riscv_viota_m_u32mf2_m(vbool64_t vm, vbool64_t vs2, size_t vl);
vuint32m1_t __riscv_viota_m_u32m1_m(vbool32_t vm, vbool32_t vs2, size_t vl);
vuint32m2_t __riscv_viota_m_u32m2_m(vbool16_t vm, vbool16_t vs2, size_t vl);
vuint32m4_t __riscv_viota_m_u32m4_m(vbool8_t vm, vbool8_t vs2, size_t vl);
vuint32m8_t __riscv_viota_m_u32m8_m(vbool4_t vm, vbool4_t vs2, size_t vl);
vuint64m1_t __riscv_viota_m_u64m1_m(vbool64_t vm, vbool64_t vs2, size_t vl);
vuint64m2_t __riscv_viota_m_u64m2_m(vbool32_t vm, vbool32_t vs2, size_t vl);
vuint64m4_t __riscv_viota_m_u64m4_m(vbool16_t vm, vbool16_t vs2, size_t vl);
```

```
vuint64m8_t __riscv_viota_m_u64m8_m(vbool8_t vm, vbool8_t vs2, size_t vl);
```

A.7.8. Vector Element Index Intrinsics

```
vuint8mf8_t __riscv_vid_v_u8mf8(size_t vl);
vuint8mf4_t __riscv_vid_v_u8mf4(size_t vl);
vuint8mf2_t __riscv_vid_v_u8mf2(size_t vl);
vuint8m1_t __riscv_vid_v_u8m1(size_t vl);
vuint8m2_t __riscv_vid_v_u8m2(size_t vl);
vuint8m4_t __riscv_vid_v_u8m4(size_t vl);
vuint8m8_t __riscv_vid_v_u8m8(size_t vl);
vuint16mf4_t __riscv_vid_v_u16mf4(size_t vl);
vuint16mf2_t __riscv_vid_v_u16mf2(size_t vl);
vuint16m1_t __riscv_vid_v_u16m1(size_t vl);
vuint16m2_t __riscv_vid_v_u16m2(size_t vl);
vuint16m4_t __riscv_vid_v_u16m4(size_t vl);
vuint16m8_t __riscv_vid_v_u16m8(size_t vl);
vuint32mf2_t __riscv_vid_v_u32mf2(size_t vl);
vuint32m1_t __riscv_vid_v_u32m1(size_t vl);
vuint32m2_t __riscv_vid_v_u32m2(size_t vl);
vuint32m4_t __riscv_vid_v_u32m4(size_t vl);
vuint32m8_t __riscv_vid_v_u32m8(size_t vl);
vuint64m1_t __riscv_vid_v_u64m1(size_t vl);
vuint64m2_t __riscv_vid_v_u64m2(size_t vl);
vuint64m4_t __riscv_vid_v_u64m4(size_t vl);
vuint64m8_t __riscv_vid_v_u64m8(size_t vl);
// masked functions
vuint8mf8_t __riscv_vid_v_u8mf8_m(vbool64_t vm, size_t vl);
vuint8mf4_t __riscv_vid_v_u8mf4_m(vbool32_t vm, size_t vl);
vuint8mf2_t __riscv_vid_v_u8mf2_m(vbool16_t vm, size_t vl);
vuint8m1_t __riscv_vid_v_u8m1_m(vbool8_t vm, size_t vl);
vuint8m2_t __riscv_vid_v_u8m2_m(vbool4_t vm, size_t vl);
vuint8m4_t __riscv_vid_v_u8m4_m(vbool2_t vm, size_t vl);
vuint8m8_t __riscv_vid_v_u8m8_m(vbool1_t vm, size_t vl);
vuint16mf4_t __riscv_vid_v_u16mf4_m(vbool64_t vm, size_t vl);
vuint16mf2_t __riscv_vid_v_u16mf2_m(vbool32_t vm, size_t vl);
vuint16m1_t __riscv_vid_v_u16m1_m(vbool16_t vm, size_t vl);
vuint16m2_t __riscv_vid_v_u16m2_m(vbool8_t vm, size_t vl);
vuint16m4_t __riscv_vid_v_u16m4_m(vbool4_t vm, size_t vl);
vuint16m8_t __riscv_vid_v_u16m8_m(vbool2_t vm, size_t vl);
vuint32mf2_t __riscv_vid_v_u32mf2_m(vbool64_t vm, size_t vl);
vuint32m1_t __riscv_vid_v_u32m1_m(vbool32_t vm, size_t vl);
vuint32m2_t __riscv_vid_v_u32m2_m(vbool16_t vm, size_t vl);
vuint32m4_t __riscv_vid_v_u32m4_m(vbool8_t vm, size_t vl);
vuint32m8_t __riscv_vid_v_u32m8_m(vbool4_t vm, size_t vl);
vuint64m1_t __riscv_vid_v_u64m1_m(vbool64_t vm, size_t vl);
vuint64m2_t __riscv_vid_v_u64m2_m(vbool32_t vm, size_t vl);
vuint64m4_t __riscv_vid_v_u64m4_m(vbool16_t vm, size_t vl);
vuint64m8_t __riscv_vid_v_u64m8_m(vbool8_t vm, size_t vl);
```

A.8. Vector Permutation Intrinsics

A.8.1. Integer and Floating-Point Scalar Move Intrinsics

```
_Float16 __riscv_vfmv_f_s_f16mf4_f16(vfloat16mf4_t vs1);
vfloat16mf4_t __riscv_vfmv_s_f_f16mf4(_Float16 rs1, size_t vl);
_Float16 __riscv_vfmv_f_s_f16mf2_f16(vfloat16mf2_t vs1);
vfloat16mf2_t __riscv_vfmv_s_f_f16mf2(_Float16 rs1, size_t vl);
_Float16 __riscv_vfmv_f_s_f16m1_f16(vfloat16m1_t vs1);
vfloat16m1_t __riscv_vfmv_s_f_f16m1(_Float16 rs1, size_t vl);
_Float16 __riscv_vfmv_f_s_f16m2_f16(vfloat16m2_t vs1);
```

```
vfloat16m2_t __riscv_vfmv_s_f_f16m2(_Float16 rs1, size_t vl);
_Float16 __riscv_vfmv_f_s_f16m4_f16(vfloat16m4_t vs1);
vfloat16m4_t __riscv_vfmv_s_f_f16m4(_Float16 rs1, size_t vl);
_Float16 __riscv_vfmv_f_s_f16m8_f16(vfloat16m8_t vs1);
vfloat16m8_t __riscv_vfmv_s_f_f16m8(_Float16 rs1, size_t vl);
float __riscv_vfmv_f_s_f32mf2_f32(vfloat32mf2_t vs1);
vfloat32mf2_t __riscv_vfmv_s_f_f32mf2(float rs1, size_t vl);
float __riscv_vfmv_f_s_f32m1_f32(vfloat32m1_t vs1);
vfloat32m1_t __riscv_vfmv_s_f_f32m1(float rs1, size_t vl);
float __riscv_vfmv_f_s_f32m2_f32(vfloat32m2_t vs1);
vfloat32m2_t __riscv_vfmv_s_f_f32m2(float rs1, size_t vl);
float __riscv_vfmv_f_s_f32m4_f32(vfloat32m4_t vs1);
vfloat32m4_t __riscv_vfmv_s_f_f32m4(float rs1, size_t vl);
float __riscv_vfmv_f_s_f32m8_f32(vfloat32m8_t vs1);
vfloat32m8_t __riscv_vfmv_s_f_f32m8(float rs1, size_t vl);
double __riscv_vfmv_f_s_f64m1_f64(vfloat64m1_t vs1);
vfloat64m1_t __riscv_vfmv_s_f_f64m1(double rs1, size_t vl);
double __riscv_vfmv_f_s_f64m2_f64(vfloat64m2_t vs1);
vfloat64m2_t __riscv_vfmv_s_f_f64m2(double rs1, size_t vl);
double __riscv_vfmv_f_s_f64m4_f64(vfloat64m4_t vs1);
vfloat64m4_t __riscv_vfmv_s_f_f64m4(double rs1, size_t vl);
double __riscv_vfmv_f_s_f64m8_f64(vfloat64m8_t vs1);
vfloat64m8_t __riscv_vfmv_s_f_f64m8(double rs1, size_t vl);
int8_t __riscv_vmv_x_s_i8mf8_i8(vint8mf8_t vs1);
vint8mf8_t __riscv_vmv_s_x_i8mf8(int8_t rs1, size_t vl);
int8_t __riscv_vmv_x_s_i8mf4_i8(vint8mf4_t vs1);
vint8mf4_t __riscv_vmv_s_x_i8mf4(int8_t rs1, size_t vl);
int8_t __riscv_vmv_x_s_i8mf2_i8(vint8mf2_t vs1);
vint8mf2_t __riscv_vmv_s_x_i8mf2(int8_t rs1, size_t vl);
int8_t __riscv_vmv_x_s_i8m1_i8(vint8m1_t vs1);
vint8m1_t __riscv_vmv_s_x_i8m1(int8_t rs1, size_t vl);
int8_t __riscv_vmv_x_s_i8m2_i8(vint8m2_t vs1);
vint8m2_t __riscv_vmv_s_x_i8m2(int8_t rs1, size_t vl);
int8_t __riscv_vmv_x_s_i8m4_i8(vint8m4_t vs1);
vint8m4_t __riscv_vmv_s_x_i8m4(int8_t rs1, size_t vl);
int8_t __riscv_vmv_x_s_i8m8_i8(vint8m8_t vs1);
vint8m8_t __riscv_vmv_s_x_i8m8(int8_t rs1, size_t vl);
int16_t __riscv_vmv_x_s_i16mf4_i16(vint16mf4_t vs1);
vint16mf4_t __riscv_vmv_s_x_i16mf4(int16_t rs1, size_t vl);
int16_t __riscv_vmv_x_s_i16mf2_i16(vint16mf2_t vs1);
vint16mf2_t __riscv_vmv_s_x_i16mf2(int16_t rs1, size_t vl);
int16_t __riscv_vmv_x_s_i16m1_i16(vint16m1_t vs1);
vint16m1_t __riscv_vmv_s_x_i16m1(int16_t rs1, size_t vl);
int16_t __riscv_vmv_x_s_i16m2_i16(vint16m2_t vs1);
vint16m2_t __riscv_vmv_s_x_i16m2(int16_t rs1, size_t vl);
int16_t __riscv_vmv_x_s_i16m4_i16(vint16m4_t vs1);
vint16m4_t __riscv_vmv_s_x_i16m4(int16_t rs1, size_t vl);
int16_t __riscv_vmv_x_s_i16m8_i16(vint16m8_t vs1);
vint16m8_t __riscv_vmv_s_x_i16m8(int16_t rs1, size_t vl);
int32_t __riscv_vmv_x_s_i32mf2_i32(vint32mf2_t vs1);
vint32mf2_t __riscv_vmv_s_x_i32mf2(int32_t rs1, size_t vl);
int32_t __riscv_vmv_x_s_i32m1_i32(vint32m1_t vs1);
vint32m1_t __riscv_vmv_s_x_i32m1(int32_t rs1, size_t vl);
int32_t __riscv_vmv_x_s_i32m2_i32(vint32m2_t vs1);
vint32m2_t __riscv_vmv_s_x_i32m2(int32_t rs1, size_t vl);
int32_t __riscv_vmv_x_s_i32m4_i32(vint32m4_t vs1);
vint32m4_t __riscv_vmv_s_x_i32m4(int32_t rs1, size_t vl);
int32_t __riscv_vmv_x_s_i32m8_i32(vint32m8_t vs1);
vint32m8_t __riscv_vmv_s_x_i32m8(int32_t rs1, size_t vl);
int64_t __riscv_vmv_x_s_i64m1_i64(vint64m1_t vs1);
vint64m1_t __riscv_vmv_s_x_i64m1(int64_t rs1, size_t vl);
int64_t __riscv_vmv_x_s_i64m2_i64(vint64m2_t vs1);
vint64m2_t __riscv_vmv_s_x_i64m2(int64_t rs1, size_t vl);
int64_t __riscv_vmv_x_s_i64m4_i64(vint64m4_t vs1);
vint64m4_t __riscv_vmv_s_x_i64m4(int64_t rs1, size_t vl);
int64_t __riscv_vmv_x_s_i64m8_i64(vint64m8_t vs1);
vint64m8_t __riscv_vmv_s_x_i64m8(int64_t rs1, size_t vl);
```

```
uint8_t __riscv_vmv_x_s_u8mf8_u8(vuint8mf8_t vs1);
vuint8mf8_t __riscv_vmv_s_x_u8mf8(uint8_t rs1, size_t vl);
uint8_t __riscv_vmv_x_s_u8mf4_u8(vuint8mf4_t vs1);
vuint8mf4_t __riscv_vmv_s_x_u8mf4(uint8_t rs1, size_t vl);
uint8_t __riscv_vmv_x_s_u8mf2_u8(vuint8mf2_t vs1);
vuint8mf2_t __riscv_vmv_s_x_u8mf2(uint8_t rs1, size_t vl);
uint8_t __riscv_vmv_x_s_u8m1_u8(vuint8m1_t vs1);
vuint8m1_t __riscv_vmv_s_x_u8m1(uint8_t rs1, size_t vl);
uint8_t __riscv_vmv_x_s_u8m2_u8(vuint8m2_t vs1);
vuint8m2_t __riscv_vmv_s_x_u8m2(uint8_t rs1, size_t vl);
uint8_t __riscv_vmv_x_s_u8m4_u8(vuint8m4_t vs1);
vuint8m4_t __riscv_vmv_s_x_u8m4(uint8_t rs1, size_t vl);
uint8_t __riscv_vmv_x_s_u8m8_u8(vuint8m8_t vs1);
vuint8m8_t __riscv_vmv_s_x_u8m8(uint8_t rs1, size_t vl);
uint16_t __riscv_vmv_x_s_u16mf4_u16(vuint16mf4_t vs1);
vuint16mf4_t __riscv_vmv_s_x_u16mf4(uint16_t rs1, size_t vl);
uint16_t __riscv_vmv_x_s_u16mf2_u16(vuint16mf2_t vs1);
vuint16mf2_t __riscv_vmv_s_x_u16mf2(uint16_t rs1, size_t vl);
uint16_t __riscv_vmv_x_s_u16m1_u16(vuint16m1_t vs1);
vuint16m1_t __riscv_vmv_s_x_u16m1(uint16_t rs1, size_t vl);
uint16_t __riscv_vmv_x_s_u16m2_u16(vuint16m2_t vs1);
vuint16m2_t __riscv_vmv_s_x_u16m2(uint16_t rs1, size_t vl);
uint16_t __riscv_vmv_x_s_u16m4_u16(vuint16m4_t vs1);
vuint16m4_t __riscv_vmv_s_x_u16m4(uint16_t rs1, size_t vl);
uint16_t __riscv_vmv_x_s_u16m8_u16(vuint16m8_t vs1);
vuint16m8_t __riscv_vmv_s_x_u16m8(uint16_t rs1, size_t vl);
uint32_t __riscv_vmv_x_s_u32mf2_u32(vuint32mf2_t vs1);
vuint32mf2_t __riscv_vmv_s_x_u32mf2(uint32_t rs1, size_t vl);
uint32_t __riscv_vmv_x_s_u32m1_u32(vuint32m1_t vs1);
vuint32m1_t __riscv_vmv_s_x_u32m1(uint32_t rs1, size_t vl);
uint32_t __riscv_vmv_x_s_u32m2_u32(vuint32m2_t vs1);
vuint32m2_t __riscv_vmv_s_x_u32m2(uint32_t rs1, size_t vl);
uint32_t __riscv_vmv_x_s_u32m4_u32(vuint32m4_t vs1);
vuint32m4_t __riscv_vmv_s_x_u32m4(uint32_t rs1, size_t vl);
uint32_t __riscv_vmv_x_s_u32m8_u32(vuint32m8_t vs1);
vuint32m8_t __riscv_vmv_s_x_u32m8(uint32_t rs1, size_t vl);
uint64_t __riscv_vmv_x_s_u64m1_u64(vuint64m1_t vs1);
vuint64m1_t __riscv_vmv_s_x_u64m1(uint64_t rs1, size_t vl);
uint64_t __riscv_vmv_x_s_u64m2_u64(vuint64m2_t vs1);
vuint64m2_t __riscv_vmv_s_x_u64m2(uint64_t rs1, size_t vl);
uint64_t __riscv_vmv_x_s_u64m4_u64(vuint64m4_t vs1);
vuint64m4_t __riscv_vmv_s_x_u64m4(uint64_t rs1, size_t vl);
uint64_t __riscv_vmv_x_s_u64m8_u64(vuint64m8_t vs1);
vuint64m8_t __riscv_vmv_s_x_u64m8(uint64_t rs1, size_t vl);
```

A.8.2. Vector Slideup Intrinsics

```
vfloat16mf4_t __riscv_vslideup_vx_f16mf4(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslideup_vx_f16mf2(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslideup_vx_f16m1(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslideup_vx_f16m2(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslideup_vx_f16m4(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslideup_vx_f16m8(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslideup_vx_f32mf2(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslideup_vx_f32m1(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslideup_vx_f32m2(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       size_t rs1, size_t vl);
```

```
vfloat32m4_t __riscv_vslideup_vx_f32m4(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslideup_vx_f32m8(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslideup_vx_f64m1(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslideup_vx_f64m2(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslideup_vx_f64m4(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslideup_vx_f64m8(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       size_t rs1, size_t vl);
vint8mf8_t __riscv_vslideup_vx_i8mf8(vint8mf8_t vd, vint8mf8_t vs2, size_t rs1,
                                     size_t vl);
vint8mf4_t __riscv_vslideup_vx_i8mf4(vint8mf4_t vd, vint8mf4_t vs2, size_t rs1,
                                     size_t vl);
vint8mf2_t __riscv_vslideup_vx_i8mf2(vint8mf2_t vd, vint8mf2_t vs2, size_t rs1,
                                     size_t vl);
vint8m1_t __riscv_vslideup_vx_i8m1(vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                                   size_t vl);
vint8m2_t __riscv_vslideup_vx_i8m2(vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                                   size_t vl);
vint8m4_t __riscv_vslideup_vx_i8m4(vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                                   size_t vl);
vint8m8_t __riscv_vslideup_vx_i8m8(vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                                   size_t vl);
vint16mf4_t __riscv_vslideup_vx_i16mf4(vint16mf4_t vd, vint16mf4_t vs2,
                                       size_t rs1, size_t vl);
vint16mf2_t __riscv_vslideup_vx_i16mf2(vint16mf2_t vd, vint16mf2_t vs2,
                                       size_t rs1, size_t vl);
vint16m1_t __riscv_vslideup_vx_i16m1(vint16m1_t vd, vint16m1_t vs2, size_t rs1,
                                     size_t vl);
vint16m2_t __riscv_vslideup_vx_i16m2(vint16m2_t vd, vint16m2_t vs2, size_t rs1,
                                     size_t vl);
vint16m4_t __riscv_vslideup_vx_i16m4(vint16m4_t vd, vint16m4_t vs2, size_t rs1,
                                     size_t vl);
vint16m8_t __riscv_vslideup_vx_i16m8(vint16m8_t vd, vint16m8_t vs2, size_t rs1,
                                     size_t vl);
vint32mf2_t __riscv_vslideup_vx_i32mf2(vint32mf2_t vd, vint32mf2_t vs2,
                                       size_t rs1, size_t vl);
vint32m1_t __riscv_vslideup_vx_i32m1(vint32m1_t vd, vint32m1_t vs2, size_t rs1,
                                     size_t vl);
vint32m2_t __riscv_vslideup_vx_i32m2(vint32m2_t vd, vint32m2_t vs2, size_t rs1,
                                     size_t vl);
vint32m4_t __riscv_vslideup_vx_i32m4(vint32m4_t vd, vint32m4_t vs2, size_t rs1,
                                     size_t vl);
vint32m8_t __riscv_vslideup_vx_i32m8(vint32m8_t vd, vint32m8_t vs2, size_t rs1,
                                     size_t vl);
vint64m1_t __riscv_vslideup_vx_i64m1(vint64m1_t vd, vint64m1_t vs2, size_t rs1,
                                     size_t vl);
vint64m2_t __riscv_vslideup_vx_i64m2(vint64m2_t vd, vint64m2_t vs2, size_t rs1,
                                     size_t vl);
vint64m4_t __riscv_vslideup_vx_i64m4(vint64m4_t vd, vint64m4_t vs2, size_t rs1,
                                     size_t vl);
vint64m8_t __riscv_vslideup_vx_i64m8(vint64m8_t vd, vint64m8_t vs2, size_t rs1,
                                     size_t vl);
vuint8mf8_t __riscv_vslideup_vx_u8mf8(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslideup_vx_u8mf4(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslideup_vx_u8mf2(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      size_t rs1, size_t vl);
vuint8m1_t __riscv_vslideup_vx_u8m1(vuint8m1_t vd, vuint8m1_t vs2, size_t rs1,
                                    size_t vl);
vuint8m2_t __riscv_vslideup_vx_u8m2(vuint8m2_t vd, vuint8m2_t vs2, size_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vslideup_vx_u8m4(vuint8m4_t vd, vuint8m4_t vs2, size_t rs1,
```

```
                                     size_t vl);
vuint8m8_t __riscv_vslideup_vx_u8m8(vuint8m8_t vd, vuint8m8_t vs2, size_t rs1,
                                     size_t vl);
vuint16mf4_t __riscv_vslideup_vx_u16mf4(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslideup_vx_u16mf2(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        size_t rs1, size_t vl);
vuint16m1_t __riscv_vslideup_vx_u16m1(vuint16m1_t vd, vuint16m1_t vs2,
                                      size_t rs1, size_t vl);
vuint16m2_t __riscv_vslideup_vx_u16m2(vuint16m2_t vd, vuint16m2_t vs2,
                                      size_t rs1, size_t vl);
vuint16m4_t __riscv_vslideup_vx_u16m4(vuint16m4_t vd, vuint16m4_t vs2,
                                      size_t rs1, size_t vl);
vuint16m8_t __riscv_vslideup_vx_u16m8(vuint16m8_t vd, vuint16m8_t vs2,
                                      size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslideup_vx_u32mf2(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        size_t rs1, size_t vl);
vuint32m1_t __riscv_vslideup_vx_u32m1(vuint32m1_t vd, vuint32m1_t vs2,
                                      size_t rs1, size_t vl);
vuint32m2_t __riscv_vslideup_vx_u32m2(vuint32m2_t vd, vuint32m2_t vs2,
                                      size_t rs1, size_t vl);
vuint32m4_t __riscv_vslideup_vx_u32m4(vuint32m4_t vd, vuint32m4_t vs2,
                                      size_t rs1, size_t vl);
vuint32m8_t __riscv_vslideup_vx_u32m8(vuint32m8_t vd, vuint32m8_t vs2,
                                      size_t rs1, size_t vl);
vuint64m1_t __riscv_vslideup_vx_u64m1(vuint64m1_t vd, vuint64m1_t vs2,
                                      size_t rs1, size_t vl);
vuint64m2_t __riscv_vslideup_vx_u64m2(vuint64m2_t vd, vuint64m2_t vs2,
                                      size_t rs1, size_t vl);
vuint64m4_t __riscv_vslideup_vx_u64m4(vuint64m4_t vd, vuint64m4_t vs2,
                                      size_t rs1, size_t vl);
vuint64m8_t __riscv_vslideup_vx_u64m8(vuint64m8_t vd, vuint64m8_t vs2,
                                      size_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslideup_vx_f16mf4_m(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, size_t rs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vslideup_vx_f16mf2_m(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, size_t rs1,
                                           size_t vl);
vfloat16m1_t __riscv_vslideup_vx_f16m1_m(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, size_t rs1,
                                         size_t vl);
vfloat16m2_t __riscv_vslideup_vx_f16m2_m(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, size_t rs1,
                                         size_t vl);
vfloat16m4_t __riscv_vslideup_vx_f16m4_m(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, size_t rs1,
                                         size_t vl);
vfloat16m8_t __riscv_vslideup_vx_f16m8_m(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, size_t rs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vslideup_vx_f32mf2_m(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, size_t rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vslideup_vx_f32m1_m(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, size_t rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vslideup_vx_f32m2_m(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, size_t rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vslideup_vx_f32m4_m(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, size_t rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vslideup_vx_f32m8_m(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, size_t rs1,
                                         size_t vl);
```

```
vfloat64m1_t __riscv_vslideup_vx_f64m1_m(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, size_t rs1,
                                         size_t vl);
vfloat64m2_t __riscv_vslideup_vx_f64m2_m(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, size_t rs1,
                                         size_t vl);
vfloat64m4_t __riscv_vslideup_vx_f64m4_m(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, size_t rs1,
                                         size_t vl);
vfloat64m8_t __riscv_vslideup_vx_f64m8_m(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, size_t rs1,
                                         size_t vl);
vint8mf8_t __riscv_vslideup_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vslideup_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vslideup_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vslideup_vx_i8m1_m(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                     size_t rs1, size_t vl);
vint8m2_t __riscv_vslideup_vx_i8m2_m(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                     size_t rs1, size_t vl);
vint8m4_t __riscv_vslideup_vx_i8m4_m(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                     size_t rs1, size_t vl);
vint8m8_t __riscv_vslideup_vx_i8m8_m(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                     size_t rs1, size_t vl);
vint16mf4_t __riscv_vslideup_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, size_t rs1,
                                         size_t vl);
vint16mf2_t __riscv_vslideup_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, size_t rs1,
                                         size_t vl);
vint16m1_t __riscv_vslideup_vx_i16m1_m(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vslideup_vx_i16m2_m(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vslideup_vx_i16m4_m(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vslideup_vx_i16m8_m(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vslideup_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, size_t rs1,
                                         size_t vl);
vint32m1_t __riscv_vslideup_vx_i32m1_m(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vslideup_vx_i32m2_m(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vslideup_vx_i32m4_m(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vslideup_vx_i32m8_m(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vslideup_vx_i64m1_m(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vslideup_vx_i64m2_m(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vslideup_vx_i64m4_m(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vslideup_vx_i64m8_m(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslideup_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslideup_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslideup_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vslideup_vx_u8m1_m(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, size_t rs1, size_t vl);
```

```
vuint8m2_t __riscv_vslideup_vx_u8m2_m(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vslideup_vx_u8m4_m(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vslideup_vx_u8m8_m(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslideup_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, size_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vslideup_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, size_t rs1,
                                          size_t vl);
vuint16m1_t __riscv_vslideup_vx_u16m1_m(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vslideup_vx_u16m2_m(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vslideup_vx_u16m4_m(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vslideup_vx_u16m8_m(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslideup_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, size_t rs1,
                                          size_t vl);
vuint32m1_t __riscv_vslideup_vx_u32m1_m(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vslideup_vx_u32m2_m(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vslideup_vx_u32m4_m(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vslideup_vx_u32m8_m(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vslideup_vx_u64m1_m(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vslideup_vx_u64m2_m(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vslideup_vx_u64m4_m(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vslideup_vx_u64m8_m(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, size_t rs1, size_t vl);
```

A.8.3. Vector Slidedown Intrinsics

```
vfloat16mf4_t __riscv_vslidedown_vx_f16mf4(vfloat16mf4_t vs2, size_t rs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vslidedown_vx_f16mf2(vfloat16mf2_t vs2, size_t rs1,
                                           size_t vl);
vfloat16m1_t __riscv_vslidedown_vx_f16m1(vfloat16m1_t vs2, size_t rs1,
                                         size_t vl);
vfloat16m2_t __riscv_vslidedown_vx_f16m2(vfloat16m2_t vs2, size_t rs1,
                                         size_t vl);
vfloat16m4_t __riscv_vslidedown_vx_f16m4(vfloat16m4_t vs2, size_t rs1,
                                         size_t vl);
vfloat16m8_t __riscv_vslidedown_vx_f16m8(vfloat16m8_t vs2, size_t rs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vslidedown_vx_f32mf2(vfloat32mf2_t vs2, size_t rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vslidedown_vx_f32m1(vfloat32m1_t vs2, size_t rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vslidedown_vx_f32m2(vfloat32m2_t vs2, size_t rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vslidedown_vx_f32m4(vfloat32m4_t vs2, size_t rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vslidedown_vx_f32m8(vfloat32m8_t vs2, size_t rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vslidedown_vx_f64m1(vfloat64m1_t vs2, size_t rs1,
```

```
                                        size_t vl);
vfloat64m2_t __riscv_vslidedown_vx_f64m2(vfloat64m2_t vs2, size_t rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vslidedown_vx_f64m4(vfloat64m4_t vs2, size_t rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vslidedown_vx_f64m8(vfloat64m8_t vs2, size_t rs1,
                                        size_t vl);
vint8mf8_t __riscv_vslidedown_vx_i8mf8(vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vslidedown_vx_i8mf4(vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vslidedown_vx_i8mf2(vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vslidedown_vx_i8m1(vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vslidedown_vx_i8m2(vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vslidedown_vx_i8m4(vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vslidedown_vx_i8m8(vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vslidedown_vx_i16mf4(vint16mf4_t vs2, size_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vslidedown_vx_i16mf2(vint16mf2_t vs2, size_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vslidedown_vx_i16m1(vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vslidedown_vx_i16m2(vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vslidedown_vx_i16m4(vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vslidedown_vx_i16m8(vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vslidedown_vx_i32mf2(vint32mf2_t vs2, size_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vslidedown_vx_i32m1(vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vslidedown_vx_i32m2(vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vslidedown_vx_i32m4(vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vslidedown_vx_i32m8(vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vslidedown_vx_i64m1(vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vslidedown_vx_i64m2(vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vslidedown_vx_i64m4(vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vslidedown_vx_i64m8(vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslidedown_vx_u8mf8(vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslidedown_vx_u8mf4(vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslidedown_vx_u8mf2(vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vslidedown_vx_u8m1(vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vslidedown_vx_u8m2(vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vslidedown_vx_u8m4(vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vslidedown_vx_u8m8(vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslidedown_vx_u16mf4(vuint16mf4_t vs2, size_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vslidedown_vx_u16mf2(vuint16mf2_t vs2, size_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vslidedown_vx_u16m1(vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vslidedown_vx_u16m2(vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vslidedown_vx_u16m4(vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vslidedown_vx_u16m8(vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslidedown_vx_u32mf2(vuint32mf2_t vs2, size_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vslidedown_vx_u32m1(vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vslidedown_vx_u32m2(vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vslidedown_vx_u32m4(vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vslidedown_vx_u32m8(vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vslidedown_vx_u64m1(vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vslidedown_vx_u64m2(vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vslidedown_vx_u64m4(vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vslidedown_vx_u64m8(vuint64m8_t vs2, size_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslidedown_vx_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                            size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslidedown_vx_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                            size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslidedown_vx_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                           size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslidedown_vx_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                           size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslidedown_vx_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
```

```
                                          size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslidedown_vx_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                          size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslidedown_vx_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                            size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslidedown_vx_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                          size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslidedown_vx_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                          size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslidedown_vx_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                          size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslidedown_vx_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                          size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslidedown_vx_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                          size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslidedown_vx_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                          size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslidedown_vx_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                          size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslidedown_vx_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                          size_t rs1, size_t vl);
vint8mf8_t __riscv_vslidedown_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                        size_t rs1, size_t vl);
vint8mf4_t __riscv_vslidedown_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                        size_t rs1, size_t vl);
vint8mf2_t __riscv_vslidedown_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                        size_t rs1, size_t vl);
vint8m1_t __riscv_vslidedown_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, size_t rs1,
                                      size_t vl);
vint8m2_t __riscv_vslidedown_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, size_t rs1,
                                      size_t vl);
vint8m4_t __riscv_vslidedown_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, size_t rs1,
                                      size_t vl);
vint8m8_t __riscv_vslidedown_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, size_t rs1,
                                      size_t vl);
vint16mf4_t __riscv_vslidedown_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                          size_t rs1, size_t vl);
vint16mf2_t __riscv_vslidedown_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                          size_t rs1, size_t vl);
vint16m1_t __riscv_vslidedown_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                        size_t rs1, size_t vl);
vint16m2_t __riscv_vslidedown_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2,
                                        size_t rs1, size_t vl);
vint16m4_t __riscv_vslidedown_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2,
                                        size_t rs1, size_t vl);
vint16m8_t __riscv_vslidedown_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2,
                                        size_t rs1, size_t vl);
vint32mf2_t __riscv_vslidedown_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                          size_t rs1, size_t vl);
vint32m1_t __riscv_vslidedown_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                        size_t rs1, size_t vl);
vint32m2_t __riscv_vslidedown_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                        size_t rs1, size_t vl);
vint32m4_t __riscv_vslidedown_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2,
                                        size_t rs1, size_t vl);
vint32m8_t __riscv_vslidedown_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2,
                                        size_t rs1, size_t vl);
vint64m1_t __riscv_vslidedown_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                        size_t rs1, size_t vl);
vint64m2_t __riscv_vslidedown_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                        size_t rs1, size_t vl);
vint64m4_t __riscv_vslidedown_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                        size_t rs1, size_t vl);
vint64m8_t __riscv_vslidedown_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2,
                                        size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslidedown_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                         size_t rs1, size_t vl);
```

```
vuint8mf4_t __riscv_vslidedown_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                          size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslidedown_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                          size_t rs1, size_t vl);
vuint8m1_t __riscv_vslidedown_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, size_t rs1,
                                        size_t vl);
vuint8m2_t __riscv_vslidedown_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, size_t rs1,
                                        size_t vl);
vuint8m4_t __riscv_vslidedown_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, size_t rs1,
                                        size_t vl);
vuint8m8_t __riscv_vslidedown_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, size_t rs1,
                                        size_t vl);
vuint16mf4_t __riscv_vslidedown_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                            size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslidedown_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                            size_t rs1, size_t vl);
vuint16m1_t __riscv_vslidedown_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                          size_t rs1, size_t vl);
vuint16m2_t __riscv_vslidedown_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                          size_t rs1, size_t vl);
vuint16m4_t __riscv_vslidedown_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                          size_t rs1, size_t vl);
vuint16m8_t __riscv_vslidedown_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                          size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslidedown_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                            size_t rs1, size_t vl);
vuint32m1_t __riscv_vslidedown_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                          size_t rs1, size_t vl);
vuint32m2_t __riscv_vslidedown_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                          size_t rs1, size_t vl);
vuint32m4_t __riscv_vslidedown_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                          size_t rs1, size_t vl);
vuint32m8_t __riscv_vslidedown_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                          size_t rs1, size_t vl);
vuint64m1_t __riscv_vslidedown_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                          size_t rs1, size_t vl);
vuint64m2_t __riscv_vslidedown_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                          size_t rs1, size_t vl);
vuint64m4_t __riscv_vslidedown_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                          size_t rs1, size_t vl);
vuint64m8_t __riscv_vslidedown_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                          size_t rs1, size_t vl);
```

A.8.4. Vector Slide1up and Slide1down Intrinsics

```
vfloat16mf4_t __riscv_vfslide1up_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfslide1up_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m1_t __riscv_vfslide1up_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m2_t __riscv_vfslide1up_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m4_t __riscv_vfslide1up_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m8_t __riscv_vfslide1up_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfslide1up_vf_f32mf2(vfloat32mf2_t vs2, float rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfslide1up_vf_f32m1(vfloat32m1_t vs2, float rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfslide1up_vf_f32m2(vfloat32m2_t vs2, float rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfslide1up_vf_f32m4(vfloat32m4_t vs2, float rs1,
                                         size_t vl);
```

```
vfloat32m8_t __riscv_vfslide1up_vf_f32m8(vfloat32m8_t vs2, float rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfslide1up_vf_f64m1(vfloat64m1_t vs2, double rs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfslide1up_vf_f64m2(vfloat64m2_t vs2, double rs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfslide1up_vf_f64m4(vfloat64m4_t vs2, double rs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfslide1up_vf_f64m8(vfloat64m8_t vs2, double rs1,
                                         size_t vl);
vfloat16mf4_t __riscv_vfslide1down_vf_f16mf4(vfloat16mf4_t vs2, _Float16 rs1,
                                             size_t vl);
vfloat16mf2_t __riscv_vfslide1down_vf_f16mf2(vfloat16mf2_t vs2, _Float16 rs1,
                                             size_t vl);
vfloat16m1_t __riscv_vfslide1down_vf_f16m1(vfloat16m1_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m2_t __riscv_vfslide1down_vf_f16m2(vfloat16m2_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m4_t __riscv_vfslide1down_vf_f16m4(vfloat16m4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m8_t __riscv_vfslide1down_vf_f16m8(vfloat16m8_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat32mf2_t __riscv_vfslide1down_vf_f32mf2(vfloat32mf2_t vs2, float rs1,
                                             size_t vl);
vfloat32m1_t __riscv_vfslide1down_vf_f32m1(vfloat32m1_t vs2, float rs1,
                                           size_t vl);
vfloat32m2_t __riscv_vfslide1down_vf_f32m2(vfloat32m2_t vs2, float rs1,
                                           size_t vl);
vfloat32m4_t __riscv_vfslide1down_vf_f32m4(vfloat32m4_t vs2, float rs1,
                                           size_t vl);
vfloat32m8_t __riscv_vfslide1down_vf_f32m8(vfloat32m8_t vs2, float rs1,
                                           size_t vl);
vfloat64m1_t __riscv_vfslide1down_vf_f64m1(vfloat64m1_t vs2, double rs1,
                                           size_t vl);
vfloat64m2_t __riscv_vfslide1down_vf_f64m2(vfloat64m2_t vs2, double rs1,
                                           size_t vl);
vfloat64m4_t __riscv_vfslide1down_vf_f64m4(vfloat64m4_t vs2, double rs1,
                                           size_t vl);
vfloat64m8_t __riscv_vfslide1down_vf_f64m8(vfloat64m8_t vs2, double rs1,
                                           size_t vl);
vint8mf8_t __riscv_vslide1up_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1up_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1up_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1up_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1up_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1up_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1up_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1up_vx_i16mf4(vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vslide1up_vx_i16mf2(vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vslide1up_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1up_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1up_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1up_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1up_vx_i32mf2(vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vslide1up_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1up_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1up_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1up_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1up_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1up_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1up_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1up_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vslide1down_vx_i8mf8(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1down_vx_i8mf4(vint8mf4_t vs2, int8_t rs1, size_t vl);
```

```
vint8mf2_t __riscv_vslide1down_vx_i8mf2(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1down_vx_i8m1(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1down_vx_i8m2(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1down_vx_i8m4(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1down_vx_i8m8(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1down_vx_i16mf4(vint16mf4_t vs2, int16_t rs1,
                                          size_t vl);
vint16mf2_t __riscv_vslide1down_vx_i16mf2(vint16mf2_t vs2, int16_t rs1,
                                          size_t vl);
vint16m1_t __riscv_vslide1down_vx_i16m1(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1down_vx_i16m2(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1down_vx_i16m4(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1down_vx_i16m8(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1down_vx_i32mf2(vint32mf2_t vs2, int32_t rs1,
                                          size_t vl);
vint32m1_t __riscv_vslide1down_vx_i32m1(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1down_vx_i32m2(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1down_vx_i32m4(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1down_vx_i32m8(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1down_vx_i64m1(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1down_vx_i64m2(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1down_vx_i64m4(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1down_vx_i64m8(vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1up_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1up_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1up_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1up_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1up_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1up_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1up_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1up_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vslide1up_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vslide1up_vx_u16m1(vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vslide1up_vx_u16m2(vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vslide1up_vx_u16m4(vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vslide1up_vx_u16m8(vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vslide1up_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vslide1up_vx_u32m1(vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vslide1up_vx_u32m2(vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vslide1up_vx_u32m4(vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vslide1up_vx_u32m8(vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vslide1up_vx_u64m1(vuint64m1_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vslide1up_vx_u64m2(vuint64m2_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vslide1up_vx_u64m4(vuint64m4_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vslide1up_vx_u64m8(vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
vuint8mf8_t __riscv_vslide1down_vx_u8mf8(vuint8mf8_t vs2, uint8_t rs1,
                                         size_t vl);
vuint8mf4_t __riscv_vslide1down_vx_u8mf4(vuint8mf4_t vs2, uint8_t rs1,
                                         size_t vl);
vuint8mf2_t __riscv_vslide1down_vx_u8mf2(vuint8mf2_t vs2, uint8_t rs1,
                                         size_t vl);
vuint8m1_t __riscv_vslide1down_vx_u8m1(vuint8m1_t vs2, uint8_t rs1, size_t vl);
```

```
vuint8m2_t __riscv_vslide1down_vx_u8m2(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1down_vx_u8m4(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1down_vx_u8m8(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1down_vx_u16mf4(vuint16mf4_t vs2, uint16_t rs1,
                                           size_t vl);
vuint16mf2_t __riscv_vslide1down_vx_u16mf2(vuint16mf2_t vs2, uint16_t rs1,
                                           size_t vl);
vuint16m1_t __riscv_vslide1down_vx_u16m1(vuint16m1_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m2_t __riscv_vslide1down_vx_u16m2(vuint16m2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m4_t __riscv_vslide1down_vx_u16m4(vuint16m4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m8_t __riscv_vslide1down_vx_u16m8(vuint16m8_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32mf2_t __riscv_vslide1down_vx_u32mf2(vuint32mf2_t vs2, uint32_t rs1,
                                           size_t vl);
vuint32m1_t __riscv_vslide1down_vx_u32m1(vuint32m1_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m2_t __riscv_vslide1down_vx_u32m2(vuint32m2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m4_t __riscv_vslide1down_vx_u32m4(vuint32m4_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m8_t __riscv_vslide1down_vx_u32m8(vuint32m8_t vs2, uint32_t rs1,
                                         size_t vl);
vuint64m1_t __riscv_vslide1down_vx_u64m1(vuint64m1_t vs2, uint64_t rs1,
                                         size_t vl);
vuint64m2_t __riscv_vslide1down_vx_u64m2(vuint64m2_t vs2, uint64_t rs1,
                                         size_t vl);
vuint64m4_t __riscv_vslide1down_vx_u64m4(vuint64m4_t vs2, uint64_t rs1,
                                         size_t vl);
vuint64m8_t __riscv_vslide1down_vx_u64m8(vuint64m8_t vs2, uint64_t rs1,
                                         size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfslide1up_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                             _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfslide1up_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                             _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfslide1up_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                           _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1up_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                           _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1up_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                           _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1up_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                           _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfslide1up_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                             float rs1, size_t vl);
vfloat32m1_t __riscv_vfslide1up_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                           float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1up_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                           float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1up_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                           float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1up_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                           float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1up_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                           double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1up_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                           double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1up_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                           double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1up_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                           double rs1, size_t vl);
vfloat16mf4_t __riscv_vfslide1down_vf_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                               _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfslide1down_vf_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
```

```
                                                _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfslide1down_vf_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                             _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1down_vf_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                             _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1down_vf_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                             _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1down_vf_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                             _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfslide1down_vf_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                               float rs1, size_t vl);
vfloat32m1_t __riscv_vfslide1down_vf_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                             float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1down_vf_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                             float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1down_vf_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                             float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1down_vf_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                             float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1down_vf_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                             double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1down_vf_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                             double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1down_vf_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                             double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1down_vf_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                             double rs1, size_t vl);
vint8mf8_t __riscv_vslide1up_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                        int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1up_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                        int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1up_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                        int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1up_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                      size_t vl);
vint8m2_t __riscv_vslide1up_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                      size_t vl);
vint8m4_t __riscv_vslide1up_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                      size_t vl);
vint8m8_t __riscv_vslide1up_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                      size_t vl);
vint16mf4_t __riscv_vslide1up_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                          int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1up_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                          int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1up_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                        int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1up_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2,
                                        int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1up_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2,
                                        int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1up_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2,
                                        int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1up_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                          int32_t rs1, size_t vl);
vint32m1_t __riscv_vslide1up_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                        int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1up_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                        int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1up_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2,
                                        int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1up_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2,
                                        int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1up_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                        int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1up_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                        int64_t rs1, size_t vl);
```

```
vint64m4_t __riscv_vslide1up_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                        int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1up_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2,
                                        int64_t rs1, size_t vl);
vint8mf8_t __riscv_vslide1down_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                          int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1down_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                          int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1down_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                          int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1down_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                                        size_t vl);
vint8m2_t __riscv_vslide1down_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                                        size_t vl);
vint8m4_t __riscv_vslide1down_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                                        size_t vl);
vint8m8_t __riscv_vslide1down_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                                        size_t vl);
vint16mf4_t __riscv_vslide1down_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                            int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1down_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                            int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1down_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                          int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1down_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2,
                                          int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1down_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2,
                                          int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1down_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2,
                                          int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1down_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                            int32_t rs1, size_t vl);
vint32m1_t __riscv_vslide1down_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                          int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1down_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                          int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1down_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2,
                                          int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1down_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2,
                                          int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1down_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                          int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1down_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                          int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1down_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                          int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1down_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2,
                                          int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1up_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                         uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1up_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                         uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1up_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                         uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1up_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                       size_t vl);
vuint8m2_t __riscv_vslide1up_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                       size_t vl);
vuint8m4_t __riscv_vslide1up_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                       size_t vl);
vuint8m8_t __riscv_vslide1up_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                                       size_t vl);
vuint16mf4_t __riscv_vslide1up_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                           uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1up_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                           uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1up_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
```

```
                                        uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1up_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1up_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1up_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                        uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1up_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                          uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1up_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                        uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1up_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                        uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1up_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                        uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1up_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                        uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1up_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                        uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1up_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                        uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1up_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                        uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1up_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                        uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1down_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                          uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1down_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                          uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1down_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                          uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1down_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2,
                                        uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1down_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2,
                                        uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1down_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2,
                                        uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1down_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2,
                                        uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1down_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                            uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1down_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                            uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1down_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                          uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1down_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                          uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1down_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                          uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1down_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                          uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1down_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                            uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1down_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                          uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1down_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                          uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1down_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                          uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1down_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                          uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1down_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                          uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1down_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                          uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1down_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                          uint64_t rs1, size_t vl);
```

```
vuint64m8_t __riscv_vslide1down_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                           uint64_t rs1, size_t vl);
```

A.8.5. Vector Register Gather Intrinsics

```
vfloat16mf4_t __riscv_vrgather_vv_f16mf4(vfloat16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vfloat16mf4_t __riscv_vrgather_vx_f16mf4(vfloat16mf4_t vs2, size_t vs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vrgather_vv_f16mf2(vfloat16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vrgather_vx_f16mf2(vfloat16mf2_t vs2, size_t vs1,
                                         size_t vl);
vfloat16m1_t __riscv_vrgather_vv_f16m1(vfloat16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vfloat16m1_t __riscv_vrgather_vx_f16m1(vfloat16m1_t vs2, size_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather_vv_f16m2(vfloat16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vfloat16m2_t __riscv_vrgather_vx_f16m2(vfloat16m2_t vs2, size_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather_vv_f16m4(vfloat16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vfloat16m4_t __riscv_vrgather_vx_f16m4(vfloat16m4_t vs2, size_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather_vv_f16m8(vfloat16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vfloat16m8_t __riscv_vrgather_vx_f16m8(vfloat16m8_t vs2, size_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather_vv_f32mf2(vfloat32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vrgather_vx_f32mf2(vfloat32mf2_t vs2, size_t vs1,
                                         size_t vl);
vfloat32m1_t __riscv_vrgather_vv_f32m1(vfloat32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vfloat32m1_t __riscv_vrgather_vx_f32m1(vfloat32m1_t vs2, size_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather_vv_f32m2(vfloat32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vfloat32m2_t __riscv_vrgather_vx_f32m2(vfloat32m2_t vs2, size_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather_vv_f32m4(vfloat32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vfloat32m4_t __riscv_vrgather_vx_f32m4(vfloat32m4_t vs2, size_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather_vv_f32m8(vfloat32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vfloat32m8_t __riscv_vrgather_vx_f32m8(vfloat32m8_t vs2, size_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather_vv_f64m1(vfloat64m1_t vs2, vuint64m1_t vs1,
                                       size_t vl);
vfloat64m1_t __riscv_vrgather_vx_f64m1(vfloat64m1_t vs2, size_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather_vv_f64m2(vfloat64m2_t vs2, vuint64m2_t vs1,
                                       size_t vl);
vfloat64m2_t __riscv_vrgather_vx_f64m2(vfloat64m2_t vs2, size_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather_vv_f64m4(vfloat64m4_t vs2, vuint64m4_t vs1,
                                       size_t vl);
vfloat64m4_t __riscv_vrgather_vx_f64m4(vfloat64m4_t vs2, size_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather_vv_f64m8(vfloat64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vfloat64m8_t __riscv_vrgather_vx_f64m8(vfloat64m8_t vs2, size_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgatherei16_vv_f16mf4(vfloat16mf4_t vs2,
                                             vuint16mf4_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgatherei16_vv_f16mf2(vfloat16mf2_t vs2,
                                             vuint16mf2_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgatherei16_vv_f16m1(vfloat16m1_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vfloat16m2_t __riscv_vrgatherei16_vv_f16m2(vfloat16m2_t vs2, vuint16m2_t vs1,
                                           size_t vl);
vfloat16m4_t __riscv_vrgatherei16_vv_f16m4(vfloat16m4_t vs2, vuint16m4_t vs1,
                                           size_t vl);
vfloat16m8_t __riscv_vrgatherei16_vv_f16m8(vfloat16m8_t vs2, vuint16m8_t vs1,
                                           size_t vl);
```

```
vfloat32mf2_t __riscv_vrgatherei16_vv_f32mf2(vfloat32mf2_t vs2,
                                             vuint16mf4_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgatherei16_vv_f32m1(vfloat32m1_t vs2, vuint16mf2_t vs1,
                                           size_t vl);
vfloat32m2_t __riscv_vrgatherei16_vv_f32m2(vfloat32m2_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vfloat32m4_t __riscv_vrgatherei16_vv_f32m4(vfloat32m4_t vs2, vuint16m2_t vs1,
                                           size_t vl);
vfloat32m8_t __riscv_vrgatherei16_vv_f32m8(vfloat32m8_t vs2, vuint16m4_t vs1,
                                           size_t vl);
vfloat64m1_t __riscv_vrgatherei16_vv_f64m1(vfloat64m1_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vfloat64m2_t __riscv_vrgatherei16_vv_f64m2(vfloat64m2_t vs2, vuint16mf2_t vs1,
                                           size_t vl);
vfloat64m4_t __riscv_vrgatherei16_vv_f64m4(vfloat64m4_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vfloat64m8_t __riscv_vrgatherei16_vv_f64m8(vfloat64m8_t vs2, vuint16m2_t vs1,
                                           size_t vl);
vint8mf8_t __riscv_vrgather_vv_i8mf8(vint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vint8mf8_t __riscv_vrgather_vx_i8mf8(vint8mf8_t vs2, size_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_vv_i8mf4(vint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vint8mf4_t __riscv_vrgather_vx_i8mf4(vint8mf4_t vs2, size_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_vv_i8mf2(vint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vint8mf2_t __riscv_vrgather_vx_i8mf2(vint8mf2_t vs2, size_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_vv_i8m1(vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_vx_i8m1(vint8m1_t vs2, size_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_vv_i8m2(vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_vx_i8m2(vint8m2_t vs2, size_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_vv_i8m4(vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_vx_i8m4(vint8m4_t vs2, size_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_vv_i8m8(vint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_vx_i8m8(vint8m8_t vs2, size_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_vv_i16mf4(vint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vrgather_vx_i16mf4(vint16mf4_t vs2, size_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_vv_i16mf2(vint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vrgather_vx_i16mf2(vint16mf2_t vs2, size_t vs1, size_t vl);
vint16m1_t __riscv_vrgather_vv_i16m1(vint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vint16m1_t __riscv_vrgather_vx_i16m1(vint16m1_t vs2, size_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_vv_i16m2(vint16m2_t vs2, vuint16m2_t vs1,
                                     size_t vl);
vint16m2_t __riscv_vrgather_vx_i16m2(vint16m2_t vs2, size_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_vv_i16m4(vint16m4_t vs2, vuint16m4_t vs1,
                                     size_t vl);
vint16m4_t __riscv_vrgather_vx_i16m4(vint16m4_t vs2, size_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_vv_i16m8(vint16m8_t vs2, vuint16m8_t vs1,
                                     size_t vl);
vint16m8_t __riscv_vrgather_vx_i16m8(vint16m8_t vs2, size_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_vv_i32mf2(vint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vrgather_vx_i32mf2(vint32mf2_t vs2, size_t vs1, size_t vl);
vint32m1_t __riscv_vrgather_vv_i32m1(vint32m1_t vs2, vuint32m1_t vs1,
                                     size_t vl);
vint32m1_t __riscv_vrgather_vx_i32m1(vint32m1_t vs2, size_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_vv_i32m2(vint32m2_t vs2, vuint32m2_t vs1,
                                     size_t vl);
vint32m2_t __riscv_vrgather_vx_i32m2(vint32m2_t vs2, size_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_vv_i32m4(vint32m4_t vs2, vuint32m4_t vs1,
                                     size_t vl);
vint32m4_t __riscv_vrgather_vx_i32m4(vint32m4_t vs2, size_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_vv_i32m8(vint32m8_t vs2, vuint32m8_t vs1,
                                     size_t vl);
```

```
vint32m8_t __riscv_vrgather_vx_i32m8(vint32m8_t vs2, size_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_vv_i64m1(vint64m1_t vs2, vuint64m1_t vs1,
                                     size_t vl);
vint64m1_t __riscv_vrgather_vx_i64m1(vint64m1_t vs2, size_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_vv_i64m2(vint64m2_t vs2, vuint64m2_t vs1,
                                     size_t vl);
vint64m2_t __riscv_vrgather_vx_i64m2(vint64m2_t vs2, size_t vs1, size_t vl);
vint64m4_t __riscv_vrgather_vv_i64m4(vint64m4_t vs2, vuint64m4_t vs1,
                                     size_t vl);
vint64m4_t __riscv_vrgather_vx_i64m4(vint64m4_t vs2, size_t vs1, size_t vl);
vint64m8_t __riscv_vrgather_vv_i64m8(vint64m8_t vs2, vuint64m8_t vs1,
                                     size_t vl);
vint64m8_t __riscv_vrgather_vx_i64m8(vint64m8_t vs2, size_t vs1, size_t vl);
vint8mf8_t __riscv_vrgatherei16_vv_i8mf8(vint8mf8_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vint8mf4_t __riscv_vrgatherei16_vv_i8mf4(vint8mf4_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vint8mf2_t __riscv_vrgatherei16_vv_i8mf2(vint8mf2_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vint8m1_t __riscv_vrgatherei16_vv_i8m1(vint8m1_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vint8m2_t __riscv_vrgatherei16_vv_i8m2(vint8m2_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vint8m4_t __riscv_vrgatherei16_vv_i8m4(vint8m4_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vrgatherei16_vv_i16mf4(vint16mf4_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vint16mf2_t __riscv_vrgatherei16_vv_i16mf2(vint16mf2_t vs2, vuint16mf2_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vrgatherei16_vv_i16m1(vint16m1_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vint16m2_t __riscv_vrgatherei16_vv_i16m2(vint16m2_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vint16m4_t __riscv_vrgatherei16_vv_i16m4(vint16m4_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vint16m8_t __riscv_vrgatherei16_vv_i16m8(vint16m8_t vs2, vuint16m8_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vrgatherei16_vv_i32mf2(vint32mf2_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vint32m1_t __riscv_vrgatherei16_vv_i32m1(vint32m1_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vint32m2_t __riscv_vrgatherei16_vv_i32m2(vint32m2_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vint32m4_t __riscv_vrgatherei16_vv_i32m4(vint32m4_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vint32m8_t __riscv_vrgatherei16_vv_i32m8(vint32m8_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vint64m1_t __riscv_vrgatherei16_vv_i64m1(vint64m1_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vint64m2_t __riscv_vrgatherei16_vv_i64m2(vint64m2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vint64m4_t __riscv_vrgatherei16_vv_i64m4(vint64m4_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vint64m8_t __riscv_vrgatherei16_vv_i64m8(vint64m8_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vuint8mf8_t __riscv_vrgather_vv_u8mf8(vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vrgather_vx_u8mf8(vuint8mf8_t vs2, size_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_vv_u8mf4(vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vrgather_vx_u8mf4(vuint8mf4_t vs2, size_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_vv_u8mf2(vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vrgather_vx_u8mf2(vuint8mf2_t vs2, size_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather_vv_u8m1(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather_vx_u8m1(vuint8m1_t vs2, size_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_vv_u8m2(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
```

```
vuint8m2_t __riscv_vrgather_vx_u8m2(vuint8m2_t vs2, size_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_vv_u8m4(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_vx_u8m4(vuint8m4_t vs2, size_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_vv_u8m8(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_vx_u8m8(vuint8m8_t vs2, size_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vrgather_vx_u16mf4(vuint16mf4_t vs2, size_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vrgather_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vrgather_vx_u16mf2(vuint16mf2_t vs2, size_t vs1,
                                        size_t vl);
vuint16m1_t __riscv_vrgather_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vrgather_vx_u16m1(vuint16m1_t vs2, size_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vrgather_vx_u16m2(vuint16m2_t vs2, size_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vrgather_vx_u16m4(vuint16m4_t vs2, size_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vrgather_vx_u16m8(vuint16m8_t vs2, size_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgather_vv_u32mf2(vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vrgather_vx_u32mf2(vuint32mf2_t vs2, size_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vrgather_vv_u32m1(vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vrgather_vx_u32m1(vuint32m1_t vs2, size_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_vv_u32m2(vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vrgather_vx_u32m2(vuint32m2_t vs2, size_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_vv_u32m4(vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vrgather_vx_u32m4(vuint32m4_t vs2, size_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_vv_u32m8(vuint32m8_t vs2, vuint32m8_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vrgather_vx_u32m8(vuint32m8_t vs2, size_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_vv_u64m1(vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vuint64m1_t __riscv_vrgather_vx_u64m1(vuint64m1_t vs2, size_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_vv_u64m2(vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vuint64m2_t __riscv_vrgather_vx_u64m2(vuint64m2_t vs2, size_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_vv_u64m4(vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vrgather_vx_u64m4(vuint64m4_t vs2, size_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather_vv_u64m8(vuint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vrgather_vx_u64m8(vuint64m8_t vs2, size_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgatherei16_vv_u8mf8(vuint8mf8_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vuint8mf4_t __riscv_vrgatherei16_vv_u8mf4(vuint8mf4_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vuint8mf2_t __riscv_vrgatherei16_vv_u8mf2(vuint8mf2_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vuint8m1_t __riscv_vrgatherei16_vv_u8m1(vuint8m1_t vs2, vuint16m2_t vs1,
                                        size_t vl);
vuint8m2_t __riscv_vrgatherei16_vv_u8m2(vuint8m2_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vuint8m4_t __riscv_vrgatherei16_vv_u8m4(vuint8m4_t vs2, vuint16m8_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vrgatherei16_vv_u16mf4(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                            size_t vl);
```

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vuint16mf2_t __riscv_vrgatherei16_vv_u16mf2(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vrgatherei16_vv_u16m1(vuint16m1_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vuint16m2_t __riscv_vrgatherei16_vv_u16m2(vuint16m2_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vuint16m4_t __riscv_vrgatherei16_vv_u16m4(vuint16m4_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vuint16m8_t __riscv_vrgatherei16_vv_u16m8(vuint16m8_t vs2, vuint16m8_t vs1,
                                          size_t vl);
vuint32mf2_t __riscv_vrgatherei16_vv_u32mf2(vuint32mf2_t vs2, vuint16mf4_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vrgatherei16_vv_u32m1(vuint32m1_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vuint32m2_t __riscv_vrgatherei16_vv_u32m2(vuint32m2_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vuint32m4_t __riscv_vrgatherei16_vv_u32m4(vuint32m4_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vuint32m8_t __riscv_vrgatherei16_vv_u32m8(vuint32m8_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vuint64m1_t __riscv_vrgatherei16_vv_u64m1(vuint64m1_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vuint64m2_t __riscv_vrgatherei16_vv_u64m2(vuint64m2_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vuint64m4_t __riscv_vrgatherei16_vv_u64m4(vuint64m4_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vuint64m8_t __riscv_vrgatherei16_vv_u64m8(vuint64m8_t vs2, vuint16m2_t vs1,
                                          size_t vl);
// masked functions
vfloat16mf4_t __riscv_vrgather_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                           vuint16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgather_vx_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                           size_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                           vuint16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather_vx_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                           size_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                         vuint16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather_vx_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                         size_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                         vuint16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather_vx_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                         size_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                         vuint16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather_vx_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                         size_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                         vuint16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather_vx_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                         size_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                           vuint32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather_vx_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                           size_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                         vuint32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather_vx_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                         size_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                         vuint32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather_vx_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                         size_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                         vuint32m4_t vs1, size_t vl);
```

```
vfloat32m4_t __riscv_vrgather_vx_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                         size_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                         vuint32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather_vx_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                         size_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                         vuint64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather_vx_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                         size_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                         vuint64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather_vx_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                         size_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                         vuint64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather_vx_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                         size_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                         vuint64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather_vx_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                         size_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgatherei16_vv_f16mf4_m(vbool64_t vm, vfloat16mf4_t vs2,
                                               vuint16mf4_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgatherei16_vv_f16mf2_m(vbool32_t vm, vfloat16mf2_t vs2,
                                               vuint16mf2_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgatherei16_vv_f16m1_m(vbool16_t vm, vfloat16m1_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgatherei16_vv_f16m2_m(vbool8_t vm, vfloat16m2_t vs2,
                                             vuint16m2_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgatherei16_vv_f16m4_m(vbool4_t vm, vfloat16m4_t vs2,
                                             vuint16m4_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgatherei16_vv_f16m8_m(vbool2_t vm, vfloat16m8_t vs2,
                                             vuint16m8_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgatherei16_vv_f32mf2_m(vbool64_t vm, vfloat32mf2_t vs2,
                                               vuint16mf4_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgatherei16_vv_f32m1_m(vbool32_t vm, vfloat32m1_t vs2,
                                             vuint16mf2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgatherei16_vv_f32m2_m(vbool16_t vm, vfloat32m2_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgatherei16_vv_f32m4_m(vbool8_t vm, vfloat32m4_t vs2,
                                             vuint16m2_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgatherei16_vv_f32m8_m(vbool4_t vm, vfloat32m8_t vs2,
                                             vuint16m4_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgatherei16_vv_f64m1_m(vbool64_t vm, vfloat64m1_t vs2,
                                             vuint16mf4_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgatherei16_vv_f64m2_m(vbool32_t vm, vfloat64m2_t vs2,
                                             vuint16mf2_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgatherei16_vv_f64m4_m(vbool16_t vm, vfloat64m4_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgatherei16_vv_f64m8_m(vbool8_t vm, vfloat64m8_t vs2,
                                             vuint16m2_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                       vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather_vx_i8mf8_m(vbool64_t vm, vint8mf8_t vs2, size_t vs1,
                                       size_t vl);
vint8mf4_t __riscv_vrgather_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                       vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_vx_i8mf4_m(vbool32_t vm, vint8mf4_t vs2, size_t vs1,
                                       size_t vl);
vint8mf2_t __riscv_vrgather_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                       vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_vx_i8mf2_m(vbool16_t vm, vint8mf2_t vs2, size_t vs1,
                                       size_t vl);
vint8m1_t __riscv_vrgather_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2, vuint8m1_t vs1,
                                     size_t vl);
vint8m1_t __riscv_vrgather_vx_i8m1_m(vbool8_t vm, vint8m1_t vs2, size_t vs1,
```

```
                                     size_t vl);
vint8m2_t __riscv_vrgather_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2, vuint8m2_t vs1,
                                     size_t vl);
vint8m2_t __riscv_vrgather_vx_i8m2_m(vbool4_t vm, vint8m2_t vs2, size_t vs1,
                                     size_t vl);
vint8m4_t __riscv_vrgather_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2, vuint8m4_t vs1,
                                     size_t vl);
vint8m4_t __riscv_vrgather_vx_i8m4_m(vbool2_t vm, vint8m4_t vs2, size_t vs1,
                                     size_t vl);
vint8m8_t __riscv_vrgather_vv_i8m8_m(vbool1_t vm, vint8m8_t vs2, vuint8m8_t vs1,
                                     size_t vl);
vint8m8_t __riscv_vrgather_vx_i8m8_m(vbool1_t vm, vint8m8_t vs2, size_t vs1,
                                     size_t vl);
vint16mf4_t __riscv_vrgather_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_vx_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                         size_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                         vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_vx_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                         size_t vs1, size_t vl);
vint16m1_t __riscv_vrgather_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                       vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrgather_vx_i16m1_m(vbool16_t vm, vint16m1_t vs2, size_t vs1,
                                       size_t vl);
vint16m2_t __riscv_vrgather_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2,
                                       vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_vx_i16m2_m(vbool8_t vm, vint16m2_t vs2, size_t vs1,
                                       size_t vl);
vint16m4_t __riscv_vrgather_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2,
                                       vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_vx_i16m4_m(vbool4_t vm, vint16m4_t vs2, size_t vs1,
                                       size_t vl);
vint16m8_t __riscv_vrgather_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2,
                                       vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_vx_i16m8_m(vbool2_t vm, vint16m8_t vs2, size_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vrgather_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                         vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_vx_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                         size_t vs1, size_t vl);
vint32m1_t __riscv_vrgather_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                       vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrgather_vx_i32m1_m(vbool32_t vm, vint32m1_t vs2, size_t vs1,
                                       size_t vl);
vint32m2_t __riscv_vrgather_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                       vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_vx_i32m2_m(vbool16_t vm, vint32m2_t vs2, size_t vs1,
                                       size_t vl);
vint32m4_t __riscv_vrgather_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2,
                                       vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_vx_i32m4_m(vbool8_t vm, vint32m4_t vs2, size_t vs1,
                                       size_t vl);
vint32m8_t __riscv_vrgather_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2,
                                       vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_vx_i32m8_m(vbool4_t vm, vint32m8_t vs2, size_t vs1,
                                       size_t vl);
vint64m1_t __riscv_vrgather_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                       vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_vx_i64m1_m(vbool64_t vm, vint64m1_t vs2, size_t vs1,
                                       size_t vl);
vint64m2_t __riscv_vrgather_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                       vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_vx_i64m2_m(vbool32_t vm, vint64m2_t vs2, size_t vs1,
                                       size_t vl);
vint64m4_t __riscv_vrgather_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                       vuint64m4_t vs1, size_t vl);
```

```
vint64m4_t __riscv_vrgather_vx_i64m4_m(vbool16_t vm, vint64m4_t vs2, size_t vs1,
                                       size_t vl);
vint64m8_t __riscv_vrgather_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2,
                                       vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrgather_vx_i64m8_m(vbool8_t vm, vint64m8_t vs2, size_t vs1,
                                       size_t vl);
vint8mf8_t __riscv_vrgatherei16_vv_i8mf8_m(vbool64_t vm, vint8mf8_t vs2,
                                           vuint16mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgatherei16_vv_i8mf4_m(vbool32_t vm, vint8mf4_t vs2,
                                           vuint16mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgatherei16_vv_i8mf2_m(vbool16_t vm, vint8mf2_t vs2,
                                           vuint16m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgatherei16_vv_i8m1_m(vbool8_t vm, vint8m1_t vs2,
                                         vuint16m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgatherei16_vv_i8m2_m(vbool4_t vm, vint8m2_t vs2,
                                         vuint16m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgatherei16_vv_i8m4_m(vbool2_t vm, vint8m4_t vs2,
                                         vuint16m8_t vs1, size_t vl);
vint16mf4_t __riscv_vrgatherei16_vv_i16mf4_m(vbool64_t vm, vint16mf4_t vs2,
                                             vuint16mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vrgatherei16_vv_i16mf2_m(vbool32_t vm, vint16mf2_t vs2,
                                             vuint16mf2_t vs1, size_t vl);
vint16m1_t __riscv_vrgatherei16_vv_i16m1_m(vbool16_t vm, vint16m1_t vs2,
                                           vuint16m1_t vs1, size_t vl);
vint16m2_t __riscv_vrgatherei16_vv_i16m2_m(vbool8_t vm, vint16m2_t vs2,
                                           vuint16m2_t vs1, size_t vl);
vint16m4_t __riscv_vrgatherei16_vv_i16m4_m(vbool4_t vm, vint16m4_t vs2,
                                           vuint16m4_t vs1, size_t vl);
vint16m8_t __riscv_vrgatherei16_vv_i16m8_m(vbool2_t vm, vint16m8_t vs2,
                                           vuint16m8_t vs1, size_t vl);
vint32mf2_t __riscv_vrgatherei16_vv_i32mf2_m(vbool64_t vm, vint32mf2_t vs2,
                                             vuint16mf4_t vs1, size_t vl);
vint32m1_t __riscv_vrgatherei16_vv_i32m1_m(vbool32_t vm, vint32m1_t vs2,
                                           vuint16mf2_t vs1, size_t vl);
vint32m2_t __riscv_vrgatherei16_vv_i32m2_m(vbool16_t vm, vint32m2_t vs2,
                                           vuint16m1_t vs1, size_t vl);
vint32m4_t __riscv_vrgatherei16_vv_i32m4_m(vbool8_t vm, vint32m4_t vs2,
                                           vuint16m2_t vs1, size_t vl);
vint32m8_t __riscv_vrgatherei16_vv_i32m8_m(vbool4_t vm, vint32m8_t vs2,
                                           vuint16m4_t vs1, size_t vl);
vint64m1_t __riscv_vrgatherei16_vv_i64m1_m(vbool64_t vm, vint64m1_t vs2,
                                           vuint16mf4_t vs1, size_t vl);
vint64m2_t __riscv_vrgatherei16_vv_i64m2_m(vbool32_t vm, vint64m2_t vs2,
                                           vuint16mf2_t vs1, size_t vl);
vint64m4_t __riscv_vrgatherei16_vv_i64m4_m(vbool16_t vm, vint64m4_t vs2,
                                           vuint16m1_t vs1, size_t vl);
vint64m8_t __riscv_vrgatherei16_vv_i64m8_m(vbool8_t vm, vint64m8_t vs2,
                                           vuint16m2_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                        vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_vx_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                        size_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_vx_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                        size_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                        vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_vx_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                        size_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2,
                                      vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather_vx_u8m1_m(vbool8_t vm, vuint8m1_t vs2, size_t vs1,
                                      size_t vl);
vuint8m2_t __riscv_vrgather_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2,
                                      vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_vx_u8m2_m(vbool4_t vm, vuint8m2_t vs2, size_t vs1,
```

```
                                     size_t vl);
vuint8m4_t __riscv_vrgather_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_vx_u8m4_m(vbool2_t vm, vuint8m4_t vs2, size_t vs1,
                                     size_t vl);
vuint8m8_t __riscv_vrgather_vv_u8m8_m(vbool1_t vm, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_vx_u8m8_m(vbool1_t vm, vuint8m8_t vs2, size_t vs1,
                                     size_t vl);
vuint16mf4_t __riscv_vrgather_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_vx_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                       size_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgather_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgather_vx_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                       size_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather_vx_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                     size_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_vx_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                     size_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_vx_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                     size_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_vx_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                     size_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgather_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgather_vx_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                       size_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather_vx_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                     size_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_vx_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                     size_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_vx_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                     size_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_vx_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                     size_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                     vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_vx_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                     size_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                     vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_vx_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                     size_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                     vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_vx_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                     size_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
```

```
vuint64m8_t __riscv_vrgather_vx_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                        size_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgatherei16_vv_u8mf8_m(vbool64_t vm, vuint8mf8_t vs2,
                                            vuint16mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgatherei16_vv_u8mf4_m(vbool32_t vm, vuint8mf4_t vs2,
                                            vuint16mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgatherei16_vv_u8mf2_m(vbool16_t vm, vuint8mf2_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vuint8m1_t __riscv_vrgatherei16_vv_u8m1_m(vbool8_t vm, vuint8m1_t vs2,
                                          vuint16m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgatherei16_vv_u8m2_m(vbool4_t vm, vuint8m2_t vs2,
                                          vuint16m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgatherei16_vv_u8m4_m(vbool2_t vm, vuint8m4_t vs2,
                                          vuint16m8_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgatherei16_vv_u16mf4_m(vbool64_t vm, vuint16mf4_t vs2,
                                              vuint16mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgatherei16_vv_u16mf2_m(vbool32_t vm, vuint16mf2_t vs2,
                                              vuint16mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vrgatherei16_vv_u16m1_m(vbool16_t vm, vuint16m1_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vuint16m2_t __riscv_vrgatherei16_vv_u16m2_m(vbool8_t vm, vuint16m2_t vs2,
                                            vuint16m2_t vs1, size_t vl);
vuint16m4_t __riscv_vrgatherei16_vv_u16m4_m(vbool4_t vm, vuint16m4_t vs2,
                                            vuint16m4_t vs1, size_t vl);
vuint16m8_t __riscv_vrgatherei16_vv_u16m8_m(vbool2_t vm, vuint16m8_t vs2,
                                            vuint16m8_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgatherei16_vv_u32mf2_m(vbool64_t vm, vuint32mf2_t vs2,
                                              vuint16mf4_t vs1, size_t vl);
vuint32m1_t __riscv_vrgatherei16_vv_u32m1_m(vbool32_t vm, vuint32m1_t vs2,
                                            vuint16mf2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgatherei16_vv_u32m2_m(vbool16_t vm, vuint32m2_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vuint32m4_t __riscv_vrgatherei16_vv_u32m4_m(vbool8_t vm, vuint32m4_t vs2,
                                            vuint16m2_t vs1, size_t vl);
vuint32m8_t __riscv_vrgatherei16_vv_u32m8_m(vbool4_t vm, vuint32m8_t vs2,
                                            vuint16m4_t vs1, size_t vl);
vuint64m1_t __riscv_vrgatherei16_vv_u64m1_m(vbool64_t vm, vuint64m1_t vs2,
                                            vuint16mf4_t vs1, size_t vl);
vuint64m2_t __riscv_vrgatherei16_vv_u64m2_m(vbool32_t vm, vuint64m2_t vs2,
                                            vuint16mf2_t vs1, size_t vl);
vuint64m4_t __riscv_vrgatherei16_vv_u64m4_m(vbool16_t vm, vuint64m4_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vuint64m8_t __riscv_vrgatherei16_vv_u64m8_m(vbool8_t vm, vuint64m8_t vs2,
                                            vuint16m2_t vs1, size_t vl);
```

A.8.6. Vector Compress Intrinsics

```
vfloat16mf4_t __riscv_vcompress_vm_f16mf4(vfloat16mf4_t vs2, vbool64_t vs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vcompress_vm_f16mf2(vfloat16mf2_t vs2, vbool32_t vs1,
                                          size_t vl);
vfloat16m1_t __riscv_vcompress_vm_f16m1(vfloat16m1_t vs2, vbool16_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vcompress_vm_f16m2(vfloat16m2_t vs2, vbool8_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vcompress_vm_f16m4(vfloat16m4_t vs2, vbool4_t vs1,
                                        size_t vl);
vfloat16m8_t __riscv_vcompress_vm_f16m8(vfloat16m8_t vs2, vbool2_t vs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vcompress_vm_f32mf2(vfloat32mf2_t vs2, vbool64_t vs1,
                                          size_t vl);
vfloat32m1_t __riscv_vcompress_vm_f32m1(vfloat32m1_t vs2, vbool32_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vcompress_vm_f32m2(vfloat32m2_t vs2, vbool16_t vs1,
                                        size_t vl);
```

```
vfloat32m4_t __riscv_vcompress_vm_f32m4(vfloat32m4_t vs2, vbool8_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vcompress_vm_f32m8(vfloat32m8_t vs2, vbool4_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vcompress_vm_f64m1(vfloat64m1_t vs2, vbool64_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vcompress_vm_f64m2(vfloat64m2_t vs2, vbool32_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vcompress_vm_f64m4(vfloat64m4_t vs2, vbool16_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vcompress_vm_f64m8(vfloat64m8_t vs2, vbool8_t vs1,
                                        size_t vl);
vint8mf8_t __riscv_vcompress_vm_i8mf8(vint8mf8_t vs2, vbool64_t vs1, size_t vl);
vint8mf4_t __riscv_vcompress_vm_i8mf4(vint8mf4_t vs2, vbool32_t vs1, size_t vl);
vint8mf2_t __riscv_vcompress_vm_i8mf2(vint8mf2_t vs2, vbool16_t vs1, size_t vl);
vint8m1_t __riscv_vcompress_vm_i8m1(vint8m1_t vs2, vbool8_t vs1, size_t vl);
vint8m2_t __riscv_vcompress_vm_i8m2(vint8m2_t vs2, vbool4_t vs1, size_t vl);
vint8m4_t __riscv_vcompress_vm_i8m4(vint8m4_t vs2, vbool2_t vs1, size_t vl);
vint8m8_t __riscv_vcompress_vm_i8m8(vint8m8_t vs2, vbool1_t vs1, size_t vl);
vint16mf4_t __riscv_vcompress_vm_i16mf4(vint16mf4_t vs2, vbool64_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vcompress_vm_i16mf2(vint16mf2_t vs2, vbool32_t vs1,
                                        size_t vl);
vint16m1_t __riscv_vcompress_vm_i16m1(vint16m1_t vs2, vbool16_t vs1, size_t vl);
vint16m2_t __riscv_vcompress_vm_i16m2(vint16m2_t vs2, vbool8_t vs1, size_t vl);
vint16m4_t __riscv_vcompress_vm_i16m4(vint16m4_t vs2, vbool4_t vs1, size_t vl);
vint16m8_t __riscv_vcompress_vm_i16m8(vint16m8_t vs2, vbool2_t vs1, size_t vl);
vint32mf2_t __riscv_vcompress_vm_i32mf2(vint32mf2_t vs2, vbool64_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vcompress_vm_i32m1(vint32m1_t vs2, vbool32_t vs1, size_t vl);
vint32m2_t __riscv_vcompress_vm_i32m2(vint32m2_t vs2, vbool16_t vs1, size_t vl);
vint32m4_t __riscv_vcompress_vm_i32m4(vint32m4_t vs2, vbool8_t vs1, size_t vl);
vint32m8_t __riscv_vcompress_vm_i32m8(vint32m8_t vs2, vbool4_t vs1, size_t vl);
vint64m1_t __riscv_vcompress_vm_i64m1(vint64m1_t vs2, vbool64_t vs1, size_t vl);
vint64m2_t __riscv_vcompress_vm_i64m2(vint64m2_t vs2, vbool32_t vs1, size_t vl);
vint64m4_t __riscv_vcompress_vm_i64m4(vint64m4_t vs2, vbool16_t vs1, size_t vl);
vint64m8_t __riscv_vcompress_vm_i64m8(vint64m8_t vs2, vbool8_t vs1, size_t vl);
vuint8mf8_t __riscv_vcompress_vm_u8mf8(vuint8mf8_t vs2, vbool64_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vcompress_vm_u8mf4(vuint8mf4_t vs2, vbool32_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vcompress_vm_u8mf2(vuint8mf2_t vs2, vbool16_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vcompress_vm_u8m1(vuint8m1_t vs2, vbool8_t vs1, size_t vl);
vuint8m2_t __riscv_vcompress_vm_u8m2(vuint8m2_t vs2, vbool4_t vs1, size_t vl);
vuint8m4_t __riscv_vcompress_vm_u8m4(vuint8m4_t vs2, vbool2_t vs1, size_t vl);
vuint8m8_t __riscv_vcompress_vm_u8m8(vuint8m8_t vs2, vbool1_t vs1, size_t vl);
vuint16mf4_t __riscv_vcompress_vm_u16mf4(vuint16mf4_t vs2, vbool64_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vcompress_vm_u16mf2(vuint16mf2_t vs2, vbool32_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vcompress_vm_u16m1(vuint16m1_t vs2, vbool16_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vcompress_vm_u16m2(vuint16m2_t vs2, vbool8_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vcompress_vm_u16m4(vuint16m4_t vs2, vbool4_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vcompress_vm_u16m8(vuint16m8_t vs2, vbool2_t vs1,
                                       size_t vl);
vuint32mf2_t __riscv_vcompress_vm_u32mf2(vuint32mf2_t vs2, vbool64_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vcompress_vm_u32m1(vuint32m1_t vs2, vbool32_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vcompress_vm_u32m2(vuint32m2_t vs2, vbool16_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vcompress_vm_u32m4(vuint32m4_t vs2, vbool8_t vs1,
                                       size_t vl);
```

```
vuint32m8_t __riscv_vcompress_vm_u32m8(vuint32m8_t vs2, vbool4_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vcompress_vm_u64m1(vuint64m1_t vs2, vbool64_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vcompress_vm_u64m2(vuint64m2_t vs2, vbool32_t vs1,
                                       size_t vl);
vuint64m4_t __riscv_vcompress_vm_u64m4(vuint64m4_t vs2, vbool16_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vcompress_vm_u64m8(vuint64m8_t vs2, vbool8_t vs1,
                                       size_t vl);
```

A.9. Miscellaneous Vector Utility Intrinsics

A.9.1. Get `vl` with specific vtype

```
size_t __riscv_vsetvl_e8mf8(size_t avl);
size_t __riscv_vsetvl_e8mf4(size_t avl);
size_t __riscv_vsetvl_e8mf2(size_t avl);
size_t __riscv_vsetvl_e8m1(size_t avl);
size_t __riscv_vsetvl_e8m2(size_t avl);
size_t __riscv_vsetvl_e8m4(size_t avl);
size_t __riscv_vsetvl_e8m8(size_t avl);
size_t __riscv_vsetvl_e16mf4(size_t avl);
size_t __riscv_vsetvl_e16mf2(size_t avl);
size_t __riscv_vsetvl_e16m1(size_t avl);
size_t __riscv_vsetvl_e16m2(size_t avl);
size_t __riscv_vsetvl_e16m4(size_t avl);
size_t __riscv_vsetvl_e16m8(size_t avl);
size_t __riscv_vsetvl_e32mf2(size_t avl);
size_t __riscv_vsetvl_e32m1(size_t avl);
size_t __riscv_vsetvl_e32m2(size_t avl);
size_t __riscv_vsetvl_e32m4(size_t avl);
size_t __riscv_vsetvl_e32m8(size_t avl);
size_t __riscv_vsetvl_e64m1(size_t avl);
size_t __riscv_vsetvl_e64m2(size_t avl);
size_t __riscv_vsetvl_e64m4(size_t avl);
size_t __riscv_vsetvl_e64m8(size_t avl);
```

A.9.2. Get `VLMAX` with specific vtype

```
size_t __riscv_vsetvlmax_e8mf8();
size_t __riscv_vsetvlmax_e8mf4();
size_t __riscv_vsetvlmax_e8mf2();
size_t __riscv_vsetvlmax_e8m1();
size_t __riscv_vsetvlmax_e8m2();
size_t __riscv_vsetvlmax_e8m4();
size_t __riscv_vsetvlmax_e8m8();
size_t __riscv_vsetvlmax_e16mf4();
size_t __riscv_vsetvlmax_e16mf2();
size_t __riscv_vsetvlmax_e16m1();
size_t __riscv_vsetvlmax_e16m2();
size_t __riscv_vsetvlmax_e16m4();
size_t __riscv_vsetvlmax_e16m8();
size_t __riscv_vsetvlmax_e32mf2();
size_t __riscv_vsetvlmax_e32m1();
size_t __riscv_vsetvlmax_e32m2();
size_t __riscv_vsetvlmax_e32m4();
size_t __riscv_vsetvlmax_e32m8();
size_t __riscv_vsetvlmax_e64m1();
size_t __riscv_vsetvlmax_e64m2();
size_t __riscv_vsetvlmax_e64m4();
```

```
size_t __riscv_vsetvlmax_e64m8();
```

A.9.3. Reinterpret Cast Conversion Intrinsics

```
// Reinterpret between different type under the same SEW/LMUL
vuint8mf8_t __riscv_vreinterpret_v_i8mf8_u8mf8(vint8mf8_t src);
vuint8mf4_t __riscv_vreinterpret_v_i8mf4_u8mf4(vint8mf4_t src);
vuint8mf2_t __riscv_vreinterpret_v_i8mf2_u8mf2(vint8mf2_t src);
vuint8m1_t __riscv_vreinterpret_v_i8m1_u8m1(vint8m1_t src);
vuint8m2_t __riscv_vreinterpret_v_i8m2_u8m2(vint8m2_t src);
vuint8m4_t __riscv_vreinterpret_v_i8m4_u8m4(vint8m4_t src);
vuint8m8_t __riscv_vreinterpret_v_i8m8_u8m8(vint8m8_t src);
vint8mf8_t __riscv_vreinterpret_v_u8mf8_i8mf8(vuint8mf8_t src);
vint8mf4_t __riscv_vreinterpret_v_u8mf4_i8mf4(vuint8mf4_t src);
vint8mf2_t __riscv_vreinterpret_v_u8mf2_i8mf2(vuint8mf2_t src);
vint8m1_t __riscv_vreinterpret_v_u8m1_i8m1(vuint8m1_t src);
vint8m2_t __riscv_vreinterpret_v_u8m2_i8m2(vuint8m2_t src);
vint8m4_t __riscv_vreinterpret_v_u8m4_i8m4(vuint8m4_t src);
vint8m8_t __riscv_vreinterpret_v_u8m8_i8m8(vuint8m8_t src);
vfloat16mf4_t __riscv_vreinterpret_v_i16mf4_f16mf4(vint16mf4_t src);
vfloat16mf2_t __riscv_vreinterpret_v_i16mf2_f16mf2(vint16mf2_t src);
vfloat16m1_t __riscv_vreinterpret_v_i16m1_f16m1(vint16m1_t src);
vfloat16m2_t __riscv_vreinterpret_v_i16m2_f16m2(vint16m2_t src);
vfloat16m4_t __riscv_vreinterpret_v_i16m4_f16m4(vint16m4_t src);
vfloat16m8_t __riscv_vreinterpret_v_i16m8_f16m8(vint16m8_t src);
vfloat16mf4_t __riscv_vreinterpret_v_u16mf4_f16mf4(vuint16mf4_t src);
vfloat16mf2_t __riscv_vreinterpret_v_u16mf2_f16mf2(vuint16mf2_t src);
vfloat16m1_t __riscv_vreinterpret_v_u16m1_f16m1(vuint16m1_t src);
vfloat16m2_t __riscv_vreinterpret_v_u16m2_f16m2(vuint16m2_t src);
vfloat16m4_t __riscv_vreinterpret_v_u16m4_f16m4(vuint16m4_t src);
vfloat16m8_t __riscv_vreinterpret_v_u16m8_f16m8(vuint16m8_t src);
vuint16mf4_t __riscv_vreinterpret_v_i16mf4_u16mf4(vint16mf4_t src);
vuint16mf2_t __riscv_vreinterpret_v_i16mf2_u16mf2(vint16mf2_t src);
vuint16m1_t __riscv_vreinterpret_v_i16m1_u16m1(vint16m1_t src);
vuint16m2_t __riscv_vreinterpret_v_i16m2_u16m2(vint16m2_t src);
vuint16m4_t __riscv_vreinterpret_v_i16m4_u16m4(vint16m4_t src);
vuint16m8_t __riscv_vreinterpret_v_i16m8_u16m8(vint16m8_t src);
vint16mf4_t __riscv_vreinterpret_v_u16mf4_i16mf4(vuint16mf4_t src);
vint16mf2_t __riscv_vreinterpret_v_u16mf2_i16mf2(vuint16mf2_t src);
vint16m1_t __riscv_vreinterpret_v_u16m1_i16m1(vuint16m1_t src);
vint16m2_t __riscv_vreinterpret_v_u16m2_i16m2(vuint16m2_t src);
vint16m4_t __riscv_vreinterpret_v_u16m4_i16m4(vuint16m4_t src);
vint16m8_t __riscv_vreinterpret_v_u16m8_i16m8(vuint16m8_t src);
vint16mf4_t __riscv_vreinterpret_v_f16mf4_i16mf4(vfloat16mf4_t src);
vint16mf2_t __riscv_vreinterpret_v_f16mf2_i16mf2(vfloat16mf2_t src);
vint16m1_t __riscv_vreinterpret_v_f16m1_i16m1(vfloat16m1_t src);
vint16m2_t __riscv_vreinterpret_v_f16m2_i16m2(vfloat16m2_t src);
vint16m4_t __riscv_vreinterpret_v_f16m4_i16m4(vfloat16m4_t src);
vint16m8_t __riscv_vreinterpret_v_f16m8_i16m8(vfloat16m8_t src);
vuint16mf4_t __riscv_vreinterpret_v_f16mf4_u16mf4(vfloat16mf4_t src);
vuint16mf2_t __riscv_vreinterpret_v_f16mf2_u16mf2(vfloat16mf2_t src);
vuint16m1_t __riscv_vreinterpret_v_f16m1_u16m1(vfloat16m1_t src);
vuint16m2_t __riscv_vreinterpret_v_f16m2_u16m2(vfloat16m2_t src);
vuint16m4_t __riscv_vreinterpret_v_f16m4_u16m4(vfloat16m4_t src);
vuint16m8_t __riscv_vreinterpret_v_f16m8_u16m8(vfloat16m8_t src);
vfloat32mf2_t __riscv_vreinterpret_v_i32mf2_f32mf2(vint32mf2_t src);
vfloat32m1_t __riscv_vreinterpret_v_i32m1_f32m1(vint32m1_t src);
vfloat32m2_t __riscv_vreinterpret_v_i32m2_f32m2(vint32m2_t src);
vfloat32m4_t __riscv_vreinterpret_v_i32m4_f32m4(vint32m4_t src);
vfloat32m8_t __riscv_vreinterpret_v_i32m8_f32m8(vint32m8_t src);
vfloat32mf2_t __riscv_vreinterpret_v_u32mf2_f32mf2(vuint32mf2_t src);
vfloat32m1_t __riscv_vreinterpret_v_u32m1_f32m1(vuint32m1_t src);
vfloat32m2_t __riscv_vreinterpret_v_u32m2_f32m2(vuint32m2_t src);
vfloat32m4_t __riscv_vreinterpret_v_u32m4_f32m4(vuint32m4_t src);
vfloat32m8_t __riscv_vreinterpret_v_u32m8_f32m8(vuint32m8_t src);
```

```
vuint32mf2_t __riscv_vreinterpret_v_i32mf2_u32mf2(vint32mf2_t src);
vuint32m1_t __riscv_vreinterpret_v_i32m1_u32m1(vint32m1_t src);
vuint32m2_t __riscv_vreinterpret_v_i32m2_u32m2(vint32m2_t src);
vuint32m4_t __riscv_vreinterpret_v_i32m4_u32m4(vint32m4_t src);
vuint32m8_t __riscv_vreinterpret_v_i32m8_u32m8(vint32m8_t src);
vint32mf2_t __riscv_vreinterpret_v_u32mf2_i32mf2(vuint32mf2_t src);
vint32m1_t __riscv_vreinterpret_v_u32m1_i32m1(vuint32m1_t src);
vint32m2_t __riscv_vreinterpret_v_u32m2_i32m2(vuint32m2_t src);
vint32m4_t __riscv_vreinterpret_v_u32m4_i32m4(vuint32m4_t src);
vint32m8_t __riscv_vreinterpret_v_u32m8_i32m8(vuint32m8_t src);
vint32mf2_t __riscv_vreinterpret_v_f32mf2_i32mf2(vfloat32mf2_t src);
vint32m1_t __riscv_vreinterpret_v_f32m1_i32m1(vfloat32m1_t src);
vint32m2_t __riscv_vreinterpret_v_f32m2_i32m2(vfloat32m2_t src);
vint32m4_t __riscv_vreinterpret_v_f32m4_i32m4(vfloat32m4_t src);
vint32m8_t __riscv_vreinterpret_v_f32m8_i32m8(vfloat32m8_t src);
vuint32mf2_t __riscv_vreinterpret_v_f32mf2_u32mf2(vfloat32mf2_t src);
vuint32m1_t __riscv_vreinterpret_v_f32m1_u32m1(vfloat32m1_t src);
vuint32m2_t __riscv_vreinterpret_v_f32m2_u32m2(vfloat32m2_t src);
vuint32m4_t __riscv_vreinterpret_v_f32m4_u32m4(vfloat32m4_t src);
vuint32m8_t __riscv_vreinterpret_v_f32m8_u32m8(vfloat32m8_t src);
vfloat64m1_t __riscv_vreinterpret_v_i64m1_f64m1(vint64m1_t src);
vfloat64m2_t __riscv_vreinterpret_v_i64m2_f64m2(vint64m2_t src);
vfloat64m4_t __riscv_vreinterpret_v_i64m4_f64m4(vint64m4_t src);
vfloat64m8_t __riscv_vreinterpret_v_i64m8_f64m8(vint64m8_t src);
vfloat64m1_t __riscv_vreinterpret_v_u64m1_f64m1(vuint64m1_t src);
vfloat64m2_t __riscv_vreinterpret_v_u64m2_f64m2(vuint64m2_t src);
vfloat64m4_t __riscv_vreinterpret_v_u64m4_f64m4(vuint64m4_t src);
vfloat64m8_t __riscv_vreinterpret_v_u64m8_f64m8(vuint64m8_t src);
vuint64m1_t __riscv_vreinterpret_v_i64m1_u64m1(vint64m1_t src);
vuint64m2_t __riscv_vreinterpret_v_i64m2_u64m2(vint64m2_t src);
vuint64m4_t __riscv_vreinterpret_v_i64m4_u64m4(vint64m4_t src);
vuint64m8_t __riscv_vreinterpret_v_i64m8_u64m8(vint64m8_t src);
vint64m1_t __riscv_vreinterpret_v_u64m1_i64m1(vuint64m1_t src);
vint64m2_t __riscv_vreinterpret_v_u64m2_i64m2(vuint64m2_t src);
vint64m4_t __riscv_vreinterpret_v_u64m4_i64m4(vuint64m4_t src);
vint64m8_t __riscv_vreinterpret_v_u64m8_i64m8(vuint64m8_t src);
vint64m1_t __riscv_vreinterpret_v_f64m1_i64m1(vfloat64m1_t src);
vint64m2_t __riscv_vreinterpret_v_f64m2_i64m2(vfloat64m2_t src);
vint64m4_t __riscv_vreinterpret_v_f64m4_i64m4(vfloat64m4_t src);
vint64m8_t __riscv_vreinterpret_v_f64m8_i64m8(vfloat64m8_t src);
vuint64m1_t __riscv_vreinterpret_v_f64m1_u64m1(vfloat64m1_t src);
vuint64m2_t __riscv_vreinterpret_v_f64m2_u64m2(vfloat64m2_t src);
vuint64m4_t __riscv_vreinterpret_v_f64m4_u64m4(vfloat64m4_t src);
vuint64m8_t __riscv_vreinterpret_v_f64m8_u64m8(vfloat64m8_t src);
// Reinterpret between different SEW under the same LMUL
vint16mf4_t __riscv_vreinterpret_v_i8mf4_i16mf4(vint8mf4_t src);
vint16mf2_t __riscv_vreinterpret_v_i8mf2_i16mf2(vint8mf2_t src);
vint16m1_t __riscv_vreinterpret_v_i8m1_i16m1(vint8m1_t src);
vint16m2_t __riscv_vreinterpret_v_i8m2_i16m2(vint8m2_t src);
vint16m4_t __riscv_vreinterpret_v_i8m4_i16m4(vint8m4_t src);
vint16m8_t __riscv_vreinterpret_v_i8m8_i16m8(vint8m8_t src);
vuint16mf4_t __riscv_vreinterpret_v_u8mf4_u16mf4(vuint8mf4_t src);
vuint16mf2_t __riscv_vreinterpret_v_u8mf2_u16mf2(vuint8mf2_t src);
vuint16m1_t __riscv_vreinterpret_v_u8m1_u16m1(vuint8m1_t src);
vuint16m2_t __riscv_vreinterpret_v_u8m2_u16m2(vuint8m2_t src);
vuint16m4_t __riscv_vreinterpret_v_u8m4_u16m4(vuint8m4_t src);
vuint16m8_t __riscv_vreinterpret_v_u8m8_u16m8(vuint8m8_t src);
vint32mf2_t __riscv_vreinterpret_v_i8mf2_i32mf2(vint8mf2_t src);
vint32m1_t __riscv_vreinterpret_v_i8m1_i32m1(vint8m1_t src);
vint32m2_t __riscv_vreinterpret_v_i8m2_i32m2(vint8m2_t src);
vint32m4_t __riscv_vreinterpret_v_i8m4_i32m4(vint8m4_t src);
vint32m8_t __riscv_vreinterpret_v_i8m8_i32m8(vint8m8_t src);
vuint32mf2_t __riscv_vreinterpret_v_u8mf2_u32mf2(vuint8mf2_t src);
vuint32m1_t __riscv_vreinterpret_v_u8m1_u32m1(vuint8m1_t src);
vuint32m2_t __riscv_vreinterpret_v_u8m2_u32m2(vuint8m2_t src);
vuint32m4_t __riscv_vreinterpret_v_u8m4_u32m4(vuint8m4_t src);
vuint32m8_t __riscv_vreinterpret_v_u8m8_u32m8(vuint8m8_t src);
```

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vint64m1_t __riscv_vreinterpret_v_i8m1_i64m1(vint8m1_t src);
vint64m2_t __riscv_vreinterpret_v_i8m2_i64m2(vint8m2_t src);
vint64m4_t __riscv_vreinterpret_v_i8m4_i64m4(vint8m4_t src);
vint64m8_t __riscv_vreinterpret_v_i8m8_i64m8(vint8m8_t src);
vuint64m1_t __riscv_vreinterpret_v_u8m1_u64m1(vuint8m1_t src);
vuint64m2_t __riscv_vreinterpret_v_u8m2_u64m2(vuint8m2_t src);
vuint64m4_t __riscv_vreinterpret_v_u8m4_u64m4(vuint8m4_t src);
vuint64m8_t __riscv_vreinterpret_v_u8m8_u64m8(vuint8m8_t src);
vint8mf4_t __riscv_vreinterpret_v_i16mf4_i8mf4(vint16mf4_t src);
vint8mf2_t __riscv_vreinterpret_v_i16mf2_i8mf2(vint16mf2_t src);
vint8m1_t __riscv_vreinterpret_v_i16m1_i8m1(vint16m1_t src);
vint8m2_t __riscv_vreinterpret_v_i16m2_i8m2(vint16m2_t src);
vint8m4_t __riscv_vreinterpret_v_i16m4_i8m4(vint16m4_t src);
vint8m8_t __riscv_vreinterpret_v_i16m8_i8m8(vint16m8_t src);
vuint8mf4_t __riscv_vreinterpret_v_u16mf4_u8mf4(vuint16mf4_t src);
vuint8mf2_t __riscv_vreinterpret_v_u16mf2_u8mf2(vuint16mf2_t src);
vuint8m1_t __riscv_vreinterpret_v_u16m1_u8m1(vuint16m1_t src);
vuint8m2_t __riscv_vreinterpret_v_u16m2_u8m2(vuint16m2_t src);
vuint8m4_t __riscv_vreinterpret_v_u16m4_u8m4(vuint16m4_t src);
vuint8m8_t __riscv_vreinterpret_v_u16m8_u8m8(vuint16m8_t src);
vint32mf2_t __riscv_vreinterpret_v_i16mf2_i32mf2(vint16mf2_t src);
vint32m1_t __riscv_vreinterpret_v_i16m1_i32m1(vint16m1_t src);
vint32m2_t __riscv_vreinterpret_v_i16m2_i32m2(vint16m2_t src);
vint32m4_t __riscv_vreinterpret_v_i16m4_i32m4(vint16m4_t src);
vint32m8_t __riscv_vreinterpret_v_i16m8_i32m8(vint16m8_t src);
vuint32mf2_t __riscv_vreinterpret_v_u16mf2_u32mf2(vuint16mf2_t src);
vuint32m1_t __riscv_vreinterpret_v_u16m1_u32m1(vuint16m1_t src);
vuint32m2_t __riscv_vreinterpret_v_u16m2_u32m2(vuint16m2_t src);
vuint32m4_t __riscv_vreinterpret_v_u16m4_u32m4(vuint16m4_t src);
vuint32m8_t __riscv_vreinterpret_v_u16m8_u32m8(vuint16m8_t src);
vint64m1_t __riscv_vreinterpret_v_i16m1_i64m1(vint16m1_t src);
vint64m2_t __riscv_vreinterpret_v_i16m2_i64m2(vint16m2_t src);
vint64m4_t __riscv_vreinterpret_v_i16m4_i64m4(vint16m4_t src);
vint64m8_t __riscv_vreinterpret_v_i16m8_i64m8(vint16m8_t src);
vuint64m1_t __riscv_vreinterpret_v_u16m1_u64m1(vuint16m1_t src);
vuint64m2_t __riscv_vreinterpret_v_u16m2_u64m2(vuint16m2_t src);
vuint64m4_t __riscv_vreinterpret_v_u16m4_u64m4(vuint16m4_t src);
vuint64m8_t __riscv_vreinterpret_v_u16m8_u64m8(vuint16m8_t src);
vint8mf2_t __riscv_vreinterpret_v_i32mf2_i8mf2(vint32mf2_t src);
vint8m1_t __riscv_vreinterpret_v_i32m1_i8m1(vint32m1_t src);
vint8m2_t __riscv_vreinterpret_v_i32m2_i8m2(vint32m2_t src);
vint8m4_t __riscv_vreinterpret_v_i32m4_i8m4(vint32m4_t src);
vint8m8_t __riscv_vreinterpret_v_i32m8_i8m8(vint32m8_t src);
vuint8mf2_t __riscv_vreinterpret_v_u32mf2_u8mf2(vuint32mf2_t src);
vuint8m1_t __riscv_vreinterpret_v_u32m1_u8m1(vuint32m1_t src);
vuint8m2_t __riscv_vreinterpret_v_u32m2_u8m2(vuint32m2_t src);
vuint8m4_t __riscv_vreinterpret_v_u32m4_u8m4(vuint32m4_t src);
vuint8m8_t __riscv_vreinterpret_v_u32m8_u8m8(vuint32m8_t src);
vint16mf2_t __riscv_vreinterpret_v_i32mf2_i16mf2(vint32mf2_t src);
vint16m1_t __riscv_vreinterpret_v_i32m1_i16m1(vint32m1_t src);
vint16m2_t __riscv_vreinterpret_v_i32m2_i16m2(vint32m2_t src);
vint16m4_t __riscv_vreinterpret_v_i32m4_i16m4(vint32m4_t src);
vint16m8_t __riscv_vreinterpret_v_i32m8_i16m8(vint32m8_t src);
vuint16mf2_t __riscv_vreinterpret_v_u32mf2_u16mf2(vuint32mf2_t src);
vuint16m1_t __riscv_vreinterpret_v_u32m1_u16m1(vuint32m1_t src);
vuint16m2_t __riscv_vreinterpret_v_u32m2_u16m2(vuint32m2_t src);
vuint16m4_t __riscv_vreinterpret_v_u32m4_u16m4(vuint32m4_t src);
vuint16m8_t __riscv_vreinterpret_v_u32m8_u16m8(vuint32m8_t src);
vint64m1_t __riscv_vreinterpret_v_i32m1_i64m1(vint32m1_t src);
vint64m2_t __riscv_vreinterpret_v_i32m2_i64m2(vint32m2_t src);
vint64m4_t __riscv_vreinterpret_v_i32m4_i64m4(vint32m4_t src);
vint64m8_t __riscv_vreinterpret_v_i32m8_i64m8(vint32m8_t src);
vuint64m1_t __riscv_vreinterpret_v_u32m1_u64m1(vuint32m1_t src);
vuint64m2_t __riscv_vreinterpret_v_u32m2_u64m2(vuint32m2_t src);
vuint64m4_t __riscv_vreinterpret_v_u32m4_u64m4(vuint32m4_t src);
vuint64m8_t __riscv_vreinterpret_v_u32m8_u64m8(vuint32m8_t src);
vint8m1_t __riscv_vreinterpret_v_i64m1_i8m1(vint64m1_t src);
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vint8m2_t __riscv_vreinterpret_v_i64m2_i8m2(vint64m2_t src);
vint8m4_t __riscv_vreinterpret_v_i64m4_i8m4(vint64m4_t src);
vint8m8_t __riscv_vreinterpret_v_i64m8_i8m8(vint64m8_t src);
vuint8m1_t __riscv_vreinterpret_v_u64m1_u8m1(vuint64m1_t src);
vuint8m2_t __riscv_vreinterpret_v_u64m2_u8m2(vuint64m2_t src);
vuint8m4_t __riscv_vreinterpret_v_u64m4_u8m4(vuint64m4_t src);
vuint8m8_t __riscv_vreinterpret_v_u64m8_u8m8(vuint64m8_t src);
vint16m1_t __riscv_vreinterpret_v_i64m1_i16m1(vint64m1_t src);
vint16m2_t __riscv_vreinterpret_v_i64m2_i16m2(vint64m2_t src);
vint16m4_t __riscv_vreinterpret_v_i64m4_i16m4(vint64m4_t src);
vint16m8_t __riscv_vreinterpret_v_i64m8_i16m8(vint64m8_t src);
vuint16m1_t __riscv_vreinterpret_v_u64m1_u16m1(vuint64m1_t src);
vuint16m2_t __riscv_vreinterpret_v_u64m2_u16m2(vuint64m2_t src);
vuint16m4_t __riscv_vreinterpret_v_u64m4_u16m4(vuint64m4_t src);
vuint16m8_t __riscv_vreinterpret_v_u64m8_u16m8(vuint64m8_t src);
vint32m1_t __riscv_vreinterpret_v_i64m1_i32m1(vint64m1_t src);
vint32m2_t __riscv_vreinterpret_v_i64m2_i32m2(vint64m2_t src);
vint32m4_t __riscv_vreinterpret_v_i64m4_i32m4(vint64m4_t src);
vint32m8_t __riscv_vreinterpret_v_i64m8_i32m8(vint64m8_t src);
vuint32m1_t __riscv_vreinterpret_v_u64m1_u32m1(vuint64m1_t src);
vuint32m2_t __riscv_vreinterpret_v_u64m2_u32m2(vuint64m2_t src);
vuint32m4_t __riscv_vreinterpret_v_u64m4_u32m4(vuint64m4_t src);
vuint32m8_t __riscv_vreinterpret_v_u64m8_u32m8(vuint64m8_t src);
// Reinterpret between vector boolean types and LMUL=1 (m1) vector integer types
vbool64_t __riscv_vreinterpret_v_i8m1_b64(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_v_b64_i8m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_v_i8m1_b32(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_v_b32_i8m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_v_i8m1_b16(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_v_b16_i8m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_v_i8m1_b8(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_v_b8_i8m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_v_i8m1_b4(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_v_b4_i8m1(vbool4_t src);
vbool2_t __riscv_vreinterpret_v_i8m1_b2(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_v_b2_i8m1(vbool2_t src);
vbool1_t __riscv_vreinterpret_v_i8m1_b1(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_v_b1_i8m1(vbool1_t src);
vbool64_t __riscv_vreinterpret_v_u8m1_b64(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_v_b64_u8m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_v_u8m1_b32(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_v_b32_u8m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_v_u8m1_b16(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_v_b16_u8m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_v_u8m1_b8(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_v_b8_u8m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_v_u8m1_b4(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_v_b4_u8m1(vbool4_t src);
vbool2_t __riscv_vreinterpret_v_u8m1_b2(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_v_b2_u8m1(vbool2_t src);
vbool1_t __riscv_vreinterpret_v_u8m1_b1(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_v_b1_u8m1(vbool1_t src);
vbool64_t __riscv_vreinterpret_v_i16m1_b64(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_v_b64_i16m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_v_i16m1_b32(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_v_b32_i16m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_v_i16m1_b16(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_v_b16_i16m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_v_i16m1_b8(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_v_b8_i16m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_v_i16m1_b4(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_v_b4_i16m1(vbool4_t src);
vbool2_t __riscv_vreinterpret_v_i16m1_b2(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_v_b2_i16m1(vbool2_t src);
vbool64_t __riscv_vreinterpret_v_u16m1_b64(vuint16m1_t src);
vuint16m1_t __riscv_vreinterpret_v_b64_u16m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_v_u16m1_b32(vuint16m1_t src);
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vuint16m1_t __riscv_vreinterpret_v_b32_u16m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_v_u16m1_b16(vuint16m1_t src);
vuint16m1_t __riscv_vreinterpret_v_b16_u16m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_v_u16m1_b8(vuint16m1_t src);
vuint16m1_t __riscv_vreinterpret_v_b8_u16m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_v_u16m1_b4(vuint16m1_t src);
vuint16m1_t __riscv_vreinterpret_v_b4_u16m1(vbool4_t src);
vbool2_t __riscv_vreinterpret_v_u16m1_b2(vuint16m1_t src);
vuint16m1_t __riscv_vreinterpret_v_b2_u16m1(vbool2_t src);
vbool64_t __riscv_vreinterpret_v_i32m1_b64(vint32m1_t src);
vint32m1_t __riscv_vreinterpret_v_b64_i32m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_v_i32m1_b32(vint32m1_t src);
vint32m1_t __riscv_vreinterpret_v_b32_i32m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_v_i32m1_b16(vint32m1_t src);
vint32m1_t __riscv_vreinterpret_v_b16_i32m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_v_i32m1_b8(vint32m1_t src);
vint32m1_t __riscv_vreinterpret_v_b8_i32m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_v_i32m1_b4(vint32m1_t src);
vint32m1_t __riscv_vreinterpret_v_b4_i32m1(vbool4_t src);
vbool64_t __riscv_vreinterpret_v_u32m1_b64(vuint32m1_t src);
vuint32m1_t __riscv_vreinterpret_v_b64_u32m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_v_u32m1_b32(vuint32m1_t src);
vuint32m1_t __riscv_vreinterpret_v_b32_u32m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_v_u32m1_b16(vuint32m1_t src);
vuint32m1_t __riscv_vreinterpret_v_b16_u32m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_v_u32m1_b8(vuint32m1_t src);
vuint32m1_t __riscv_vreinterpret_v_b8_u32m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_v_u32m1_b4(vuint32m1_t src);
vuint32m1_t __riscv_vreinterpret_v_b4_u32m1(vbool4_t src);
vbool64_t __riscv_vreinterpret_v_i64m1_b64(vint64m1_t src);
vint64m1_t __riscv_vreinterpret_v_b64_i64m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_v_i64m1_b32(vint64m1_t src);
vint64m1_t __riscv_vreinterpret_v_b32_i64m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_v_i64m1_b16(vint64m1_t src);
vint64m1_t __riscv_vreinterpret_v_b16_i64m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_v_i64m1_b8(vint64m1_t src);
vint64m1_t __riscv_vreinterpret_v_b8_i64m1(vbool8_t src);
vbool64_t __riscv_vreinterpret_v_u64m1_b64(vuint64m1_t src);
vuint64m1_t __riscv_vreinterpret_v_b64_u64m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_v_u64m1_b32(vuint64m1_t src);
vuint64m1_t __riscv_vreinterpret_v_b32_u64m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_v_u64m1_b16(vuint64m1_t src);
vuint64m1_t __riscv_vreinterpret_v_b16_u64m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_v_u64m1_b8(vuint64m1_t src);
vuint64m1_t __riscv_vreinterpret_v_b8_u64m1(vbool8_t src);
```

A.9.4. Vector LMUL Extension Intrinsics

```
vfloat16mf2_t __riscv_vlmul_ext_v_f16mf4_f16mf2(vfloat16mf4_t value);
vfloat16m1_t __riscv_vlmul_ext_v_f16mf4_f16m1(vfloat16mf4_t value);
vfloat16m2_t __riscv_vlmul_ext_v_f16mf4_f16m2(vfloat16mf4_t value);
vfloat16m4_t __riscv_vlmul_ext_v_f16mf4_f16m4(vfloat16mf4_t value);
vfloat16m8_t __riscv_vlmul_ext_v_f16mf4_f16m8(vfloat16mf4_t value);
vfloat16m1_t __riscv_vlmul_ext_v_f16mf2_f16m1(vfloat16mf2_t value);
vfloat16m2_t __riscv_vlmul_ext_v_f16mf2_f16m2(vfloat16mf2_t value);
vfloat16m4_t __riscv_vlmul_ext_v_f16mf2_f16m4(vfloat16mf2_t value);
vfloat16m8_t __riscv_vlmul_ext_v_f16mf2_f16m8(vfloat16mf2_t value);
vfloat16m2_t __riscv_vlmul_ext_v_f16m1_f16m2(vfloat16m1_t value);
vfloat16m4_t __riscv_vlmul_ext_v_f16m1_f16m4(vfloat16m1_t value);
vfloat16m8_t __riscv_vlmul_ext_v_f16m1_f16m8(vfloat16m1_t value);
vfloat16m4_t __riscv_vlmul_ext_v_f16m2_f16m4(vfloat16m2_t value);
vfloat16m8_t __riscv_vlmul_ext_v_f16m2_f16m8(vfloat16m2_t value);
vfloat16m8_t __riscv_vlmul_ext_v_f16m4_f16m8(vfloat16m4_t value);
vfloat32m1_t __riscv_vlmul_ext_v_f32mf2_f32m1(vfloat32mf2_t value);
vfloat32m2_t __riscv_vlmul_ext_v_f32mf2_f32m2(vfloat32mf2_t value);
```

```
vfloat32m4_t __riscv_vlmul_ext_v_f32mf2_f32m4(vfloat32mf2_t value);
vfloat32m8_t __riscv_vlmul_ext_v_f32mf2_f32m8(vfloat32mf2_t value);
vfloat32m2_t __riscv_vlmul_ext_v_f32m1_f32m2(vfloat32m1_t value);
vfloat32m4_t __riscv_vlmul_ext_v_f32m1_f32m4(vfloat32m1_t value);
vfloat32m8_t __riscv_vlmul_ext_v_f32m1_f32m8(vfloat32m1_t value);
vfloat32m4_t __riscv_vlmul_ext_v_f32m2_f32m4(vfloat32m2_t value);
vfloat32m8_t __riscv_vlmul_ext_v_f32m2_f32m8(vfloat32m2_t value);
vfloat32m8_t __riscv_vlmul_ext_v_f32m4_f32m8(vfloat32m4_t value);
vfloat64m2_t __riscv_vlmul_ext_v_f64m1_f64m2(vfloat64m1_t value);
vfloat64m4_t __riscv_vlmul_ext_v_f64m1_f64m4(vfloat64m1_t value);
vfloat64m8_t __riscv_vlmul_ext_v_f64m1_f64m8(vfloat64m1_t value);
vfloat64m4_t __riscv_vlmul_ext_v_f64m2_f64m4(vfloat64m2_t value);
vfloat64m8_t __riscv_vlmul_ext_v_f64m2_f64m8(vfloat64m2_t value);
vfloat64m8_t __riscv_vlmul_ext_v_f64m4_f64m8(vfloat64m4_t value);
vint8mf4_t __riscv_vlmul_ext_v_i8mf8_i8mf4(vint8mf8_t value);
vint8mf2_t __riscv_vlmul_ext_v_i8mf8_i8mf2(vint8mf8_t value);
vint8m1_t __riscv_vlmul_ext_v_i8mf8_i8m1(vint8mf8_t value);
vint8m2_t __riscv_vlmul_ext_v_i8mf8_i8m2(vint8mf8_t value);
vint8m4_t __riscv_vlmul_ext_v_i8mf8_i8m4(vint8mf8_t value);
vint8m8_t __riscv_vlmul_ext_v_i8mf8_i8m8(vint8mf8_t value);
vint8mf2_t __riscv_vlmul_ext_v_i8mf4_i8mf2(vint8mf4_t value);
vint8m1_t __riscv_vlmul_ext_v_i8mf4_i8m1(vint8mf4_t value);
vint8m2_t __riscv_vlmul_ext_v_i8mf4_i8m2(vint8mf4_t value);
vint8m4_t __riscv_vlmul_ext_v_i8mf4_i8m4(vint8mf4_t value);
vint8m8_t __riscv_vlmul_ext_v_i8mf4_i8m8(vint8mf4_t value);
vint8m1_t __riscv_vlmul_ext_v_i8mf2_i8m1(vint8mf2_t value);
vint8m2_t __riscv_vlmul_ext_v_i8mf2_i8m2(vint8mf2_t value);
vint8m4_t __riscv_vlmul_ext_v_i8mf2_i8m4(vint8mf2_t value);
vint8m8_t __riscv_vlmul_ext_v_i8mf2_i8m8(vint8mf2_t value);
vint8m2_t __riscv_vlmul_ext_v_i8m1_i8m2(vint8m1_t value);
vint8m4_t __riscv_vlmul_ext_v_i8m1_i8m4(vint8m1_t value);
vint8m8_t __riscv_vlmul_ext_v_i8m1_i8m8(vint8m1_t value);
vint8m4_t __riscv_vlmul_ext_v_i8m2_i8m4(vint8m2_t value);
vint8m8_t __riscv_vlmul_ext_v_i8m2_i8m8(vint8m2_t value);
vint8m8_t __riscv_vlmul_ext_v_i8m4_i8m8(vint8m4_t value);
vint16mf2_t __riscv_vlmul_ext_v_i16mf4_i16mf2(vint16mf4_t value);
vint16m1_t __riscv_vlmul_ext_v_i16mf4_i16m1(vint16mf4_t value);
vint16m2_t __riscv_vlmul_ext_v_i16mf4_i16m2(vint16mf4_t value);
vint16m4_t __riscv_vlmul_ext_v_i16mf4_i16m4(vint16mf4_t value);
vint16m8_t __riscv_vlmul_ext_v_i16mf4_i16m8(vint16mf4_t value);
vint16m1_t __riscv_vlmul_ext_v_i16mf2_i16m1(vint16mf2_t value);
vint16m2_t __riscv_vlmul_ext_v_i16mf2_i16m2(vint16mf2_t value);
vint16m4_t __riscv_vlmul_ext_v_i16mf2_i16m4(vint16mf2_t value);
vint16m8_t __riscv_vlmul_ext_v_i16mf2_i16m8(vint16mf2_t value);
vint16m2_t __riscv_vlmul_ext_v_i16m1_i16m2(vint16m1_t value);
vint16m4_t __riscv_vlmul_ext_v_i16m1_i16m4(vint16m1_t value);
vint16m8_t __riscv_vlmul_ext_v_i16m1_i16m8(vint16m1_t value);
vint16m4_t __riscv_vlmul_ext_v_i16m2_i16m4(vint16m2_t value);
vint16m8_t __riscv_vlmul_ext_v_i16m2_i16m8(vint16m2_t value);
vint16m8_t __riscv_vlmul_ext_v_i16m4_i16m8(vint16m4_t value);
vint32m1_t __riscv_vlmul_ext_v_i32mf2_i32m1(vint32mf2_t value);
vint32m2_t __riscv_vlmul_ext_v_i32mf2_i32m2(vint32mf2_t value);
vint32m4_t __riscv_vlmul_ext_v_i32mf2_i32m4(vint32mf2_t value);
vint32m8_t __riscv_vlmul_ext_v_i32mf2_i32m8(vint32mf2_t value);
vint32m2_t __riscv_vlmul_ext_v_i32m1_i32m2(vint32m1_t value);
vint32m4_t __riscv_vlmul_ext_v_i32m1_i32m4(vint32m1_t value);
vint32m8_t __riscv_vlmul_ext_v_i32m1_i32m8(vint32m1_t value);
vint32m4_t __riscv_vlmul_ext_v_i32m2_i32m4(vint32m2_t value);
vint32m8_t __riscv_vlmul_ext_v_i32m2_i32m8(vint32m2_t value);
vint32m8_t __riscv_vlmul_ext_v_i32m4_i32m8(vint32m4_t value);
vint64m2_t __riscv_vlmul_ext_v_i64m1_i64m2(vint64m1_t value);
vint64m4_t __riscv_vlmul_ext_v_i64m1_i64m4(vint64m1_t value);
vint64m8_t __riscv_vlmul_ext_v_i64m1_i64m8(vint64m1_t value);
vint64m4_t __riscv_vlmul_ext_v_i64m2_i64m4(vint64m2_t value);
vint64m8_t __riscv_vlmul_ext_v_i64m2_i64m8(vint64m2_t value);
vint64m8_t __riscv_vlmul_ext_v_i64m4_i64m8(vint64m4_t value);
vuint8mf4_t __riscv_vlmul_ext_v_u8mf8_u8mf4(vuint8mf8_t value);
```

```
vuint8mf2_t __riscv_vlmul_ext_v_u8mf8_u8mf2(vuint8mf8_t value);
vuint8m1_t __riscv_vlmul_ext_v_u8mf8_u8m1(vuint8mf8_t value);
vuint8m2_t __riscv_vlmul_ext_v_u8mf8_u8m2(vuint8mf8_t value);
vuint8m4_t __riscv_vlmul_ext_v_u8mf8_u8m4(vuint8mf8_t value);
vuint8m8_t __riscv_vlmul_ext_v_u8mf8_u8m8(vuint8mf8_t value);
vuint8mf2_t __riscv_vlmul_ext_v_u8mf4_u8mf2(vuint8mf4_t value);
vuint8m1_t __riscv_vlmul_ext_v_u8mf4_u8m1(vuint8mf4_t value);
vuint8m2_t __riscv_vlmul_ext_v_u8mf4_u8m2(vuint8mf4_t value);
vuint8m4_t __riscv_vlmul_ext_v_u8mf4_u8m4(vuint8mf4_t value);
vuint8m8_t __riscv_vlmul_ext_v_u8mf4_u8m8(vuint8mf4_t value);
vuint8m1_t __riscv_vlmul_ext_v_u8mf2_u8m1(vuint8mf2_t value);
vuint8m2_t __riscv_vlmul_ext_v_u8mf2_u8m2(vuint8mf2_t value);
vuint8m4_t __riscv_vlmul_ext_v_u8mf2_u8m4(vuint8mf2_t value);
vuint8m8_t __riscv_vlmul_ext_v_u8mf2_u8m8(vuint8mf2_t value);
vuint8m2_t __riscv_vlmul_ext_v_u8m1_u8m2(vuint8m1_t value);
vuint8m4_t __riscv_vlmul_ext_v_u8m1_u8m4(vuint8m1_t value);
vuint8m8_t __riscv_vlmul_ext_v_u8m1_u8m8(vuint8m1_t value);
vuint8m4_t __riscv_vlmul_ext_v_u8m2_u8m4(vuint8m2_t value);
vuint8m8_t __riscv_vlmul_ext_v_u8m2_u8m8(vuint8m2_t value);
vuint8m8_t __riscv_vlmul_ext_v_u8m4_u8m8(vuint8m4_t value);
vuint16mf2_t __riscv_vlmul_ext_v_u16mf4_u16mf2(vuint16mf4_t value);
vuint16m1_t __riscv_vlmul_ext_v_u16mf4_u16m1(vuint16mf4_t value);
vuint16m2_t __riscv_vlmul_ext_v_u16mf4_u16m2(vuint16mf4_t value);
vuint16m4_t __riscv_vlmul_ext_v_u16mf4_u16m4(vuint16mf4_t value);
vuint16m8_t __riscv_vlmul_ext_v_u16mf4_u16m8(vuint16mf4_t value);
vuint16m1_t __riscv_vlmul_ext_v_u16mf2_u16m1(vuint16mf2_t value);
vuint16m2_t __riscv_vlmul_ext_v_u16mf2_u16m2(vuint16mf2_t value);
vuint16m4_t __riscv_vlmul_ext_v_u16mf2_u16m4(vuint16mf2_t value);
vuint16m8_t __riscv_vlmul_ext_v_u16mf2_u16m8(vuint16mf2_t value);
vuint16m2_t __riscv_vlmul_ext_v_u16m1_u16m2(vuint16m1_t value);
vuint16m4_t __riscv_vlmul_ext_v_u16m1_u16m4(vuint16m1_t value);
vuint16m8_t __riscv_vlmul_ext_v_u16m1_u16m8(vuint16m1_t value);
vuint16m4_t __riscv_vlmul_ext_v_u16m2_u16m4(vuint16m2_t value);
vuint16m8_t __riscv_vlmul_ext_v_u16m2_u16m8(vuint16m2_t value);
vuint16m8_t __riscv_vlmul_ext_v_u16m4_u16m8(vuint16m4_t value);
vuint32m1_t __riscv_vlmul_ext_v_u32mf2_u32m1(vuint32mf2_t value);
vuint32m2_t __riscv_vlmul_ext_v_u32mf2_u32m2(vuint32mf2_t value);
vuint32m4_t __riscv_vlmul_ext_v_u32mf2_u32m4(vuint32mf2_t value);
vuint32m8_t __riscv_vlmul_ext_v_u32mf2_u32m8(vuint32mf2_t value);
vuint32m2_t __riscv_vlmul_ext_v_u32m1_u32m2(vuint32m1_t value);
vuint32m4_t __riscv_vlmul_ext_v_u32m1_u32m4(vuint32m1_t value);
vuint32m8_t __riscv_vlmul_ext_v_u32m1_u32m8(vuint32m1_t value);
vuint32m4_t __riscv_vlmul_ext_v_u32m2_u32m4(vuint32m2_t value);
vuint32m8_t __riscv_vlmul_ext_v_u32m2_u32m8(vuint32m2_t value);
vuint32m8_t __riscv_vlmul_ext_v_u32m4_u32m8(vuint32m4_t value);
vuint64m2_t __riscv_vlmul_ext_v_u64m1_u64m2(vuint64m1_t value);
vuint64m4_t __riscv_vlmul_ext_v_u64m1_u64m4(vuint64m1_t value);
vuint64m8_t __riscv_vlmul_ext_v_u64m1_u64m8(vuint64m1_t value);
vuint64m4_t __riscv_vlmul_ext_v_u64m2_u64m4(vuint64m2_t value);
vuint64m8_t __riscv_vlmul_ext_v_u64m2_u64m8(vuint64m2_t value);
vuint64m8_t __riscv_vlmul_ext_v_u64m4_u64m8(vuint64m4_t value);
```

A.9.5. Vector LMUL Truncation Intrinsics

```
vfloat16mf4_t __riscv_vlmul_trunc_v_f16mf2_f16mf4(vfloat16mf2_t value);
vfloat16mf4_t __riscv_vlmul_trunc_v_f16m1_f16mf4(vfloat16m1_t value);
vfloat16mf2_t __riscv_vlmul_trunc_v_f16m1_f16mf2(vfloat16m1_t value);
vfloat16mf4_t __riscv_vlmul_trunc_v_f16m2_f16mf4(vfloat16m2_t value);
vfloat16mf2_t __riscv_vlmul_trunc_v_f16m2_f16mf2(vfloat16m2_t value);
vfloat16m1_t __riscv_vlmul_trunc_v_f16m2_f16m1(vfloat16m2_t value);
vfloat16mf4_t __riscv_vlmul_trunc_v_f16m4_f16mf4(vfloat16m4_t value);
vfloat16mf2_t __riscv_vlmul_trunc_v_f16m4_f16mf2(vfloat16m4_t value);
vfloat16m1_t __riscv_vlmul_trunc_v_f16m4_f16m1(vfloat16m4_t value);
vfloat16m2_t __riscv_vlmul_trunc_v_f16m4_f16m2(vfloat16m4_t value);
vfloat16mf4_t __riscv_vlmul_trunc_v_f16m8_f16mf4(vfloat16m8_t value);
```

```
vfloat16mf2_t __riscv_vlmul_trunc_v_f16m8_f16mf2(vfloat16m8_t value);
vfloat16m1_t __riscv_vlmul_trunc_v_f16m8_f16m1(vfloat16m8_t value);
vfloat16m2_t __riscv_vlmul_trunc_v_f16m8_f16m2(vfloat16m8_t value);
vfloat16m4_t __riscv_vlmul_trunc_v_f16m8_f16m4(vfloat16m8_t value);
vfloat32mf2_t __riscv_vlmul_trunc_v_f32m1_f32mf2(vfloat32m1_t value);
vfloat32mf2_t __riscv_vlmul_trunc_v_f32m2_f32mf2(vfloat32m2_t value);
vfloat32m1_t __riscv_vlmul_trunc_v_f32m2_f32m1(vfloat32m2_t value);
vfloat32mf2_t __riscv_vlmul_trunc_v_f32m4_f32mf2(vfloat32m4_t value);
vfloat32m1_t __riscv_vlmul_trunc_v_f32m4_f32m1(vfloat32m4_t value);
vfloat32m2_t __riscv_vlmul_trunc_v_f32m4_f32m2(vfloat32m4_t value);
vfloat32mf2_t __riscv_vlmul_trunc_v_f32m8_f32mf2(vfloat32m8_t value);
vfloat32m1_t __riscv_vlmul_trunc_v_f32m8_f32m1(vfloat32m8_t value);
vfloat32m2_t __riscv_vlmul_trunc_v_f32m8_f32m2(vfloat32m8_t value);
vfloat32m4_t __riscv_vlmul_trunc_v_f32m8_f32m4(vfloat32m8_t value);
vfloat64m1_t __riscv_vlmul_trunc_v_f64m2_f64m1(vfloat64m2_t value);
vfloat64m1_t __riscv_vlmul_trunc_v_f64m4_f64m1(vfloat64m4_t value);
vfloat64m2_t __riscv_vlmul_trunc_v_f64m4_f64m2(vfloat64m4_t value);
vfloat64m1_t __riscv_vlmul_trunc_v_f64m8_f64m1(vfloat64m8_t value);
vfloat64m2_t __riscv_vlmul_trunc_v_f64m8_f64m2(vfloat64m8_t value);
vfloat64m4_t __riscv_vlmul_trunc_v_f64m8_f64m4(vfloat64m8_t value);
vint8mf8_t __riscv_vlmul_trunc_v_i8mf4_i8mf8(vint8mf4_t value);
vint8mf8_t __riscv_vlmul_trunc_v_i8mf2_i8mf8(vint8mf2_t value);
vint8mf4_t __riscv_vlmul_trunc_v_i8mf2_i8mf4(vint8mf2_t value);
vint8mf8_t __riscv_vlmul_trunc_v_i8m1_i8mf8(vint8m1_t value);
vint8mf4_t __riscv_vlmul_trunc_v_i8m1_i8mf4(vint8m1_t value);
vint8mf2_t __riscv_vlmul_trunc_v_i8m1_i8mf2(vint8m1_t value);
vint8mf8_t __riscv_vlmul_trunc_v_i8m2_i8mf8(vint8m2_t value);
vint8mf4_t __riscv_vlmul_trunc_v_i8m2_i8mf4(vint8m2_t value);
vint8mf2_t __riscv_vlmul_trunc_v_i8m2_i8mf2(vint8m2_t value);
vint8m1_t __riscv_vlmul_trunc_v_i8m2_i8m1(vint8m2_t value);
vint8mf8_t __riscv_vlmul_trunc_v_i8m4_i8mf8(vint8m4_t value);
vint8mf4_t __riscv_vlmul_trunc_v_i8m4_i8mf4(vint8m4_t value);
vint8mf2_t __riscv_vlmul_trunc_v_i8m4_i8mf2(vint8m4_t value);
vint8m1_t __riscv_vlmul_trunc_v_i8m4_i8m1(vint8m4_t value);
vint8m2_t __riscv_vlmul_trunc_v_i8m4_i8m2(vint8m4_t value);
vint8mf8_t __riscv_vlmul_trunc_v_i8m8_i8mf8(vint8m8_t value);
vint8mf4_t __riscv_vlmul_trunc_v_i8m8_i8mf4(vint8m8_t value);
vint8mf2_t __riscv_vlmul_trunc_v_i8m8_i8mf2(vint8m8_t value);
vint8m1_t __riscv_vlmul_trunc_v_i8m8_i8m1(vint8m8_t value);
vint8m2_t __riscv_vlmul_trunc_v_i8m8_i8m2(vint8m8_t value);
vint8m4_t __riscv_vlmul_trunc_v_i8m8_i8m4(vint8m8_t value);
vint16mf4_t __riscv_vlmul_trunc_v_i16mf2_i16mf4(vint16mf2_t value);
vint16mf4_t __riscv_vlmul_trunc_v_i16m1_i16mf4(vint16m1_t value);
vint16mf2_t __riscv_vlmul_trunc_v_i16m1_i16mf2(vint16m1_t value);
vint16mf4_t __riscv_vlmul_trunc_v_i16m2_i16mf4(vint16m2_t value);
vint16mf2_t __riscv_vlmul_trunc_v_i16m2_i16mf2(vint16m2_t value);
vint16m1_t __riscv_vlmul_trunc_v_i16m2_i16m1(vint16m2_t value);
vint16mf4_t __riscv_vlmul_trunc_v_i16m4_i16mf4(vint16m4_t value);
vint16mf2_t __riscv_vlmul_trunc_v_i16m4_i16mf2(vint16m4_t value);
vint16m1_t __riscv_vlmul_trunc_v_i16m4_i16m1(vint16m4_t value);
vint16m2_t __riscv_vlmul_trunc_v_i16m4_i16m2(vint16m4_t value);
vint16mf4_t __riscv_vlmul_trunc_v_i16m8_i16mf4(vint16m8_t value);
vint16mf2_t __riscv_vlmul_trunc_v_i16m8_i16mf2(vint16m8_t value);
vint16m1_t __riscv_vlmul_trunc_v_i16m8_i16m1(vint16m8_t value);
vint16m2_t __riscv_vlmul_trunc_v_i16m8_i16m2(vint16m8_t value);
vint16m4_t __riscv_vlmul_trunc_v_i16m8_i16m4(vint16m8_t value);
vint32mf2_t __riscv_vlmul_trunc_v_i32m1_i32mf2(vint32m1_t value);
vint32mf2_t __riscv_vlmul_trunc_v_i32m2_i32mf2(vint32m2_t value);
vint32m1_t __riscv_vlmul_trunc_v_i32m2_i32m1(vint32m2_t value);
vint32mf2_t __riscv_vlmul_trunc_v_i32m4_i32mf2(vint32m4_t value);
vint32m1_t __riscv_vlmul_trunc_v_i32m4_i32m1(vint32m4_t value);
vint32m2_t __riscv_vlmul_trunc_v_i32m4_i32m2(vint32m4_t value);
vint32mf2_t __riscv_vlmul_trunc_v_i32m8_i32mf2(vint32m8_t value);
vint32m1_t __riscv_vlmul_trunc_v_i32m8_i32m1(vint32m8_t value);
vint32m2_t __riscv_vlmul_trunc_v_i32m8_i32m2(vint32m8_t value);
vint32m4_t __riscv_vlmul_trunc_v_i32m8_i32m4(vint32m8_t value);
vint64m1_t __riscv_vlmul_trunc_v_i64m2_i64m1(vint64m2_t value);
```

```
vint64m1_t __riscv_vlmul_trunc_v_i64m4_i64m1(vint64m4_t value);
vint64m2_t __riscv_vlmul_trunc_v_i64m4_i64m2(vint64m4_t value);
vint64m1_t __riscv_vlmul_trunc_v_i64m8_i64m1(vint64m8_t value);
vint64m2_t __riscv_vlmul_trunc_v_i64m8_i64m2(vint64m8_t value);
vint64m4_t __riscv_vlmul_trunc_v_i64m8_i64m4(vint64m8_t value);
vuint8mf8_t __riscv_vlmul_trunc_v_u8mf4_u8mf8(vuint8mf4_t value);
vuint8mf8_t __riscv_vlmul_trunc_v_u8mf2_u8mf8(vuint8mf2_t value);
vuint8mf4_t __riscv_vlmul_trunc_v_u8mf2_u8mf4(vuint8mf2_t value);
vuint8mf8_t __riscv_vlmul_trunc_v_u8m1_u8mf8(vuint8m1_t value);
vuint8mf4_t __riscv_vlmul_trunc_v_u8m1_u8mf4(vuint8m1_t value);
vuint8mf2_t __riscv_vlmul_trunc_v_u8m1_u8mf2(vuint8m1_t value);
vuint8mf8_t __riscv_vlmul_trunc_v_u8m2_u8mf8(vuint8m2_t value);
vuint8mf4_t __riscv_vlmul_trunc_v_u8m2_u8mf4(vuint8m2_t value);
vuint8mf2_t __riscv_vlmul_trunc_v_u8m2_u8mf2(vuint8m2_t value);
vuint8m1_t __riscv_vlmul_trunc_v_u8m2_u8m1(vuint8m2_t value);
vuint8mf8_t __riscv_vlmul_trunc_v_u8m4_u8mf8(vuint8m4_t value);
vuint8mf4_t __riscv_vlmul_trunc_v_u8m4_u8mf4(vuint8m4_t value);
vuint8mf2_t __riscv_vlmul_trunc_v_u8m4_u8mf2(vuint8m4_t value);
vuint8m1_t __riscv_vlmul_trunc_v_u8m4_u8m1(vuint8m4_t value);
vuint8m2_t __riscv_vlmul_trunc_v_u8m4_u8m2(vuint8m4_t value);
vuint8mf8_t __riscv_vlmul_trunc_v_u8m8_u8mf8(vuint8m8_t value);
vuint8mf4_t __riscv_vlmul_trunc_v_u8m8_u8mf4(vuint8m8_t value);
vuint8mf2_t __riscv_vlmul_trunc_v_u8m8_u8mf2(vuint8m8_t value);
vuint8m1_t __riscv_vlmul_trunc_v_u8m8_u8m1(vuint8m8_t value);
vuint8m2_t __riscv_vlmul_trunc_v_u8m8_u8m2(vuint8m8_t value);
vuint8m4_t __riscv_vlmul_trunc_v_u8m8_u8m4(vuint8m8_t value);
vuint16mf4_t __riscv_vlmul_trunc_v_u16mf2_u16mf4(vuint16mf2_t value);
vuint16mf4_t __riscv_vlmul_trunc_v_u16m1_u16mf4(vuint16m1_t value);
vuint16mf2_t __riscv_vlmul_trunc_v_u16m1_u16mf2(vuint16m1_t value);
vuint16mf4_t __riscv_vlmul_trunc_v_u16m2_u16mf4(vuint16m2_t value);
vuint16mf2_t __riscv_vlmul_trunc_v_u16m2_u16mf2(vuint16m2_t value);
vuint16m1_t __riscv_vlmul_trunc_v_u16m2_u16m1(vuint16m2_t value);
vuint16mf4_t __riscv_vlmul_trunc_v_u16m4_u16mf4(vuint16m4_t value);
vuint16mf2_t __riscv_vlmul_trunc_v_u16m4_u16mf2(vuint16m4_t value);
vuint16m1_t __riscv_vlmul_trunc_v_u16m4_u16m1(vuint16m4_t value);
vuint16m2_t __riscv_vlmul_trunc_v_u16m4_u16m2(vuint16m4_t value);
vuint16mf4_t __riscv_vlmul_trunc_v_u16m8_u16mf4(vuint16m8_t value);
vuint16mf2_t __riscv_vlmul_trunc_v_u16m8_u16mf2(vuint16m8_t value);
vuint16m1_t __riscv_vlmul_trunc_v_u16m8_u16m1(vuint16m8_t value);
vuint16m2_t __riscv_vlmul_trunc_v_u16m8_u16m2(vuint16m8_t value);
vuint16m4_t __riscv_vlmul_trunc_v_u16m8_u16m4(vuint16m8_t value);
vuint32mf2_t __riscv_vlmul_trunc_v_u32m1_u32mf2(vuint32m1_t value);
vuint32mf2_t __riscv_vlmul_trunc_v_u32m2_u32mf2(vuint32m2_t value);
vuint32m1_t __riscv_vlmul_trunc_v_u32m2_u32m1(vuint32m2_t value);
vuint32mf2_t __riscv_vlmul_trunc_v_u32m4_u32mf2(vuint32m4_t value);
vuint32m1_t __riscv_vlmul_trunc_v_u32m4_u32m1(vuint32m4_t value);
vuint32m2_t __riscv_vlmul_trunc_v_u32m4_u32m2(vuint32m4_t value);
vuint32mf2_t __riscv_vlmul_trunc_v_u32m8_u32mf2(vuint32m8_t value);
vuint32m1_t __riscv_vlmul_trunc_v_u32m8_u32m1(vuint32m8_t value);
vuint32m2_t __riscv_vlmul_trunc_v_u32m8_u32m2(vuint32m8_t value);
vuint32m4_t __riscv_vlmul_trunc_v_u32m8_u32m4(vuint32m8_t value);
vuint64m1_t __riscv_vlmul_trunc_v_u64m2_u64m1(vuint64m2_t value);
vuint64m1_t __riscv_vlmul_trunc_v_u64m4_u64m1(vuint64m4_t value);
vuint64m2_t __riscv_vlmul_trunc_v_u64m4_u64m2(vuint64m4_t value);
vuint64m1_t __riscv_vlmul_trunc_v_u64m8_u64m1(vuint64m8_t value);
vuint64m2_t __riscv_vlmul_trunc_v_u64m8_u64m2(vuint64m8_t value);
vuint64m4_t __riscv_vlmul_trunc_v_u64m8_u64m4(vuint64m8_t value);
```

A.9.6. Vector Initialization Intrinsics

```
vfloat16mf4_t __riscv_vundefined_f16mf4();
vfloat16mf2_t __riscv_vundefined_f16mf2();
vfloat16m1_t __riscv_vundefined_f16m1();
vfloat16m2_t __riscv_vundefined_f16m2();
vfloat16m4_t __riscv_vundefined_f16m4();
```

```
vfloat16m8_t __riscv_vundefined_f16m8();
vfloat32mf2_t __riscv_vundefined_f32mf2();
vfloat32m1_t __riscv_vundefined_f32m1();
vfloat32m2_t __riscv_vundefined_f32m2();
vfloat32m4_t __riscv_vundefined_f32m4();
vfloat32m8_t __riscv_vundefined_f32m8();
vfloat64m1_t __riscv_vundefined_f64m1();
vfloat64m2_t __riscv_vundefined_f64m2();
vfloat64m4_t __riscv_vundefined_f64m4();
vfloat64m8_t __riscv_vundefined_f64m8();
vint8mf8_t __riscv_vundefined_i8mf8();
vint8mf4_t __riscv_vundefined_i8mf4();
vint8mf2_t __riscv_vundefined_i8mf2();
vint8m1_t __riscv_vundefined_i8m1();
vint8m2_t __riscv_vundefined_i8m2();
vint8m4_t __riscv_vundefined_i8m4();
vint8m8_t __riscv_vundefined_i8m8();
vint16mf4_t __riscv_vundefined_i16mf4();
vint16mf2_t __riscv_vundefined_i16mf2();
vint16m1_t __riscv_vundefined_i16m1();
vint16m2_t __riscv_vundefined_i16m2();
vint16m4_t __riscv_vundefined_i16m4();
vint16m8_t __riscv_vundefined_i16m8();
vint32mf2_t __riscv_vundefined_i32mf2();
vint32m1_t __riscv_vundefined_i32m1();
vint32m2_t __riscv_vundefined_i32m2();
vint32m4_t __riscv_vundefined_i32m4();
vint32m8_t __riscv_vundefined_i32m8();
vint64m1_t __riscv_vundefined_i64m1();
vint64m2_t __riscv_vundefined_i64m2();
vint64m4_t __riscv_vundefined_i64m4();
vint64m8_t __riscv_vundefined_i64m8();
vuint8mf8_t __riscv_vundefined_u8mf8();
vuint8mf4_t __riscv_vundefined_u8mf4();
vuint8mf2_t __riscv_vundefined_u8mf2();
vuint8m1_t __riscv_vundefined_u8m1();
vuint8m2_t __riscv_vundefined_u8m2();
vuint8m4_t __riscv_vundefined_u8m4();
vuint8m8_t __riscv_vundefined_u8m8();
vuint16mf4_t __riscv_vundefined_u16mf4();
vuint16mf2_t __riscv_vundefined_u16mf2();
vuint16m1_t __riscv_vundefined_u16m1();
vuint16m2_t __riscv_vundefined_u16m2();
vuint16m4_t __riscv_vundefined_u16m4();
vuint16m8_t __riscv_vundefined_u16m8();
vuint32mf2_t __riscv_vundefined_u32mf2();
vuint32m1_t __riscv_vundefined_u32m1();
vuint32m2_t __riscv_vundefined_u32m2();
vuint32m4_t __riscv_vundefined_u32m4();
vuint32m8_t __riscv_vundefined_u32m8();
vuint64m1_t __riscv_vundefined_u64m1();
vuint64m2_t __riscv_vundefined_u64m2();
vuint64m4_t __riscv_vundefined_u64m4();
vuint64m8_t __riscv_vundefined_u64m8();
vfloat16mf4x2_t __riscv_vundefined_f16mf4x2();
vfloat16mf4x3_t __riscv_vundefined_f16mf4x3();
vfloat16mf4x4_t __riscv_vundefined_f16mf4x4();
vfloat16mf4x5_t __riscv_vundefined_f16mf4x5();
vfloat16mf4x6_t __riscv_vundefined_f16mf4x6();
vfloat16mf4x7_t __riscv_vundefined_f16mf4x7();
vfloat16mf4x8_t __riscv_vundefined_f16mf4x8();
vfloat16mf2x2_t __riscv_vundefined_f16mf2x2();
vfloat16mf2x3_t __riscv_vundefined_f16mf2x3();
vfloat16mf2x4_t __riscv_vundefined_f16mf2x4();
vfloat16mf2x5_t __riscv_vundefined_f16mf2x5();
vfloat16mf2x6_t __riscv_vundefined_f16mf2x6();
vfloat16mf2x7_t __riscv_vundefined_f16mf2x7();
```

```
vfloat16mf2x8_t __riscv_vundefined_f16mf2x8();
vfloat16m1x2_t __riscv_vundefined_f16m1x2();
vfloat16m1x3_t __riscv_vundefined_f16m1x3();
vfloat16m1x4_t __riscv_vundefined_f16m1x4();
vfloat16m1x5_t __riscv_vundefined_f16m1x5();
vfloat16m1x6_t __riscv_vundefined_f16m1x6();
vfloat16m1x7_t __riscv_vundefined_f16m1x7();
vfloat16m1x8_t __riscv_vundefined_f16m1x8();
vfloat16m2x2_t __riscv_vundefined_f16m2x2();
vfloat16m2x3_t __riscv_vundefined_f16m2x3();
vfloat16m2x4_t __riscv_vundefined_f16m2x4();
vfloat16m4x2_t __riscv_vundefined_f16m4x2();
vfloat32mf2x2_t __riscv_vundefined_f32mf2x2();
vfloat32mf2x3_t __riscv_vundefined_f32mf2x3();
vfloat32mf2x4_t __riscv_vundefined_f32mf2x4();
vfloat32mf2x5_t __riscv_vundefined_f32mf2x5();
vfloat32mf2x6_t __riscv_vundefined_f32mf2x6();
vfloat32mf2x7_t __riscv_vundefined_f32mf2x7();
vfloat32mf2x8_t __riscv_vundefined_f32mf2x8();
vfloat32m1x2_t __riscv_vundefined_f32m1x2();
vfloat32m1x3_t __riscv_vundefined_f32m1x3();
vfloat32m1x4_t __riscv_vundefined_f32m1x4();
vfloat32m1x5_t __riscv_vundefined_f32m1x5();
vfloat32m1x6_t __riscv_vundefined_f32m1x6();
vfloat32m1x7_t __riscv_vundefined_f32m1x7();
vfloat32m1x8_t __riscv_vundefined_f32m1x8();
vfloat32m2x2_t __riscv_vundefined_f32m2x2();
vfloat32m2x3_t __riscv_vundefined_f32m2x3();
vfloat32m2x4_t __riscv_vundefined_f32m2x4();
vfloat32m4x2_t __riscv_vundefined_f32m4x2();
vfloat64m1x2_t __riscv_vundefined_f64m1x2();
vfloat64m1x3_t __riscv_vundefined_f64m1x3();
vfloat64m1x4_t __riscv_vundefined_f64m1x4();
vfloat64m1x5_t __riscv_vundefined_f64m1x5();
vfloat64m1x6_t __riscv_vundefined_f64m1x6();
vfloat64m1x7_t __riscv_vundefined_f64m1x7();
vfloat64m1x8_t __riscv_vundefined_f64m1x8();
vfloat64m2x2_t __riscv_vundefined_f64m2x2();
vfloat64m2x3_t __riscv_vundefined_f64m2x3();
vfloat64m2x4_t __riscv_vundefined_f64m2x4();
vfloat64m4x2_t __riscv_vundefined_f64m4x2();
vint8mf8x2_t __riscv_vundefined_i8mf8x2();
vint8mf8x3_t __riscv_vundefined_i8mf8x3();
vint8mf8x4_t __riscv_vundefined_i8mf8x4();
vint8mf8x5_t __riscv_vundefined_i8mf8x5();
vint8mf8x6_t __riscv_vundefined_i8mf8x6();
vint8mf8x7_t __riscv_vundefined_i8mf8x7();
vint8mf8x8_t __riscv_vundefined_i8mf8x8();
vint8mf4x2_t __riscv_vundefined_i8mf4x2();
vint8mf4x3_t __riscv_vundefined_i8mf4x3();
vint8mf4x4_t __riscv_vundefined_i8mf4x4();
vint8mf4x5_t __riscv_vundefined_i8mf4x5();
vint8mf4x6_t __riscv_vundefined_i8mf4x6();
vint8mf4x7_t __riscv_vundefined_i8mf4x7();
vint8mf4x8_t __riscv_vundefined_i8mf4x8();
vint8mf2x2_t __riscv_vundefined_i8mf2x2();
vint8mf2x3_t __riscv_vundefined_i8mf2x3();
vint8mf2x4_t __riscv_vundefined_i8mf2x4();
vint8mf2x5_t __riscv_vundefined_i8mf2x5();
vint8mf2x6_t __riscv_vundefined_i8mf2x6();
vint8mf2x7_t __riscv_vundefined_i8mf2x7();
vint8mf2x8_t __riscv_vundefined_i8mf2x8();
vint8m1x2_t __riscv_vundefined_i8m1x2();
vint8m1x3_t __riscv_vundefined_i8m1x3();
vint8m1x4_t __riscv_vundefined_i8m1x4();
vint8m1x5_t __riscv_vundefined_i8m1x5();
vint8m1x6_t __riscv_vundefined_i8m1x6();
```

```
vint8m1x7_t __riscv_vundefined_i8m1x7();
vint8m1x8_t __riscv_vundefined_i8m1x8();
vint8m2x2_t __riscv_vundefined_i8m2x2();
vint8m2x3_t __riscv_vundefined_i8m2x3();
vint8m2x4_t __riscv_vundefined_i8m2x4();
vint8m4x2_t __riscv_vundefined_i8m4x2();
vint16mf4x2_t __riscv_vundefined_i16mf4x2();
vint16mf4x3_t __riscv_vundefined_i16mf4x3();
vint16mf4x4_t __riscv_vundefined_i16mf4x4();
vint16mf4x5_t __riscv_vundefined_i16mf4x5();
vint16mf4x6_t __riscv_vundefined_i16mf4x6();
vint16mf4x7_t __riscv_vundefined_i16mf4x7();
vint16mf4x8_t __riscv_vundefined_i16mf4x8();
vint16mf2x2_t __riscv_vundefined_i16mf2x2();
vint16mf2x3_t __riscv_vundefined_i16mf2x3();
vint16mf2x4_t __riscv_vundefined_i16mf2x4();
vint16mf2x5_t __riscv_vundefined_i16mf2x5();
vint16mf2x6_t __riscv_vundefined_i16mf2x6();
vint16mf2x7_t __riscv_vundefined_i16mf2x7();
vint16mf2x8_t __riscv_vundefined_i16mf2x8();
vint16m1x2_t __riscv_vundefined_i16m1x2();
vint16m1x3_t __riscv_vundefined_i16m1x3();
vint16m1x4_t __riscv_vundefined_i16m1x4();
vint16m1x5_t __riscv_vundefined_i16m1x5();
vint16m1x6_t __riscv_vundefined_i16m1x6();
vint16m1x7_t __riscv_vundefined_i16m1x7();
vint16m1x8_t __riscv_vundefined_i16m1x8();
vint16m2x2_t __riscv_vundefined_i16m2x2();
vint16m2x3_t __riscv_vundefined_i16m2x3();
vint16m2x4_t __riscv_vundefined_i16m2x4();
vint16m4x2_t __riscv_vundefined_i16m4x2();
vint32mf2x2_t __riscv_vundefined_i32mf2x2();
vint32mf2x3_t __riscv_vundefined_i32mf2x3();
vint32mf2x4_t __riscv_vundefined_i32mf2x4();
vint32mf2x5_t __riscv_vundefined_i32mf2x5();
vint32mf2x6_t __riscv_vundefined_i32mf2x6();
vint32mf2x7_t __riscv_vundefined_i32mf2x7();
vint32mf2x8_t __riscv_vundefined_i32mf2x8();
vint32m1x2_t __riscv_vundefined_i32m1x2();
vint32m1x3_t __riscv_vundefined_i32m1x3();
vint32m1x4_t __riscv_vundefined_i32m1x4();
vint32m1x5_t __riscv_vundefined_i32m1x5();
vint32m1x6_t __riscv_vundefined_i32m1x6();
vint32m1x7_t __riscv_vundefined_i32m1x7();
vint32m1x8_t __riscv_vundefined_i32m1x8();
vint32m2x2_t __riscv_vundefined_i32m2x2();
vint32m2x3_t __riscv_vundefined_i32m2x3();
vint32m2x4_t __riscv_vundefined_i32m2x4();
vint32m4x2_t __riscv_vundefined_i32m4x2();
vint64m1x2_t __riscv_vundefined_i64m1x2();
vint64m1x3_t __riscv_vundefined_i64m1x3();
vint64m1x4_t __riscv_vundefined_i64m1x4();
vint64m1x5_t __riscv_vundefined_i64m1x5();
vint64m1x6_t __riscv_vundefined_i64m1x6();
vint64m1x7_t __riscv_vundefined_i64m1x7();
vint64m1x8_t __riscv_vundefined_i64m1x8();
vint64m2x2_t __riscv_vundefined_i64m2x2();
vint64m2x3_t __riscv_vundefined_i64m2x3();
vint64m2x4_t __riscv_vundefined_i64m2x4();
vint64m4x2_t __riscv_vundefined_i64m4x2();
vuint8mf8x2_t __riscv_vundefined_u8mf8x2();
vuint8mf8x3_t __riscv_vundefined_u8mf8x3();
vuint8mf8x4_t __riscv_vundefined_u8mf8x4();
vuint8mf8x5_t __riscv_vundefined_u8mf8x5();
vuint8mf8x6_t __riscv_vundefined_u8mf8x6();
vuint8mf8x7_t __riscv_vundefined_u8mf8x7();
vuint8mf8x8_t __riscv_vundefined_u8mf8x8();
```

```
vuint8mf4x2_t __riscv_vundefined_u8mf4x2();
vuint8mf4x3_t __riscv_vundefined_u8mf4x3();
vuint8mf4x4_t __riscv_vundefined_u8mf4x4();
vuint8mf4x5_t __riscv_vundefined_u8mf4x5();
vuint8mf4x6_t __riscv_vundefined_u8mf4x6();
vuint8mf4x7_t __riscv_vundefined_u8mf4x7();
vuint8mf4x8_t __riscv_vundefined_u8mf4x8();
vuint8mf2x2_t __riscv_vundefined_u8mf2x2();
vuint8mf2x3_t __riscv_vundefined_u8mf2x3();
vuint8mf2x4_t __riscv_vundefined_u8mf2x4();
vuint8mf2x5_t __riscv_vundefined_u8mf2x5();
vuint8mf2x6_t __riscv_vundefined_u8mf2x6();
vuint8mf2x7_t __riscv_vundefined_u8mf2x7();
vuint8mf2x8_t __riscv_vundefined_u8mf2x8();
vuint8m1x2_t __riscv_vundefined_u8m1x2();
vuint8m1x3_t __riscv_vundefined_u8m1x3();
vuint8m1x4_t __riscv_vundefined_u8m1x4();
vuint8m1x5_t __riscv_vundefined_u8m1x5();
vuint8m1x6_t __riscv_vundefined_u8m1x6();
vuint8m1x7_t __riscv_vundefined_u8m1x7();
vuint8m1x8_t __riscv_vundefined_u8m1x8();
vuint8m2x2_t __riscv_vundefined_u8m2x2();
vuint8m2x3_t __riscv_vundefined_u8m2x3();
vuint8m2x4_t __riscv_vundefined_u8m2x4();
vuint8m4x2_t __riscv_vundefined_u8m4x2();
vuint16mf4x2_t __riscv_vundefined_u16mf4x2();
vuint16mf4x3_t __riscv_vundefined_u16mf4x3();
vuint16mf4x4_t __riscv_vundefined_u16mf4x4();
vuint16mf4x5_t __riscv_vundefined_u16mf4x5();
vuint16mf4x6_t __riscv_vundefined_u16mf4x6();
vuint16mf4x7_t __riscv_vundefined_u16mf4x7();
vuint16mf4x8_t __riscv_vundefined_u16mf4x8();
vuint16mf2x2_t __riscv_vundefined_u16mf2x2();
vuint16mf2x3_t __riscv_vundefined_u16mf2x3();
vuint16mf2x4_t __riscv_vundefined_u16mf2x4();
vuint16mf2x5_t __riscv_vundefined_u16mf2x5();
vuint16mf2x6_t __riscv_vundefined_u16mf2x6();
vuint16mf2x7_t __riscv_vundefined_u16mf2x7();
vuint16mf2x8_t __riscv_vundefined_u16mf2x8();
vuint16m1x2_t __riscv_vundefined_u16m1x2();
vuint16m1x3_t __riscv_vundefined_u16m1x3();
vuint16m1x4_t __riscv_vundefined_u16m1x4();
vuint16m1x5_t __riscv_vundefined_u16m1x5();
vuint16m1x6_t __riscv_vundefined_u16m1x6();
vuint16m1x7_t __riscv_vundefined_u16m1x7();
vuint16m1x8_t __riscv_vundefined_u16m1x8();
vuint16m2x2_t __riscv_vundefined_u16m2x2();
vuint16m2x3_t __riscv_vundefined_u16m2x3();
vuint16m2x4_t __riscv_vundefined_u16m2x4();
vuint16m4x2_t __riscv_vundefined_u16m4x2();
vuint32mf2x2_t __riscv_vundefined_u32mf2x2();
vuint32mf2x3_t __riscv_vundefined_u32mf2x3();
vuint32mf2x4_t __riscv_vundefined_u32mf2x4();
vuint32mf2x5_t __riscv_vundefined_u32mf2x5();
vuint32mf2x6_t __riscv_vundefined_u32mf2x6();
vuint32mf2x7_t __riscv_vundefined_u32mf2x7();
vuint32mf2x8_t __riscv_vundefined_u32mf2x8();
vuint32m1x2_t __riscv_vundefined_u32m1x2();
vuint32m1x3_t __riscv_vundefined_u32m1x3();
vuint32m1x4_t __riscv_vundefined_u32m1x4();
vuint32m1x5_t __riscv_vundefined_u32m1x5();
vuint32m1x6_t __riscv_vundefined_u32m1x6();
vuint32m1x7_t __riscv_vundefined_u32m1x7();
vuint32m1x8_t __riscv_vundefined_u32m1x8();
vuint32m2x2_t __riscv_vundefined_u32m2x2();
vuint32m2x3_t __riscv_vundefined_u32m2x3();
vuint32m2x4_t __riscv_vundefined_u32m2x4();
```

```
vuint32m4x2_t __riscv_vundefined_u32m4x2();
vuint64m1x2_t __riscv_vundefined_u64m1x2();
vuint64m1x3_t __riscv_vundefined_u64m1x3();
vuint64m1x4_t __riscv_vundefined_u64m1x4();
vuint64m1x5_t __riscv_vundefined_u64m1x5();
vuint64m1x6_t __riscv_vundefined_u64m1x6();
vuint64m1x7_t __riscv_vundefined_u64m1x7();
vuint64m1x8_t __riscv_vundefined_u64m1x8();
vuint64m2x2_t __riscv_vundefined_u64m2x2();
vuint64m2x3_t __riscv_vundefined_u64m2x3();
vuint64m2x4_t __riscv_vundefined_u64m2x4();
vuint64m4x2_t __riscv_vundefined_u64m4x2();
```

A.9.7. Vector Insertion Intrinsics

```
vfloat16m2_t __riscv_vset_v_f16m1_f16m2(vfloat16m2_t dest, size_t index,
                                        vfloat16m1_t value);
vfloat16m4_t __riscv_vset_v_f16m1_f16m4(vfloat16m4_t dest, size_t index,
                                        vfloat16m1_t value);
vfloat16m4_t __riscv_vset_v_f16m2_f16m4(vfloat16m4_t dest, size_t index,
                                        vfloat16m2_t value);
vfloat16m8_t __riscv_vset_v_f16m1_f16m8(vfloat16m8_t dest, size_t index,
                                        vfloat16m1_t value);
vfloat16m8_t __riscv_vset_v_f16m2_f16m8(vfloat16m8_t dest, size_t index,
                                        vfloat16m2_t value);
vfloat16m8_t __riscv_vset_v_f16m4_f16m8(vfloat16m8_t dest, size_t index,
                                        vfloat16m4_t value);
vfloat32m2_t __riscv_vset_v_f32m1_f32m2(vfloat32m2_t dest, size_t index,
                                        vfloat32m1_t value);
vfloat32m4_t __riscv_vset_v_f32m1_f32m4(vfloat32m4_t dest, size_t index,
                                        vfloat32m1_t value);
vfloat32m4_t __riscv_vset_v_f32m2_f32m4(vfloat32m4_t dest, size_t index,
                                        vfloat32m2_t value);
vfloat32m8_t __riscv_vset_v_f32m1_f32m8(vfloat32m8_t dest, size_t index,
                                        vfloat32m1_t value);
vfloat32m8_t __riscv_vset_v_f32m2_f32m8(vfloat32m8_t dest, size_t index,
                                        vfloat32m2_t value);
vfloat32m8_t __riscv_vset_v_f32m4_f32m8(vfloat32m8_t dest, size_t index,
                                        vfloat32m4_t value);
vfloat64m2_t __riscv_vset_v_f64m1_f64m2(vfloat64m2_t dest, size_t index,
                                        vfloat64m1_t value);
vfloat64m4_t __riscv_vset_v_f64m1_f64m4(vfloat64m4_t dest, size_t index,
                                        vfloat64m1_t value);
vfloat64m4_t __riscv_vset_v_f64m2_f64m4(vfloat64m4_t dest, size_t index,
                                        vfloat64m2_t value);
vfloat64m8_t __riscv_vset_v_f64m1_f64m8(vfloat64m8_t dest, size_t index,
                                        vfloat64m1_t value);
vfloat64m8_t __riscv_vset_v_f64m2_f64m8(vfloat64m8_t dest, size_t index,
                                        vfloat64m2_t value);
vfloat64m8_t __riscv_vset_v_f64m4_f64m8(vfloat64m8_t dest, size_t index,
                                        vfloat64m4_t value);
vint8m2_t __riscv_vset_v_i8m1_i8m2(vint8m2_t dest, size_t index,
                                   vint8m1_t value);
vint8m4_t __riscv_vset_v_i8m1_i8m4(vint8m4_t dest, size_t index,
                                   vint8m1_t value);
vint8m4_t __riscv_vset_v_i8m2_i8m4(vint8m4_t dest, size_t index,
                                   vint8m2_t value);
vint8m8_t __riscv_vset_v_i8m1_i8m8(vint8m8_t dest, size_t index,
                                   vint8m1_t value);
vint8m8_t __riscv_vset_v_i8m2_i8m8(vint8m8_t dest, size_t index,
                                   vint8m2_t value);
vint8m8_t __riscv_vset_v_i8m4_i8m8(vint8m8_t dest, size_t index,
                                   vint8m4_t value);
vint16m2_t __riscv_vset_v_i16m1_i16m2(vint16m2_t dest, size_t index,
                                      vint16m1_t value);
```

```
vint16m4_t __riscv_vset_v_i16m1_i16m4(vint16m4_t dest, size_t index,
                                      vint16m1_t value);
vint16m4_t __riscv_vset_v_i16m2_i16m4(vint16m4_t dest, size_t index,
                                      vint16m2_t value);
vint16m8_t __riscv_vset_v_i16m1_i16m8(vint16m8_t dest, size_t index,
                                      vint16m1_t value);
vint16m8_t __riscv_vset_v_i16m2_i16m8(vint16m8_t dest, size_t index,
                                      vint16m2_t value);
vint16m8_t __riscv_vset_v_i16m4_i16m8(vint16m8_t dest, size_t index,
                                      vint16m4_t value);
vint32m2_t __riscv_vset_v_i32m1_i32m2(vint32m2_t dest, size_t index,
                                      vint32m1_t value);
vint32m4_t __riscv_vset_v_i32m1_i32m4(vint32m4_t dest, size_t index,
                                      vint32m1_t value);
vint32m4_t __riscv_vset_v_i32m2_i32m4(vint32m4_t dest, size_t index,
                                      vint32m2_t value);
vint32m8_t __riscv_vset_v_i32m1_i32m8(vint32m8_t dest, size_t index,
                                      vint32m1_t value);
vint32m8_t __riscv_vset_v_i32m2_i32m8(vint32m8_t dest, size_t index,
                                      vint32m2_t value);
vint32m8_t __riscv_vset_v_i32m4_i32m8(vint32m8_t dest, size_t index,
                                      vint32m4_t value);
vint64m2_t __riscv_vset_v_i64m1_i64m2(vint64m2_t dest, size_t index,
                                      vint64m1_t value);
vint64m4_t __riscv_vset_v_i64m1_i64m4(vint64m4_t dest, size_t index,
                                      vint64m1_t value);
vint64m4_t __riscv_vset_v_i64m2_i64m4(vint64m4_t dest, size_t index,
                                      vint64m2_t value);
vint64m8_t __riscv_vset_v_i64m1_i64m8(vint64m8_t dest, size_t index,
                                      vint64m1_t value);
vint64m8_t __riscv_vset_v_i64m2_i64m8(vint64m8_t dest, size_t index,
                                      vint64m2_t value);
vint64m8_t __riscv_vset_v_i64m4_i64m8(vint64m8_t dest, size_t index,
                                      vint64m4_t value);
vuint8m2_t __riscv_vset_v_u8m1_u8m2(vuint8m2_t dest, size_t index,
                                    vuint8m1_t value);
vuint8m4_t __riscv_vset_v_u8m1_u8m4(vuint8m4_t dest, size_t index,
                                    vuint8m1_t value);
vuint8m4_t __riscv_vset_v_u8m2_u8m4(vuint8m4_t dest, size_t index,
                                    vuint8m2_t value);
vuint8m8_t __riscv_vset_v_u8m1_u8m8(vuint8m8_t dest, size_t index,
                                    vuint8m1_t value);
vuint8m8_t __riscv_vset_v_u8m2_u8m8(vuint8m8_t dest, size_t index,
                                    vuint8m2_t value);
vuint8m8_t __riscv_vset_v_u8m4_u8m8(vuint8m8_t dest, size_t index,
                                    vuint8m4_t value);
vuint16m2_t __riscv_vset_v_u16m1_u16m2(vuint16m2_t dest, size_t index,
                                       vuint16m1_t value);
vuint16m4_t __riscv_vset_v_u16m1_u16m4(vuint16m4_t dest, size_t index,
                                       vuint16m1_t value);
vuint16m4_t __riscv_vset_v_u16m2_u16m4(vuint16m4_t dest, size_t index,
                                       vuint16m2_t value);
vuint16m8_t __riscv_vset_v_u16m1_u16m8(vuint16m8_t dest, size_t index,
                                       vuint16m1_t value);
vuint16m8_t __riscv_vset_v_u16m2_u16m8(vuint16m8_t dest, size_t index,
                                       vuint16m2_t value);
vuint16m8_t __riscv_vset_v_u16m4_u16m8(vuint16m8_t dest, size_t index,
                                       vuint16m4_t value);
vuint32m2_t __riscv_vset_v_u32m1_u32m2(vuint32m2_t dest, size_t index,
                                       vuint32m1_t value);
vuint32m4_t __riscv_vset_v_u32m1_u32m4(vuint32m4_t dest, size_t index,
                                       vuint32m1_t value);
vuint32m4_t __riscv_vset_v_u32m2_u32m4(vuint32m4_t dest, size_t index,
                                       vuint32m2_t value);
vuint32m8_t __riscv_vset_v_u32m1_u32m8(vuint32m8_t dest, size_t index,
                                       vuint32m1_t value);
vuint32m8_t __riscv_vset_v_u32m2_u32m8(vuint32m8_t dest, size_t index,
```

```
                                        vuint32m2_t value);
vuint32m8_t __riscv_vset_v_u32m4_u32m8(vuint32m8_t dest, size_t index,
                                        vuint32m4_t value);
vuint64m2_t __riscv_vset_v_u64m1_u64m2(vuint64m2_t dest, size_t index,
                                        vuint64m1_t value);
vuint64m4_t __riscv_vset_v_u64m1_u64m4(vuint64m4_t dest, size_t index,
                                        vuint64m1_t value);
vuint64m4_t __riscv_vset_v_u64m2_u64m4(vuint64m4_t dest, size_t index,
                                        vuint64m2_t value);
vuint64m8_t __riscv_vset_v_u64m1_u64m8(vuint64m8_t dest, size_t index,
                                        vuint64m1_t value);
vuint64m8_t __riscv_vset_v_u64m2_u64m8(vuint64m8_t dest, size_t index,
                                        vuint64m2_t value);
vuint64m8_t __riscv_vset_v_u64m4_u64m8(vuint64m8_t dest, size_t index,
                                        vuint64m4_t value);
vfloat16mf4x2_t __riscv_vset_v_f16mf4_f16mf4x2(vfloat16mf4x2_t dest,
                                               size_t index,
                                               vfloat16mf4_t value);
vfloat16mf4x3_t __riscv_vset_v_f16mf4_f16mf4x3(vfloat16mf4x3_t dest,
                                               size_t index,
                                               vfloat16mf4_t value);
vfloat16mf4x4_t __riscv_vset_v_f16mf4_f16mf4x4(vfloat16mf4x4_t dest,
                                               size_t index,
                                               vfloat16mf4_t value);
vfloat16mf4x5_t __riscv_vset_v_f16mf4_f16mf4x5(vfloat16mf4x5_t dest,
                                               size_t index,
                                               vfloat16mf4_t value);
vfloat16mf4x6_t __riscv_vset_v_f16mf4_f16mf4x6(vfloat16mf4x6_t dest,
                                               size_t index,
                                               vfloat16mf4_t value);
vfloat16mf4x7_t __riscv_vset_v_f16mf4_f16mf4x7(vfloat16mf4x7_t dest,
                                               size_t index,
                                               vfloat16mf4_t value);
vfloat16mf4x8_t __riscv_vset_v_f16mf4_f16mf4x8(vfloat16mf4x8_t dest,
                                               size_t index,
                                               vfloat16mf4_t value);
vfloat16mf2x2_t __riscv_vset_v_f16mf2_f16mf2x2(vfloat16mf2x2_t dest,
                                               size_t index,
                                               vfloat16mf2_t value);
vfloat16mf2x3_t __riscv_vset_v_f16mf2_f16mf2x3(vfloat16mf2x3_t dest,
                                               size_t index,
                                               vfloat16mf2_t value);
vfloat16mf2x4_t __riscv_vset_v_f16mf2_f16mf2x4(vfloat16mf2x4_t dest,
                                               size_t index,
                                               vfloat16mf2_t value);
vfloat16mf2x5_t __riscv_vset_v_f16mf2_f16mf2x5(vfloat16mf2x5_t dest,
                                               size_t index,
                                               vfloat16mf2_t value);
vfloat16mf2x6_t __riscv_vset_v_f16mf2_f16mf2x6(vfloat16mf2x6_t dest,
                                               size_t index,
                                               vfloat16mf2_t value);
vfloat16mf2x7_t __riscv_vset_v_f16mf2_f16mf2x7(vfloat16mf2x7_t dest,
                                               size_t index,
                                               vfloat16mf2_t value);
vfloat16mf2x8_t __riscv_vset_v_f16mf2_f16mf2x8(vfloat16mf2x8_t dest,
                                               size_t index,
                                               vfloat16mf2_t value);
vfloat16m1x2_t __riscv_vset_v_f16m1_f16m1x2(vfloat16m1x2_t dest, size_t index,
                                            vfloat16m1_t value);
vfloat16m1x3_t __riscv_vset_v_f16m1_f16m1x3(vfloat16m1x3_t dest, size_t index,
                                            vfloat16m1_t value);
vfloat16m1x4_t __riscv_vset_v_f16m1_f16m1x4(vfloat16m1x4_t dest, size_t index,
                                            vfloat16m1_t value);
vfloat16m1x5_t __riscv_vset_v_f16m1_f16m1x5(vfloat16m1x5_t dest, size_t index,
                                            vfloat16m1_t value);
vfloat16m1x6_t __riscv_vset_v_f16m1_f16m1x6(vfloat16m1x6_t dest, size_t index,
                                            vfloat16m1_t value);
```

```
vfloat16m1x7_t __riscv_vset_v_f16m1_f16m1x7(vfloat16m1x7_t dest, size_t index,
                                            vfloat16m1_t value);
vfloat16m1x8_t __riscv_vset_v_f16m1_f16m1x8(vfloat16m1x8_t dest, size_t index,
                                            vfloat16m1_t value);
vfloat16m2x2_t __riscv_vset_v_f16m2_f16m2x2(vfloat16m2x2_t dest, size_t index,
                                            vfloat16m2_t value);
vfloat16m2x3_t __riscv_vset_v_f16m2_f16m2x3(vfloat16m2x3_t dest, size_t index,
                                            vfloat16m2_t value);
vfloat16m2x4_t __riscv_vset_v_f16m2_f16m2x4(vfloat16m2x4_t dest, size_t index,
                                            vfloat16m2_t value);
vfloat16m4x2_t __riscv_vset_v_f16m4_f16m4x2(vfloat16m4x2_t dest, size_t index,
                                            vfloat16m4_t value);
vfloat32mf2x2_t __riscv_vset_v_f32mf2_f32mf2x2(vfloat32mf2x2_t dest,
                                               size_t index,
                                               vfloat32mf2_t value);
vfloat32mf2x3_t __riscv_vset_v_f32mf2_f32mf2x3(vfloat32mf2x3_t dest,
                                               size_t index,
                                               vfloat32mf2_t value);
vfloat32mf2x4_t __riscv_vset_v_f32mf2_f32mf2x4(vfloat32mf2x4_t dest,
                                               size_t index,
                                               vfloat32mf2_t value);
vfloat32mf2x5_t __riscv_vset_v_f32mf2_f32mf2x5(vfloat32mf2x5_t dest,
                                               size_t index,
                                               vfloat32mf2_t value);
vfloat32mf2x6_t __riscv_vset_v_f32mf2_f32mf2x6(vfloat32mf2x6_t dest,
                                               size_t index,
                                               vfloat32mf2_t value);
vfloat32mf2x7_t __riscv_vset_v_f32mf2_f32mf2x7(vfloat32mf2x7_t dest,
                                               size_t index,
                                               vfloat32mf2_t value);
vfloat32mf2x8_t __riscv_vset_v_f32mf2_f32mf2x8(vfloat32mf2x8_t dest,
                                               size_t index,
                                               vfloat32mf2_t value);
vfloat32m1x2_t __riscv_vset_v_f32m1_f32m1x2(vfloat32m1x2_t dest, size_t index,
                                            vfloat32m1_t value);
vfloat32m1x3_t __riscv_vset_v_f32m1_f32m1x3(vfloat32m1x3_t dest, size_t index,
                                            vfloat32m1_t value);
vfloat32m1x4_t __riscv_vset_v_f32m1_f32m1x4(vfloat32m1x4_t dest, size_t index,
                                            vfloat32m1_t value);
vfloat32m1x5_t __riscv_vset_v_f32m1_f32m1x5(vfloat32m1x5_t dest, size_t index,
                                            vfloat32m1_t value);
vfloat32m1x6_t __riscv_vset_v_f32m1_f32m1x6(vfloat32m1x6_t dest, size_t index,
                                            vfloat32m1_t value);
vfloat32m1x7_t __riscv_vset_v_f32m1_f32m1x7(vfloat32m1x7_t dest, size_t index,
                                            vfloat32m1_t value);
vfloat32m1x8_t __riscv_vset_v_f32m1_f32m1x8(vfloat32m1x8_t dest, size_t index,
                                            vfloat32m1_t value);
vfloat32m2x2_t __riscv_vset_v_f32m2_f32m2x2(vfloat32m2x2_t dest, size_t index,
                                            vfloat32m2_t value);
vfloat32m2x3_t __riscv_vset_v_f32m2_f32m2x3(vfloat32m2x3_t dest, size_t index,
                                            vfloat32m2_t value);
vfloat32m2x4_t __riscv_vset_v_f32m2_f32m2x4(vfloat32m2x4_t dest, size_t index,
                                            vfloat32m2_t value);
vfloat32m4x2_t __riscv_vset_v_f32m4_f32m4x2(vfloat32m4x2_t dest, size_t index,
                                            vfloat32m4_t value);
vfloat64m1x2_t __riscv_vset_v_f64m1_f64m1x2(vfloat64m1x2_t dest, size_t index,
                                            vfloat64m1_t value);
vfloat64m1x3_t __riscv_vset_v_f64m1_f64m1x3(vfloat64m1x3_t dest, size_t index,
                                            vfloat64m1_t value);
vfloat64m1x4_t __riscv_vset_v_f64m1_f64m1x4(vfloat64m1x4_t dest, size_t index,
                                            vfloat64m1_t value);
vfloat64m1x5_t __riscv_vset_v_f64m1_f64m1x5(vfloat64m1x5_t dest, size_t index,
                                            vfloat64m1_t value);
vfloat64m1x6_t __riscv_vset_v_f64m1_f64m1x6(vfloat64m1x6_t dest, size_t index,
                                            vfloat64m1_t value);
vfloat64m1x7_t __riscv_vset_v_f64m1_f64m1x7(vfloat64m1x7_t dest, size_t index,
                                            vfloat64m1_t value);
```

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vfloat64m1x8_t __riscv_vset_v_f64m1_f64m1x8(vfloat64m1x8_t dest, size_t index,
                                            vfloat64m1_t value);
vfloat64m2x2_t __riscv_vset_v_f64m2_f64m2x2(vfloat64m2x2_t dest, size_t index,
                                            vfloat64m2_t value);
vfloat64m2x3_t __riscv_vset_v_f64m2_f64m2x3(vfloat64m2x3_t dest, size_t index,
                                            vfloat64m2_t value);
vfloat64m2x4_t __riscv_vset_v_f64m2_f64m2x4(vfloat64m2x4_t dest, size_t index,
                                            vfloat64m2_t value);
vfloat64m4x2_t __riscv_vset_v_f64m4_f64m4x2(vfloat64m4x2_t dest, size_t index,
                                            vfloat64m4_t value);
vint8mf8x2_t __riscv_vset_v_i8mf8_i8mf8x2(vint8mf8x2_t dest, size_t index,
                                          vint8mf8_t value);
vint8mf8x3_t __riscv_vset_v_i8mf8_i8mf8x3(vint8mf8x3_t dest, size_t index,
                                          vint8mf8_t value);
vint8mf8x4_t __riscv_vset_v_i8mf8_i8mf8x4(vint8mf8x4_t dest, size_t index,
                                          vint8mf8_t value);
vint8mf8x5_t __riscv_vset_v_i8mf8_i8mf8x5(vint8mf8x5_t dest, size_t index,
                                          vint8mf8_t value);
vint8mf8x6_t __riscv_vset_v_i8mf8_i8mf8x6(vint8mf8x6_t dest, size_t index,
                                          vint8mf8_t value);
vint8mf8x7_t __riscv_vset_v_i8mf8_i8mf8x7(vint8mf8x7_t dest, size_t index,
                                          vint8mf8_t value);
vint8mf8x8_t __riscv_vset_v_i8mf8_i8mf8x8(vint8mf8x8_t dest, size_t index,
                                          vint8mf8_t value);
vint8mf4x2_t __riscv_vset_v_i8mf4_i8mf4x2(vint8mf4x2_t dest, size_t index,
                                          vint8mf4_t value);
vint8mf4x3_t __riscv_vset_v_i8mf4_i8mf4x3(vint8mf4x3_t dest, size_t index,
                                          vint8mf4_t value);
vint8mf4x4_t __riscv_vset_v_i8mf4_i8mf4x4(vint8mf4x4_t dest, size_t index,
                                          vint8mf4_t value);
vint8mf4x5_t __riscv_vset_v_i8mf4_i8mf4x5(vint8mf4x5_t dest, size_t index,
                                          vint8mf4_t value);
vint8mf4x6_t __riscv_vset_v_i8mf4_i8mf4x6(vint8mf4x6_t dest, size_t index,
                                          vint8mf4_t value);
vint8mf4x7_t __riscv_vset_v_i8mf4_i8mf4x7(vint8mf4x7_t dest, size_t index,
                                          vint8mf4_t value);
vint8mf4x8_t __riscv_vset_v_i8mf4_i8mf4x8(vint8mf4x8_t dest, size_t index,
                                          vint8mf4_t value);
vint8mf2x2_t __riscv_vset_v_i8mf2_i8mf2x2(vint8mf2x2_t dest, size_t index,
                                          vint8mf2_t value);
vint8mf2x3_t __riscv_vset_v_i8mf2_i8mf2x3(vint8mf2x3_t dest, size_t index,
                                          vint8mf2_t value);
vint8mf2x4_t __riscv_vset_v_i8mf2_i8mf2x4(vint8mf2x4_t dest, size_t index,
                                          vint8mf2_t value);
vint8mf2x5_t __riscv_vset_v_i8mf2_i8mf2x5(vint8mf2x5_t dest, size_t index,
                                          vint8mf2_t value);
vint8mf2x6_t __riscv_vset_v_i8mf2_i8mf2x6(vint8mf2x6_t dest, size_t index,
                                          vint8mf2_t value);
vint8mf2x7_t __riscv_vset_v_i8mf2_i8mf2x7(vint8mf2x7_t dest, size_t index,
                                          vint8mf2_t value);
vint8mf2x8_t __riscv_vset_v_i8mf2_i8mf2x8(vint8mf2x8_t dest, size_t index,
                                          vint8mf2_t value);
vint8m1x2_t __riscv_vset_v_i8m1_i8m1x2(vint8m1x2_t dest, size_t index,
                                       vint8m1_t value);
vint8m1x3_t __riscv_vset_v_i8m1_i8m1x3(vint8m1x3_t dest, size_t index,
                                       vint8m1_t value);
vint8m1x4_t __riscv_vset_v_i8m1_i8m1x4(vint8m1x4_t dest, size_t index,
                                       vint8m1_t value);
vint8m1x5_t __riscv_vset_v_i8m1_i8m1x5(vint8m1x5_t dest, size_t index,
                                       vint8m1_t value);
vint8m1x6_t __riscv_vset_v_i8m1_i8m1x6(vint8m1x6_t dest, size_t index,
                                       vint8m1_t value);
vint8m1x7_t __riscv_vset_v_i8m1_i8m1x7(vint8m1x7_t dest, size_t index,
                                       vint8m1_t value);
vint8m1x8_t __riscv_vset_v_i8m1_i8m1x8(vint8m1x8_t dest, size_t index,
                                       vint8m1_t value);
vint8m2x2_t __riscv_vset_v_i8m2_i8m2x2(vint8m2x2_t dest, size_t index,
```

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                                        vint8m2_t value);
vint8m2x3_t __riscv_vset_v_i8m2_i8m2x3(vint8m2x3_t dest, size_t index,
                                        vint8m2_t value);
vint8m2x4_t __riscv_vset_v_i8m2_i8m2x4(vint8m2x4_t dest, size_t index,
                                        vint8m2_t value);
vint8m4x2_t __riscv_vset_v_i8m4_i8m4x2(vint8m4x2_t dest, size_t index,
                                        vint8m4_t value);
vint16mf4x2_t __riscv_vset_v_i16mf4_i16mf4x2(vint16mf4x2_t dest, size_t index,
                                             vint16mf4_t value);
vint16mf4x3_t __riscv_vset_v_i16mf4_i16mf4x3(vint16mf4x3_t dest, size_t index,
                                             vint16mf4_t value);
vint16mf4x4_t __riscv_vset_v_i16mf4_i16mf4x4(vint16mf4x4_t dest, size_t index,
                                             vint16mf4_t value);
vint16mf4x5_t __riscv_vset_v_i16mf4_i16mf4x5(vint16mf4x5_t dest, size_t index,
                                             vint16mf4_t value);
vint16mf4x6_t __riscv_vset_v_i16mf4_i16mf4x6(vint16mf4x6_t dest, size_t index,
                                             vint16mf4_t value);
vint16mf4x7_t __riscv_vset_v_i16mf4_i16mf4x7(vint16mf4x7_t dest, size_t index,
                                             vint16mf4_t value);
vint16mf4x8_t __riscv_vset_v_i16mf4_i16mf4x8(vint16mf4x8_t dest, size_t index,
                                             vint16mf4_t value);
vint16mf2x2_t __riscv_vset_v_i16mf2_i16mf2x2(vint16mf2x2_t dest, size_t index,
                                             vint16mf2_t value);
vint16mf2x3_t __riscv_vset_v_i16mf2_i16mf2x3(vint16mf2x3_t dest, size_t index,
                                             vint16mf2_t value);
vint16mf2x4_t __riscv_vset_v_i16mf2_i16mf2x4(vint16mf2x4_t dest, size_t index,
                                             vint16mf2_t value);
vint16mf2x5_t __riscv_vset_v_i16mf2_i16mf2x5(vint16mf2x5_t dest, size_t index,
                                             vint16mf2_t value);
vint16mf2x6_t __riscv_vset_v_i16mf2_i16mf2x6(vint16mf2x6_t dest, size_t index,
                                             vint16mf2_t value);
vint16mf2x7_t __riscv_vset_v_i16mf2_i16mf2x7(vint16mf2x7_t dest, size_t index,
                                             vint16mf2_t value);
vint16mf2x8_t __riscv_vset_v_i16mf2_i16mf2x8(vint16mf2x8_t dest, size_t index,
                                             vint16mf2_t value);
vint16m1x2_t __riscv_vset_v_i16m1_i16m1x2(vint16m1x2_t dest, size_t index,
                                          vint16m1_t value);
vint16m1x3_t __riscv_vset_v_i16m1_i16m1x3(vint16m1x3_t dest, size_t index,
                                          vint16m1_t value);
vint16m1x4_t __riscv_vset_v_i16m1_i16m1x4(vint16m1x4_t dest, size_t index,
                                          vint16m1_t value);
vint16m1x5_t __riscv_vset_v_i16m1_i16m1x5(vint16m1x5_t dest, size_t index,
                                          vint16m1_t value);
vint16m1x6_t __riscv_vset_v_i16m1_i16m1x6(vint16m1x6_t dest, size_t index,
                                          vint16m1_t value);
vint16m1x7_t __riscv_vset_v_i16m1_i16m1x7(vint16m1x7_t dest, size_t index,
                                          vint16m1_t value);
vint16m1x8_t __riscv_vset_v_i16m1_i16m1x8(vint16m1x8_t dest, size_t index,
                                          vint16m1_t value);
vint16m2x2_t __riscv_vset_v_i16m2_i16m2x2(vint16m2x2_t dest, size_t index,
                                          vint16m2_t value);
vint16m2x3_t __riscv_vset_v_i16m2_i16m2x3(vint16m2x3_t dest, size_t index,
                                          vint16m2_t value);
vint16m2x4_t __riscv_vset_v_i16m2_i16m2x4(vint16m2x4_t dest, size_t index,
                                          vint16m2_t value);
vint16m4x2_t __riscv_vset_v_i16m4_i16m4x2(vint16m4x2_t dest, size_t index,
                                          vint16m4_t value);
vint32mf2x2_t __riscv_vset_v_i32mf2_i32mf2x2(vint32mf2x2_t dest, size_t index,
                                             vint32mf2_t value);
vint32mf2x3_t __riscv_vset_v_i32mf2_i32mf2x3(vint32mf2x3_t dest, size_t index,
                                             vint32mf2_t value);
vint32mf2x4_t __riscv_vset_v_i32mf2_i32mf2x4(vint32mf2x4_t dest, size_t index,
                                             vint32mf2_t value);
vint32mf2x5_t __riscv_vset_v_i32mf2_i32mf2x5(vint32mf2x5_t dest, size_t index,
                                             vint32mf2_t value);
vint32mf2x6_t __riscv_vset_v_i32mf2_i32mf2x6(vint32mf2x6_t dest, size_t index,
                                             vint32mf2_t value);
```

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vint32mf2x7_t __riscv_vset_v_i32mf2_i32mf2x7(vint32mf2x7_t dest, size_t index,
                                             vint32mf2_t value);
vint32mf2x8_t __riscv_vset_v_i32mf2_i32mf2x8(vint32mf2x8_t dest, size_t index,
                                             vint32mf2_t value);
vint32m1x2_t __riscv_vset_v_i32m1_i32m1x2(vint32m1x2_t dest, size_t index,
                                          vint32m1_t value);
vint32m1x3_t __riscv_vset_v_i32m1_i32m1x3(vint32m1x3_t dest, size_t index,
                                          vint32m1_t value);
vint32m1x4_t __riscv_vset_v_i32m1_i32m1x4(vint32m1x4_t dest, size_t index,
                                          vint32m1_t value);
vint32m1x5_t __riscv_vset_v_i32m1_i32m1x5(vint32m1x5_t dest, size_t index,
                                          vint32m1_t value);
vint32m1x6_t __riscv_vset_v_i32m1_i32m1x6(vint32m1x6_t dest, size_t index,
                                          vint32m1_t value);
vint32m1x7_t __riscv_vset_v_i32m1_i32m1x7(vint32m1x7_t dest, size_t index,
                                          vint32m1_t value);
vint32m1x8_t __riscv_vset_v_i32m1_i32m1x8(vint32m1x8_t dest, size_t index,
                                          vint32m1_t value);
vint32m2x2_t __riscv_vset_v_i32m2_i32m2x2(vint32m2x2_t dest, size_t index,
                                          vint32m2_t value);
vint32m2x3_t __riscv_vset_v_i32m2_i32m2x3(vint32m2x3_t dest, size_t index,
                                          vint32m2_t value);
vint32m2x4_t __riscv_vset_v_i32m2_i32m2x4(vint32m2x4_t dest, size_t index,
                                          vint32m2_t value);
vint32m4x2_t __riscv_vset_v_i32m4_i32m4x2(vint32m4x2_t dest, size_t index,
                                          vint32m4_t value);
vint64m1x2_t __riscv_vset_v_i64m1_i64m1x2(vint64m1x2_t dest, size_t index,
                                          vint64m1_t value);
vint64m1x3_t __riscv_vset_v_i64m1_i64m1x3(vint64m1x3_t dest, size_t index,
                                          vint64m1_t value);
vint64m1x4_t __riscv_vset_v_i64m1_i64m1x4(vint64m1x4_t dest, size_t index,
                                          vint64m1_t value);
vint64m1x5_t __riscv_vset_v_i64m1_i64m1x5(vint64m1x5_t dest, size_t index,
                                          vint64m1_t value);
vint64m1x6_t __riscv_vset_v_i64m1_i64m1x6(vint64m1x6_t dest, size_t index,
                                          vint64m1_t value);
vint64m1x7_t __riscv_vset_v_i64m1_i64m1x7(vint64m1x7_t dest, size_t index,
                                          vint64m1_t value);
vint64m1x8_t __riscv_vset_v_i64m1_i64m1x8(vint64m1x8_t dest, size_t index,
                                          vint64m1_t value);
vint64m2x2_t __riscv_vset_v_i64m2_i64m2x2(vint64m2x2_t dest, size_t index,
                                          vint64m2_t value);
vint64m2x3_t __riscv_vset_v_i64m2_i64m2x3(vint64m2x3_t dest, size_t index,
                                          vint64m2_t value);
vint64m2x4_t __riscv_vset_v_i64m2_i64m2x4(vint64m2x4_t dest, size_t index,
                                          vint64m2_t value);
vint64m4x2_t __riscv_vset_v_i64m4_i64m4x2(vint64m4x2_t dest, size_t index,
                                          vint64m4_t value);
vuint8mf8x2_t __riscv_vset_v_u8mf8_u8mf8x2(vuint8mf8x2_t dest, size_t index,
                                           vuint8mf8_t value);
vuint8mf8x3_t __riscv_vset_v_u8mf8_u8mf8x3(vuint8mf8x3_t dest, size_t index,
                                           vuint8mf8_t value);
vuint8mf8x4_t __riscv_vset_v_u8mf8_u8mf8x4(vuint8mf8x4_t dest, size_t index,
                                           vuint8mf8_t value);
vuint8mf8x5_t __riscv_vset_v_u8mf8_u8mf8x5(vuint8mf8x5_t dest, size_t index,
                                           vuint8mf8_t value);
vuint8mf8x6_t __riscv_vset_v_u8mf8_u8mf8x6(vuint8mf8x6_t dest, size_t index,
                                           vuint8mf8_t value);
vuint8mf8x7_t __riscv_vset_v_u8mf8_u8mf8x7(vuint8mf8x7_t dest, size_t index,
                                           vuint8mf8_t value);
vuint8mf8x8_t __riscv_vset_v_u8mf8_u8mf8x8(vuint8mf8x8_t dest, size_t index,
                                           vuint8mf8_t value);
vuint8mf4x2_t __riscv_vset_v_u8mf4_u8mf4x2(vuint8mf4x2_t dest, size_t index,
                                           vuint8mf4_t value);
vuint8mf4x3_t __riscv_vset_v_u8mf4_u8mf4x3(vuint8mf4x3_t dest, size_t index,
                                           vuint8mf4_t value);
vuint8mf4x4_t __riscv_vset_v_u8mf4_u8mf4x4(vuint8mf4x4_t dest, size_t index,
```

```
                                          vuint8mf4_t value);
vuint8mf4x5_t __riscv_vset_v_u8mf4_u8mf4x5(vuint8mf4x5_t dest, size_t index,
                                          vuint8mf4_t value);
vuint8mf4x6_t __riscv_vset_v_u8mf4_u8mf4x6(vuint8mf4x6_t dest, size_t index,
                                          vuint8mf4_t value);
vuint8mf4x7_t __riscv_vset_v_u8mf4_u8mf4x7(vuint8mf4x7_t dest, size_t index,
                                          vuint8mf4_t value);
vuint8mf4x8_t __riscv_vset_v_u8mf4_u8mf4x8(vuint8mf4x8_t dest, size_t index,
                                          vuint8mf4_t value);
vuint8mf2x2_t __riscv_vset_v_u8mf2_u8mf2x2(vuint8mf2x2_t dest, size_t index,
                                          vuint8mf2_t value);
vuint8mf2x3_t __riscv_vset_v_u8mf2_u8mf2x3(vuint8mf2x3_t dest, size_t index,
                                          vuint8mf2_t value);
vuint8mf2x4_t __riscv_vset_v_u8mf2_u8mf2x4(vuint8mf2x4_t dest, size_t index,
                                          vuint8mf2_t value);
vuint8mf2x5_t __riscv_vset_v_u8mf2_u8mf2x5(vuint8mf2x5_t dest, size_t index,
                                          vuint8mf2_t value);
vuint8mf2x6_t __riscv_vset_v_u8mf2_u8mf2x6(vuint8mf2x6_t dest, size_t index,
                                          vuint8mf2_t value);
vuint8mf2x7_t __riscv_vset_v_u8mf2_u8mf2x7(vuint8mf2x7_t dest, size_t index,
                                          vuint8mf2_t value);
vuint8mf2x8_t __riscv_vset_v_u8mf2_u8mf2x8(vuint8mf2x8_t dest, size_t index,
                                          vuint8mf2_t value);
vuint8m1x2_t __riscv_vset_v_u8m1_u8m1x2(vuint8m1x2_t dest, size_t index,
                                        vuint8m1_t value);
vuint8m1x3_t __riscv_vset_v_u8m1_u8m1x3(vuint8m1x3_t dest, size_t index,
                                        vuint8m1_t value);
vuint8m1x4_t __riscv_vset_v_u8m1_u8m1x4(vuint8m1x4_t dest, size_t index,
                                        vuint8m1_t value);
vuint8m1x5_t __riscv_vset_v_u8m1_u8m1x5(vuint8m1x5_t dest, size_t index,
                                        vuint8m1_t value);
vuint8m1x6_t __riscv_vset_v_u8m1_u8m1x6(vuint8m1x6_t dest, size_t index,
                                        vuint8m1_t value);
vuint8m1x7_t __riscv_vset_v_u8m1_u8m1x7(vuint8m1x7_t dest, size_t index,
                                        vuint8m1_t value);
vuint8m1x8_t __riscv_vset_v_u8m1_u8m1x8(vuint8m1x8_t dest, size_t index,
                                        vuint8m1_t value);
vuint8m2x2_t __riscv_vset_v_u8m2_u8m2x2(vuint8m2x2_t dest, size_t index,
                                        vuint8m2_t value);
vuint8m2x3_t __riscv_vset_v_u8m2_u8m2x3(vuint8m2x3_t dest, size_t index,
                                        vuint8m2_t value);
vuint8m2x4_t __riscv_vset_v_u8m2_u8m2x4(vuint8m2x4_t dest, size_t index,
                                        vuint8m2_t value);
vuint8m4x2_t __riscv_vset_v_u8m4_u8m4x2(vuint8m4x2_t dest, size_t index,
                                        vuint8m4_t value);
vuint16mf4x2_t __riscv_vset_v_u16mf4_u16mf4x2(vuint16mf4x2_t dest, size_t index,
                                              vuint16mf4_t value);
vuint16mf4x3_t __riscv_vset_v_u16mf4_u16mf4x3(vuint16mf4x3_t dest, size_t index,
                                              vuint16mf4_t value);
vuint16mf4x4_t __riscv_vset_v_u16mf4_u16mf4x4(vuint16mf4x4_t dest, size_t index,
                                              vuint16mf4_t value);
vuint16mf4x5_t __riscv_vset_v_u16mf4_u16mf4x5(vuint16mf4x5_t dest, size_t index,
                                              vuint16mf4_t value);
vuint16mf4x6_t __riscv_vset_v_u16mf4_u16mf4x6(vuint16mf4x6_t dest, size_t index,
                                              vuint16mf4_t value);
vuint16mf4x7_t __riscv_vset_v_u16mf4_u16mf4x7(vuint16mf4x7_t dest, size_t index,
                                              vuint16mf4_t value);
vuint16mf4x8_t __riscv_vset_v_u16mf4_u16mf4x8(vuint16mf4x8_t dest, size_t index,
                                              vuint16mf4_t value);
vuint16mf2x2_t __riscv_vset_v_u16mf2_u16mf2x2(vuint16mf2x2_t dest, size_t index,
                                              vuint16mf2_t value);
vuint16mf2x3_t __riscv_vset_v_u16mf2_u16mf2x3(vuint16mf2x3_t dest, size_t index,
                                              vuint16mf2_t value);
vuint16mf2x4_t __riscv_vset_v_u16mf2_u16mf2x4(vuint16mf2x4_t dest, size_t index,
                                              vuint16mf2_t value);
vuint16mf2x5_t __riscv_vset_v_u16mf2_u16mf2x5(vuint16mf2x5_t dest, size_t index,
                                              vuint16mf2_t value);
```

```
vuint16mf2x6_t __riscv_vset_v_u16mf2_u16mf2x6(vuint16mf2x6_t dest, size_t index,
                                              vuint16mf2_t value);
vuint16mf2x7_t __riscv_vset_v_u16mf2_u16mf2x7(vuint16mf2x7_t dest, size_t index,
                                              vuint16mf2_t value);
vuint16mf2x8_t __riscv_vset_v_u16mf2_u16mf2x8(vuint16mf2x8_t dest, size_t index,
                                              vuint16mf2_t value);
vuint16m1x2_t __riscv_vset_v_u16m1_u16m1x2(vuint16m1x2_t dest, size_t index,
                                           vuint16m1_t value);
vuint16m1x3_t __riscv_vset_v_u16m1_u16m1x3(vuint16m1x3_t dest, size_t index,
                                           vuint16m1_t value);
vuint16m1x4_t __riscv_vset_v_u16m1_u16m1x4(vuint16m1x4_t dest, size_t index,
                                           vuint16m1_t value);
vuint16m1x5_t __riscv_vset_v_u16m1_u16m1x5(vuint16m1x5_t dest, size_t index,
                                           vuint16m1_t value);
vuint16m1x6_t __riscv_vset_v_u16m1_u16m1x6(vuint16m1x6_t dest, size_t index,
                                           vuint16m1_t value);
vuint16m1x7_t __riscv_vset_v_u16m1_u16m1x7(vuint16m1x7_t dest, size_t index,
                                           vuint16m1_t value);
vuint16m1x8_t __riscv_vset_v_u16m1_u16m1x8(vuint16m1x8_t dest, size_t index,
                                           vuint16m1_t value);
vuint16m2x2_t __riscv_vset_v_u16m2_u16m2x2(vuint16m2x2_t dest, size_t index,
                                           vuint16m2_t value);
vuint16m2x3_t __riscv_vset_v_u16m2_u16m2x3(vuint16m2x3_t dest, size_t index,
                                           vuint16m2_t value);
vuint16m2x4_t __riscv_vset_v_u16m2_u16m2x4(vuint16m2x4_t dest, size_t index,
                                           vuint16m2_t value);
vuint16m4x2_t __riscv_vset_v_u16m4_u16m4x2(vuint16m4x2_t dest, size_t index,
                                           vuint16m4_t value);
vuint32mf2x2_t __riscv_vset_v_u32mf2_u32mf2x2(vuint32mf2x2_t dest, size_t index,
                                              vuint32mf2_t value);
vuint32mf2x3_t __riscv_vset_v_u32mf2_u32mf2x3(vuint32mf2x3_t dest, size_t index,
                                              vuint32mf2_t value);
vuint32mf2x4_t __riscv_vset_v_u32mf2_u32mf2x4(vuint32mf2x4_t dest, size_t index,
                                              vuint32mf2_t value);
vuint32mf2x5_t __riscv_vset_v_u32mf2_u32mf2x5(vuint32mf2x5_t dest, size_t index,
                                              vuint32mf2_t value);
vuint32mf2x6_t __riscv_vset_v_u32mf2_u32mf2x6(vuint32mf2x6_t dest, size_t index,
                                              vuint32mf2_t value);
vuint32mf2x7_t __riscv_vset_v_u32mf2_u32mf2x7(vuint32mf2x7_t dest, size_t index,
                                              vuint32mf2_t value);
vuint32mf2x8_t __riscv_vset_v_u32mf2_u32mf2x8(vuint32mf2x8_t dest, size_t index,
                                              vuint32mf2_t value);
vuint32m1x2_t __riscv_vset_v_u32m1_u32m1x2(vuint32m1x2_t dest, size_t index,
                                           vuint32m1_t value);
vuint32m1x3_t __riscv_vset_v_u32m1_u32m1x3(vuint32m1x3_t dest, size_t index,
                                           vuint32m1_t value);
vuint32m1x4_t __riscv_vset_v_u32m1_u32m1x4(vuint32m1x4_t dest, size_t index,
                                           vuint32m1_t value);
vuint32m1x5_t __riscv_vset_v_u32m1_u32m1x5(vuint32m1x5_t dest, size_t index,
                                           vuint32m1_t value);
vuint32m1x6_t __riscv_vset_v_u32m1_u32m1x6(vuint32m1x6_t dest, size_t index,
                                           vuint32m1_t value);
vuint32m1x7_t __riscv_vset_v_u32m1_u32m1x7(vuint32m1x7_t dest, size_t index,
                                           vuint32m1_t value);
vuint32m1x8_t __riscv_vset_v_u32m1_u32m1x8(vuint32m1x8_t dest, size_t index,
                                           vuint32m1_t value);
vuint32m2x2_t __riscv_vset_v_u32m2_u32m2x2(vuint32m2x2_t dest, size_t index,
                                           vuint32m2_t value);
vuint32m2x3_t __riscv_vset_v_u32m2_u32m2x3(vuint32m2x3_t dest, size_t index,
                                           vuint32m2_t value);
vuint32m2x4_t __riscv_vset_v_u32m2_u32m2x4(vuint32m2x4_t dest, size_t index,
                                           vuint32m2_t value);
vuint32m4x2_t __riscv_vset_v_u32m4_u32m4x2(vuint32m4x2_t dest, size_t index,
                                           vuint32m4_t value);
vuint64m1x2_t __riscv_vset_v_u64m1_u64m1x2(vuint64m1x2_t dest, size_t index,
                                           vuint64m1_t value);
vuint64m1x3_t __riscv_vset_v_u64m1_u64m1x3(vuint64m1x3_t dest, size_t index,
```

```
                                          vuint64m1_t value);
vuint64m1x4_t __riscv_vset_v_u64m1_u64m1x4(vuint64m1x4_t dest, size_t index,
                                          vuint64m1_t value);
vuint64m1x5_t __riscv_vset_v_u64m1_u64m1x5(vuint64m1x5_t dest, size_t index,
                                          vuint64m1_t value);
vuint64m1x6_t __riscv_vset_v_u64m1_u64m1x6(vuint64m1x6_t dest, size_t index,
                                          vuint64m1_t value);
vuint64m1x7_t __riscv_vset_v_u64m1_u64m1x7(vuint64m1x7_t dest, size_t index,
                                          vuint64m1_t value);
vuint64m1x8_t __riscv_vset_v_u64m1_u64m1x8(vuint64m1x8_t dest, size_t index,
                                          vuint64m1_t value);
vuint64m2x2_t __riscv_vset_v_u64m2_u64m2x2(vuint64m2x2_t dest, size_t index,
                                          vuint64m2_t value);
vuint64m2x3_t __riscv_vset_v_u64m2_u64m2x3(vuint64m2x3_t dest, size_t index,
                                          vuint64m2_t value);
vuint64m2x4_t __riscv_vset_v_u64m2_u64m2x4(vuint64m2x4_t dest, size_t index,
                                          vuint64m2_t value);
vuint64m4x2_t __riscv_vset_v_u64m4_u64m4x2(vuint64m4x2_t dest, size_t index,
                                          vuint64m4_t value);
```

A.9.8. Vector Extraction Intrinsics

```
vfloat16m1_t __riscv_vget_v_f16m2_f16m1(vfloat16m2_t src, size_t index);
vfloat16m1_t __riscv_vget_v_f16m4_f16m1(vfloat16m4_t src, size_t index);
vfloat16m1_t __riscv_vget_v_f16m8_f16m1(vfloat16m8_t src, size_t index);
vfloat16m2_t __riscv_vget_v_f16m4_f16m2(vfloat16m4_t src, size_t index);
vfloat16m2_t __riscv_vget_v_f16m8_f16m2(vfloat16m8_t src, size_t index);
vfloat16m4_t __riscv_vget_v_f16m8_f16m4(vfloat16m8_t src, size_t index);
vfloat32m1_t __riscv_vget_v_f32m2_f32m1(vfloat32m2_t src, size_t index);
vfloat32m1_t __riscv_vget_v_f32m4_f32m1(vfloat32m4_t src, size_t index);
vfloat32m1_t __riscv_vget_v_f32m8_f32m1(vfloat32m8_t src, size_t index);
vfloat32m2_t __riscv_vget_v_f32m4_f32m2(vfloat32m4_t src, size_t index);
vfloat32m2_t __riscv_vget_v_f32m8_f32m2(vfloat32m8_t src, size_t index);
vfloat32m4_t __riscv_vget_v_f32m8_f32m4(vfloat32m8_t src, size_t index);
vfloat64m1_t __riscv_vget_v_f64m2_f64m1(vfloat64m2_t src, size_t index);
vfloat64m1_t __riscv_vget_v_f64m4_f64m1(vfloat64m4_t src, size_t index);
vfloat64m1_t __riscv_vget_v_f64m8_f64m1(vfloat64m8_t src, size_t index);
vfloat64m2_t __riscv_vget_v_f64m4_f64m2(vfloat64m4_t src, size_t index);
vfloat64m2_t __riscv_vget_v_f64m8_f64m2(vfloat64m8_t src, size_t index);
vfloat64m4_t __riscv_vget_v_f64m8_f64m4(vfloat64m8_t src, size_t index);
vint8m1_t __riscv_vget_v_i8m2_i8m1(vint8m2_t src, size_t index);
vint8m1_t __riscv_vget_v_i8m4_i8m1(vint8m4_t src, size_t index);
vint8m1_t __riscv_vget_v_i8m8_i8m1(vint8m8_t src, size_t index);
vint8m2_t __riscv_vget_v_i8m4_i8m2(vint8m4_t src, size_t index);
vint8m2_t __riscv_vget_v_i8m8_i8m2(vint8m8_t src, size_t index);
vint8m4_t __riscv_vget_v_i8m8_i8m4(vint8m8_t src, size_t index);
vint16m1_t __riscv_vget_v_i16m2_i16m1(vint16m2_t src, size_t index);
vint16m1_t __riscv_vget_v_i16m4_i16m1(vint16m4_t src, size_t index);
vint16m1_t __riscv_vget_v_i16m8_i16m1(vint16m8_t src, size_t index);
vint16m2_t __riscv_vget_v_i16m4_i16m2(vint16m4_t src, size_t index);
vint16m2_t __riscv_vget_v_i16m8_i16m2(vint16m8_t src, size_t index);
vint16m4_t __riscv_vget_v_i16m8_i16m4(vint16m8_t src, size_t index);
vint32m1_t __riscv_vget_v_i32m2_i32m1(vint32m2_t src, size_t index);
vint32m1_t __riscv_vget_v_i32m4_i32m1(vint32m4_t src, size_t index);
vint32m1_t __riscv_vget_v_i32m8_i32m1(vint32m8_t src, size_t index);
vint32m2_t __riscv_vget_v_i32m4_i32m2(vint32m4_t src, size_t index);
vint32m2_t __riscv_vget_v_i32m8_i32m2(vint32m8_t src, size_t index);
vint32m4_t __riscv_vget_v_i32m8_i32m4(vint32m8_t src, size_t index);
vint64m1_t __riscv_vget_v_i64m2_i64m1(vint64m2_t src, size_t index);
vint64m1_t __riscv_vget_v_i64m4_i64m1(vint64m4_t src, size_t index);
vint64m1_t __riscv_vget_v_i64m8_i64m1(vint64m8_t src, size_t index);
vint64m2_t __riscv_vget_v_i64m4_i64m2(vint64m4_t src, size_t index);
vint64m2_t __riscv_vget_v_i64m8_i64m2(vint64m8_t src, size_t index);
vint64m4_t __riscv_vget_v_i64m8_i64m4(vint64m8_t src, size_t index);
vuint8m1_t __riscv_vget_v_u8m2_u8m1(vuint8m2_t src, size_t index);
```

```
vuint8m1_t __riscv_vget_v_u8m4_u8m1(vuint8m4_t src, size_t index);
vuint8m1_t __riscv_vget_v_u8m8_u8m1(vuint8m8_t src, size_t index);
vuint8m2_t __riscv_vget_v_u8m4_u8m2(vuint8m4_t src, size_t index);
vuint8m2_t __riscv_vget_v_u8m8_u8m2(vuint8m8_t src, size_t index);
vuint8m4_t __riscv_vget_v_u8m8_u8m4(vuint8m8_t src, size_t index);
vuint16m1_t __riscv_vget_v_u16m2_u16m1(vuint16m2_t src, size_t index);
vuint16m1_t __riscv_vget_v_u16m4_u16m1(vuint16m4_t src, size_t index);
vuint16m1_t __riscv_vget_v_u16m8_u16m1(vuint16m8_t src, size_t index);
vuint16m2_t __riscv_vget_v_u16m4_u16m2(vuint16m4_t src, size_t index);
vuint16m2_t __riscv_vget_v_u16m8_u16m2(vuint16m8_t src, size_t index);
vuint16m4_t __riscv_vget_v_u16m8_u16m4(vuint16m8_t src, size_t index);
vuint32m1_t __riscv_vget_v_u32m2_u32m1(vuint32m2_t src, size_t index);
vuint32m1_t __riscv_vget_v_u32m4_u32m1(vuint32m4_t src, size_t index);
vuint32m1_t __riscv_vget_v_u32m8_u32m1(vuint32m8_t src, size_t index);
vuint32m2_t __riscv_vget_v_u32m4_u32m2(vuint32m4_t src, size_t index);
vuint32m2_t __riscv_vget_v_u32m8_u32m2(vuint32m8_t src, size_t index);
vuint32m4_t __riscv_vget_v_u32m8_u32m4(vuint32m8_t src, size_t index);
vuint64m1_t __riscv_vget_v_u64m2_u64m1(vuint64m2_t src, size_t index);
vuint64m1_t __riscv_vget_v_u64m4_u64m1(vuint64m4_t src, size_t index);
vuint64m1_t __riscv_vget_v_u64m8_u64m1(vuint64m8_t src, size_t index);
vuint64m2_t __riscv_vget_v_u64m4_u64m2(vuint64m4_t src, size_t index);
vuint64m2_t __riscv_vget_v_u64m8_u64m2(vuint64m8_t src, size_t index);
vuint64m4_t __riscv_vget_v_u64m8_u64m4(vuint64m8_t src, size_t index);
vfloat16mf4_t __riscv_vget_v_f16mf4x2_f16mf4(vfloat16mf4x2_t src, size_t index);
vfloat16mf4_t __riscv_vget_v_f16mf4x3_f16mf4(vfloat16mf4x3_t src, size_t index);
vfloat16mf4_t __riscv_vget_v_f16mf4x4_f16mf4(vfloat16mf4x4_t src, size_t index);
vfloat16mf4_t __riscv_vget_v_f16mf4x5_f16mf4(vfloat16mf4x5_t src, size_t index);
vfloat16mf4_t __riscv_vget_v_f16mf4x6_f16mf4(vfloat16mf4x6_t src, size_t index);
vfloat16mf4_t __riscv_vget_v_f16mf4x7_f16mf4(vfloat16mf4x7_t src, size_t index);
vfloat16mf4_t __riscv_vget_v_f16mf4x8_f16mf4(vfloat16mf4x8_t src, size_t index);
vfloat16mf2_t __riscv_vget_v_f16mf2x2_f16mf2(vfloat16mf2x2_t src, size_t index);
vfloat16mf2_t __riscv_vget_v_f16mf2x3_f16mf2(vfloat16mf2x3_t src, size_t index);
vfloat16mf2_t __riscv_vget_v_f16mf2x4_f16mf2(vfloat16mf2x4_t src, size_t index);
vfloat16mf2_t __riscv_vget_v_f16mf2x5_f16mf2(vfloat16mf2x5_t src, size_t index);
vfloat16mf2_t __riscv_vget_v_f16mf2x6_f16mf2(vfloat16mf2x6_t src, size_t index);
vfloat16mf2_t __riscv_vget_v_f16mf2x7_f16mf2(vfloat16mf2x7_t src, size_t index);
vfloat16mf2_t __riscv_vget_v_f16mf2x8_f16mf2(vfloat16mf2x8_t src, size_t index);
vfloat16m1_t __riscv_vget_v_f16m1x2_f16m1(vfloat16m1x2_t src, size_t index);
vfloat16m1_t __riscv_vget_v_f16m1x3_f16m1(vfloat16m1x3_t src, size_t index);
vfloat16m1_t __riscv_vget_v_f16m1x4_f16m1(vfloat16m1x4_t src, size_t index);
vfloat16m1_t __riscv_vget_v_f16m1x5_f16m1(vfloat16m1x5_t src, size_t index);
vfloat16m1_t __riscv_vget_v_f16m1x6_f16m1(vfloat16m1x6_t src, size_t index);
vfloat16m1_t __riscv_vget_v_f16m1x7_f16m1(vfloat16m1x7_t src, size_t index);
vfloat16m1_t __riscv_vget_v_f16m1x8_f16m1(vfloat16m1x8_t src, size_t index);
vfloat16m2_t __riscv_vget_v_f16m2x2_f16m2(vfloat16m2x2_t src, size_t index);
vfloat16m2_t __riscv_vget_v_f16m2x3_f16m2(vfloat16m2x3_t src, size_t index);
vfloat16m2_t __riscv_vget_v_f16m2x4_f16m2(vfloat16m2x4_t src, size_t index);
vfloat16m4_t __riscv_vget_v_f16m4x2_f16m4(vfloat16m4x2_t src, size_t index);
vfloat32mf2_t __riscv_vget_v_f32mf2x2_f32mf2(vfloat32mf2x2_t src, size_t index);
vfloat32mf2_t __riscv_vget_v_f32mf2x3_f32mf2(vfloat32mf2x3_t src, size_t index);
vfloat32mf2_t __riscv_vget_v_f32mf2x4_f32mf2(vfloat32mf2x4_t src, size_t index);
vfloat32mf2_t __riscv_vget_v_f32mf2x5_f32mf2(vfloat32mf2x5_t src, size_t index);
vfloat32mf2_t __riscv_vget_v_f32mf2x6_f32mf2(vfloat32mf2x6_t src, size_t index);
vfloat32mf2_t __riscv_vget_v_f32mf2x7_f32mf2(vfloat32mf2x7_t src, size_t index);
vfloat32mf2_t __riscv_vget_v_f32mf2x8_f32mf2(vfloat32mf2x8_t src, size_t index);
vfloat32m1_t __riscv_vget_v_f32m1x2_f32m1(vfloat32m1x2_t src, size_t index);
vfloat32m1_t __riscv_vget_v_f32m1x3_f32m1(vfloat32m1x3_t src, size_t index);
vfloat32m1_t __riscv_vget_v_f32m1x4_f32m1(vfloat32m1x4_t src, size_t index);
vfloat32m1_t __riscv_vget_v_f32m1x5_f32m1(vfloat32m1x5_t src, size_t index);
vfloat32m1_t __riscv_vget_v_f32m1x6_f32m1(vfloat32m1x6_t src, size_t index);
vfloat32m1_t __riscv_vget_v_f32m1x7_f32m1(vfloat32m1x7_t src, size_t index);
vfloat32m1_t __riscv_vget_v_f32m1x8_f32m1(vfloat32m1x8_t src, size_t index);
vfloat32m2_t __riscv_vget_v_f32m2x2_f32m2(vfloat32m2x2_t src, size_t index);
vfloat32m2_t __riscv_vget_v_f32m2x3_f32m2(vfloat32m2x3_t src, size_t index);
vfloat32m2_t __riscv_vget_v_f32m2x4_f32m2(vfloat32m2x4_t src, size_t index);
vfloat32m4_t __riscv_vget_v_f32m4x2_f32m4(vfloat32m4x2_t src, size_t index);
vfloat64m1_t __riscv_vget_v_f64m1x2_f64m1(vfloat64m1x2_t src, size_t index);
```

```
vfloat64m1_t __riscv_vget_v_f64m1x3_f64m1(vfloat64m1x3_t src, size_t index);
vfloat64m1_t __riscv_vget_v_f64m1x4_f64m1(vfloat64m1x4_t src, size_t index);
vfloat64m1_t __riscv_vget_v_f64m1x5_f64m1(vfloat64m1x5_t src, size_t index);
vfloat64m1_t __riscv_vget_v_f64m1x6_f64m1(vfloat64m1x6_t src, size_t index);
vfloat64m1_t __riscv_vget_v_f64m1x7_f64m1(vfloat64m1x7_t src, size_t index);
vfloat64m1_t __riscv_vget_v_f64m1x8_f64m1(vfloat64m1x8_t src, size_t index);
vfloat64m2_t __riscv_vget_v_f64m2x2_f64m2(vfloat64m2x2_t src, size_t index);
vfloat64m2_t __riscv_vget_v_f64m2x3_f64m2(vfloat64m2x3_t src, size_t index);
vfloat64m2_t __riscv_vget_v_f64m2x4_f64m2(vfloat64m2x4_t src, size_t index);
vfloat64m4_t __riscv_vget_v_f64m4x2_f64m4(vfloat64m4x2_t src, size_t index);
vint8mf8_t __riscv_vget_v_i8mf8x2_i8mf8(vint8mf8x2_t src, size_t index);
vint8mf8_t __riscv_vget_v_i8mf8x3_i8mf8(vint8mf8x3_t src, size_t index);
vint8mf8_t __riscv_vget_v_i8mf8x4_i8mf8(vint8mf8x4_t src, size_t index);
vint8mf8_t __riscv_vget_v_i8mf8x5_i8mf8(vint8mf8x5_t src, size_t index);
vint8mf8_t __riscv_vget_v_i8mf8x6_i8mf8(vint8mf8x6_t src, size_t index);
vint8mf8_t __riscv_vget_v_i8mf8x7_i8mf8(vint8mf8x7_t src, size_t index);
vint8mf8_t __riscv_vget_v_i8mf8x8_i8mf8(vint8mf8x8_t src, size_t index);
vint8mf4_t __riscv_vget_v_i8mf4x2_i8mf4(vint8mf4x2_t src, size_t index);
vint8mf4_t __riscv_vget_v_i8mf4x3_i8mf4(vint8mf4x3_t src, size_t index);
vint8mf4_t __riscv_vget_v_i8mf4x4_i8mf4(vint8mf4x4_t src, size_t index);
vint8mf4_t __riscv_vget_v_i8mf4x5_i8mf4(vint8mf4x5_t src, size_t index);
vint8mf4_t __riscv_vget_v_i8mf4x6_i8mf4(vint8mf4x6_t src, size_t index);
vint8mf4_t __riscv_vget_v_i8mf4x7_i8mf4(vint8mf4x7_t src, size_t index);
vint8mf4_t __riscv_vget_v_i8mf4x8_i8mf4(vint8mf4x8_t src, size_t index);
vint8mf2_t __riscv_vget_v_i8mf2x2_i8mf2(vint8mf2x2_t src, size_t index);
vint8mf2_t __riscv_vget_v_i8mf2x3_i8mf2(vint8mf2x3_t src, size_t index);
vint8mf2_t __riscv_vget_v_i8mf2x4_i8mf2(vint8mf2x4_t src, size_t index);
vint8mf2_t __riscv_vget_v_i8mf2x5_i8mf2(vint8mf2x5_t src, size_t index);
vint8mf2_t __riscv_vget_v_i8mf2x6_i8mf2(vint8mf2x6_t src, size_t index);
vint8mf2_t __riscv_vget_v_i8mf2x7_i8mf2(vint8mf2x7_t src, size_t index);
vint8mf2_t __riscv_vget_v_i8mf2x8_i8mf2(vint8mf2x8_t src, size_t index);
vint8m1_t __riscv_vget_v_i8m1x2_i8m1(vint8m1x2_t src, size_t index);
vint8m1_t __riscv_vget_v_i8m1x3_i8m1(vint8m1x3_t src, size_t index);
vint8m1_t __riscv_vget_v_i8m1x4_i8m1(vint8m1x4_t src, size_t index);
vint8m1_t __riscv_vget_v_i8m1x5_i8m1(vint8m1x5_t src, size_t index);
vint8m1_t __riscv_vget_v_i8m1x6_i8m1(vint8m1x6_t src, size_t index);
vint8m1_t __riscv_vget_v_i8m1x7_i8m1(vint8m1x7_t src, size_t index);
vint8m1_t __riscv_vget_v_i8m1x8_i8m1(vint8m1x8_t src, size_t index);
vint8m2_t __riscv_vget_v_i8m2x2_i8m2(vint8m2x2_t src, size_t index);
vint8m2_t __riscv_vget_v_i8m2x3_i8m2(vint8m2x3_t src, size_t index);
vint8m2_t __riscv_vget_v_i8m2x4_i8m2(vint8m2x4_t src, size_t index);
vint8m4_t __riscv_vget_v_i8m4x2_i8m4(vint8m4x2_t src, size_t index);
vint16mf4_t __riscv_vget_v_i16mf4x2_i16mf4(vint16mf4x2_t src, size_t index);
vint16mf4_t __riscv_vget_v_i16mf4x3_i16mf4(vint16mf4x3_t src, size_t index);
vint16mf4_t __riscv_vget_v_i16mf4x4_i16mf4(vint16mf4x4_t src, size_t index);
vint16mf4_t __riscv_vget_v_i16mf4x5_i16mf4(vint16mf4x5_t src, size_t index);
vint16mf4_t __riscv_vget_v_i16mf4x6_i16mf4(vint16mf4x6_t src, size_t index);
vint16mf4_t __riscv_vget_v_i16mf4x7_i16mf4(vint16mf4x7_t src, size_t index);
vint16mf4_t __riscv_vget_v_i16mf4x8_i16mf4(vint16mf4x8_t src, size_t index);
vint16mf2_t __riscv_vget_v_i16mf2x2_i16mf2(vint16mf2x2_t src, size_t index);
vint16mf2_t __riscv_vget_v_i16mf2x3_i16mf2(vint16mf2x3_t src, size_t index);
vint16mf2_t __riscv_vget_v_i16mf2x4_i16mf2(vint16mf2x4_t src, size_t index);
vint16mf2_t __riscv_vget_v_i16mf2x5_i16mf2(vint16mf2x5_t src, size_t index);
vint16mf2_t __riscv_vget_v_i16mf2x6_i16mf2(vint16mf2x6_t src, size_t index);
vint16mf2_t __riscv_vget_v_i16mf2x7_i16mf2(vint16mf2x7_t src, size_t index);
vint16mf2_t __riscv_vget_v_i16mf2x8_i16mf2(vint16mf2x8_t src, size_t index);
vint16m1_t __riscv_vget_v_i16m1x2_i16m1(vint16m1x2_t src, size_t index);
vint16m1_t __riscv_vget_v_i16m1x3_i16m1(vint16m1x3_t src, size_t index);
vint16m1_t __riscv_vget_v_i16m1x4_i16m1(vint16m1x4_t src, size_t index);
vint16m1_t __riscv_vget_v_i16m1x5_i16m1(vint16m1x5_t src, size_t index);
vint16m1_t __riscv_vget_v_i16m1x6_i16m1(vint16m1x6_t src, size_t index);
vint16m1_t __riscv_vget_v_i16m1x7_i16m1(vint16m1x7_t src, size_t index);
vint16m1_t __riscv_vget_v_i16m1x8_i16m1(vint16m1x8_t src, size_t index);
vint16m2_t __riscv_vget_v_i16m2x2_i16m2(vint16m2x2_t src, size_t index);
vint16m2_t __riscv_vget_v_i16m2x3_i16m2(vint16m2x3_t src, size_t index);
vint16m2_t __riscv_vget_v_i16m2x4_i16m2(vint16m2x4_t src, size_t index);
vint16m4_t __riscv_vget_v_i16m4x2_i16m4(vint16m4x2_t src, size_t index);
```

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vint32mf2_t __riscv_vget_v_i32mf2x2_i32mf2(vint32mf2x2_t src, size_t index);
vint32mf2_t __riscv_vget_v_i32mf2x3_i32mf2(vint32mf2x3_t src, size_t index);
vint32mf2_t __riscv_vget_v_i32mf2x4_i32mf2(vint32mf2x4_t src, size_t index);
vint32mf2_t __riscv_vget_v_i32mf2x5_i32mf2(vint32mf2x5_t src, size_t index);
vint32mf2_t __riscv_vget_v_i32mf2x6_i32mf2(vint32mf2x6_t src, size_t index);
vint32mf2_t __riscv_vget_v_i32mf2x7_i32mf2(vint32mf2x7_t src, size_t index);
vint32mf2_t __riscv_vget_v_i32mf2x8_i32mf2(vint32mf2x8_t src, size_t index);
vint32m1_t __riscv_vget_v_i32m1x2_i32m1(vint32m1x2_t src, size_t index);
vint32m1_t __riscv_vget_v_i32m1x3_i32m1(vint32m1x3_t src, size_t index);
vint32m1_t __riscv_vget_v_i32m1x4_i32m1(vint32m1x4_t src, size_t index);
vint32m1_t __riscv_vget_v_i32m1x5_i32m1(vint32m1x5_t src, size_t index);
vint32m1_t __riscv_vget_v_i32m1x6_i32m1(vint32m1x6_t src, size_t index);
vint32m1_t __riscv_vget_v_i32m1x7_i32m1(vint32m1x7_t src, size_t index);
vint32m1_t __riscv_vget_v_i32m1x8_i32m1(vint32m1x8_t src, size_t index);
vint32m2_t __riscv_vget_v_i32m2x2_i32m2(vint32m2x2_t src, size_t index);
vint32m2_t __riscv_vget_v_i32m2x3_i32m2(vint32m2x3_t src, size_t index);
vint32m2_t __riscv_vget_v_i32m2x4_i32m2(vint32m2x4_t src, size_t index);
vint32m4_t __riscv_vget_v_i32m4x2_i32m4(vint32m4x2_t src, size_t index);
vint64m1_t __riscv_vget_v_i64m1x2_i64m1(vint64m1x2_t src, size_t index);
vint64m1_t __riscv_vget_v_i64m1x3_i64m1(vint64m1x3_t src, size_t index);
vint64m1_t __riscv_vget_v_i64m1x4_i64m1(vint64m1x4_t src, size_t index);
vint64m1_t __riscv_vget_v_i64m1x5_i64m1(vint64m1x5_t src, size_t index);
vint64m1_t __riscv_vget_v_i64m1x6_i64m1(vint64m1x6_t src, size_t index);
vint64m1_t __riscv_vget_v_i64m1x7_i64m1(vint64m1x7_t src, size_t index);
vint64m1_t __riscv_vget_v_i64m1x8_i64m1(vint64m1x8_t src, size_t index);
vint64m2_t __riscv_vget_v_i64m2x2_i64m2(vint64m2x2_t src, size_t index);
vint64m2_t __riscv_vget_v_i64m2x3_i64m2(vint64m2x3_t src, size_t index);
vint64m2_t __riscv_vget_v_i64m2x4_i64m2(vint64m2x4_t src, size_t index);
vint64m4_t __riscv_vget_v_i64m4x2_i64m4(vint64m4x2_t src, size_t index);
vuint8mf8_t __riscv_vget_v_u8mf8x2_u8mf8(vuint8mf8x2_t src, size_t index);
vuint8mf8_t __riscv_vget_v_u8mf8x3_u8mf8(vuint8mf8x3_t src, size_t index);
vuint8mf8_t __riscv_vget_v_u8mf8x4_u8mf8(vuint8mf8x4_t src, size_t index);
vuint8mf8_t __riscv_vget_v_u8mf8x5_u8mf8(vuint8mf8x5_t src, size_t index);
vuint8mf8_t __riscv_vget_v_u8mf8x6_u8mf8(vuint8mf8x6_t src, size_t index);
vuint8mf8_t __riscv_vget_v_u8mf8x7_u8mf8(vuint8mf8x7_t src, size_t index);
vuint8mf8_t __riscv_vget_v_u8mf8x8_u8mf8(vuint8mf8x8_t src, size_t index);
vuint8mf4_t __riscv_vget_v_u8mf4x2_u8mf4(vuint8mf4x2_t src, size_t index);
vuint8mf4_t __riscv_vget_v_u8mf4x3_u8mf4(vuint8mf4x3_t src, size_t index);
vuint8mf4_t __riscv_vget_v_u8mf4x4_u8mf4(vuint8mf4x4_t src, size_t index);
vuint8mf4_t __riscv_vget_v_u8mf4x5_u8mf4(vuint8mf4x5_t src, size_t index);
vuint8mf4_t __riscv_vget_v_u8mf4x6_u8mf4(vuint8mf4x6_t src, size_t index);
vuint8mf4_t __riscv_vget_v_u8mf4x7_u8mf4(vuint8mf4x7_t src, size_t index);
vuint8mf4_t __riscv_vget_v_u8mf4x8_u8mf4(vuint8mf4x8_t src, size_t index);
vuint8mf2_t __riscv_vget_v_u8mf2x2_u8mf2(vuint8mf2x2_t src, size_t index);
vuint8mf2_t __riscv_vget_v_u8mf2x3_u8mf2(vuint8mf2x3_t src, size_t index);
vuint8mf2_t __riscv_vget_v_u8mf2x4_u8mf2(vuint8mf2x4_t src, size_t index);
vuint8mf2_t __riscv_vget_v_u8mf2x5_u8mf2(vuint8mf2x5_t src, size_t index);
vuint8mf2_t __riscv_vget_v_u8mf2x6_u8mf2(vuint8mf2x6_t src, size_t index);
vuint8mf2_t __riscv_vget_v_u8mf2x7_u8mf2(vuint8mf2x7_t src, size_t index);
vuint8mf2_t __riscv_vget_v_u8mf2x8_u8mf2(vuint8mf2x8_t src, size_t index);
vuint8m1_t __riscv_vget_v_u8m1x2_u8m1(vuint8m1x2_t src, size_t index);
vuint8m1_t __riscv_vget_v_u8m1x3_u8m1(vuint8m1x3_t src, size_t index);
vuint8m1_t __riscv_vget_v_u8m1x4_u8m1(vuint8m1x4_t src, size_t index);
vuint8m1_t __riscv_vget_v_u8m1x5_u8m1(vuint8m1x5_t src, size_t index);
vuint8m1_t __riscv_vget_v_u8m1x6_u8m1(vuint8m1x6_t src, size_t index);
vuint8m1_t __riscv_vget_v_u8m1x7_u8m1(vuint8m1x7_t src, size_t index);
vuint8m1_t __riscv_vget_v_u8m1x8_u8m1(vuint8m1x8_t src, size_t index);
vuint8m2_t __riscv_vget_v_u8m2x2_u8m2(vuint8m2x2_t src, size_t index);
vuint8m2_t __riscv_vget_v_u8m2x3_u8m2(vuint8m2x3_t src, size_t index);
vuint8m2_t __riscv_vget_v_u8m2x4_u8m2(vuint8m2x4_t src, size_t index);
vuint8m4_t __riscv_vget_v_u8m4x2_u8m4(vuint8m4x2_t src, size_t index);
vuint16mf4_t __riscv_vget_v_u16mf4x2_u16mf4(vuint16mf4x2_t src, size_t index);
vuint16mf4_t __riscv_vget_v_u16mf4x3_u16mf4(vuint16mf4x3_t src, size_t index);
vuint16mf4_t __riscv_vget_v_u16mf4x4_u16mf4(vuint16mf4x4_t src, size_t index);
vuint16mf4_t __riscv_vget_v_u16mf4x5_u16mf4(vuint16mf4x5_t src, size_t index);
vuint16mf4_t __riscv_vget_v_u16mf4x6_u16mf4(vuint16mf4x6_t src, size_t index);
vuint16mf4_t __riscv_vget_v_u16mf4x7_u16mf4(vuint16mf4x7_t src, size_t index);
```

```
vuint16mf4_t __riscv_vget_v_u16mf4x8_u16mf4(vuint16mf4x8_t src, size_t index);
vuint16mf2_t __riscv_vget_v_u16mf2x2_u16mf2(vuint16mf2x2_t src, size_t index);
vuint16mf2_t __riscv_vget_v_u16mf2x3_u16mf2(vuint16mf2x3_t src, size_t index);
vuint16mf2_t __riscv_vget_v_u16mf2x4_u16mf2(vuint16mf2x4_t src, size_t index);
vuint16mf2_t __riscv_vget_v_u16mf2x5_u16mf2(vuint16mf2x5_t src, size_t index);
vuint16mf2_t __riscv_vget_v_u16mf2x6_u16mf2(vuint16mf2x6_t src, size_t index);
vuint16mf2_t __riscv_vget_v_u16mf2x7_u16mf2(vuint16mf2x7_t src, size_t index);
vuint16mf2_t __riscv_vget_v_u16mf2x8_u16mf2(vuint16mf2x8_t src, size_t index);
vuint16m1_t __riscv_vget_v_u16m1x2_u16m1(vuint16m1x2_t src, size_t index);
vuint16m1_t __riscv_vget_v_u16m1x3_u16m1(vuint16m1x3_t src, size_t index);
vuint16m1_t __riscv_vget_v_u16m1x4_u16m1(vuint16m1x4_t src, size_t index);
vuint16m1_t __riscv_vget_v_u16m1x5_u16m1(vuint16m1x5_t src, size_t index);
vuint16m1_t __riscv_vget_v_u16m1x6_u16m1(vuint16m1x6_t src, size_t index);
vuint16m1_t __riscv_vget_v_u16m1x7_u16m1(vuint16m1x7_t src, size_t index);
vuint16m1_t __riscv_vget_v_u16m1x8_u16m1(vuint16m1x8_t src, size_t index);
vuint16m2_t __riscv_vget_v_u16m2x2_u16m2(vuint16m2x2_t src, size_t index);
vuint16m2_t __riscv_vget_v_u16m2x3_u16m2(vuint16m2x3_t src, size_t index);
vuint16m2_t __riscv_vget_v_u16m2x4_u16m2(vuint16m2x4_t src, size_t index);
vuint16m4_t __riscv_vget_v_u16m4x2_u16m4(vuint16m4x2_t src, size_t index);
vuint32mf2_t __riscv_vget_v_u32mf2x2_u32mf2(vuint32mf2x2_t src, size_t index);
vuint32mf2_t __riscv_vget_v_u32mf2x3_u32mf2(vuint32mf2x3_t src, size_t index);
vuint32mf2_t __riscv_vget_v_u32mf2x4_u32mf2(vuint32mf2x4_t src, size_t index);
vuint32mf2_t __riscv_vget_v_u32mf2x5_u32mf2(vuint32mf2x5_t src, size_t index);
vuint32mf2_t __riscv_vget_v_u32mf2x6_u32mf2(vuint32mf2x6_t src, size_t index);
vuint32mf2_t __riscv_vget_v_u32mf2x7_u32mf2(vuint32mf2x7_t src, size_t index);
vuint32mf2_t __riscv_vget_v_u32mf2x8_u32mf2(vuint32mf2x8_t src, size_t index);
vuint32m1_t __riscv_vget_v_u32m1x2_u32m1(vuint32m1x2_t src, size_t index);
vuint32m1_t __riscv_vget_v_u32m1x3_u32m1(vuint32m1x3_t src, size_t index);
vuint32m1_t __riscv_vget_v_u32m1x4_u32m1(vuint32m1x4_t src, size_t index);
vuint32m1_t __riscv_vget_v_u32m1x5_u32m1(vuint32m1x5_t src, size_t index);
vuint32m1_t __riscv_vget_v_u32m1x6_u32m1(vuint32m1x6_t src, size_t index);
vuint32m1_t __riscv_vget_v_u32m1x7_u32m1(vuint32m1x7_t src, size_t index);
vuint32m1_t __riscv_vget_v_u32m1x8_u32m1(vuint32m1x8_t src, size_t index);
vuint32m2_t __riscv_vget_v_u32m2x2_u32m2(vuint32m2x2_t src, size_t index);
vuint32m2_t __riscv_vget_v_u32m2x3_u32m2(vuint32m2x3_t src, size_t index);
vuint32m2_t __riscv_vget_v_u32m2x4_u32m2(vuint32m2x4_t src, size_t index);
vuint32m4_t __riscv_vget_v_u32m4x2_u32m4(vuint32m4x2_t src, size_t index);
vuint64m1_t __riscv_vget_v_u64m1x2_u64m1(vuint64m1x2_t src, size_t index);
vuint64m1_t __riscv_vget_v_u64m1x3_u64m1(vuint64m1x3_t src, size_t index);
vuint64m1_t __riscv_vget_v_u64m1x4_u64m1(vuint64m1x4_t src, size_t index);
vuint64m1_t __riscv_vget_v_u64m1x5_u64m1(vuint64m1x5_t src, size_t index);
vuint64m1_t __riscv_vget_v_u64m1x6_u64m1(vuint64m1x6_t src, size_t index);
vuint64m1_t __riscv_vget_v_u64m1x7_u64m1(vuint64m1x7_t src, size_t index);
vuint64m1_t __riscv_vget_v_u64m1x8_u64m1(vuint64m1x8_t src, size_t index);
vuint64m2_t __riscv_vget_v_u64m2x2_u64m2(vuint64m2x2_t src, size_t index);
vuint64m2_t __riscv_vget_v_u64m2x3_u64m2(vuint64m2x3_t src, size_t index);
vuint64m2_t __riscv_vget_v_u64m2x4_u64m2(vuint64m2x4_t src, size_t index);
vuint64m4_t __riscv_vget_v_u64m4x2_u64m4(vuint64m4x2_t src, size_t index);
```

A.9.9. Vector Creation Intrinsics

```
vfloat16m2_t __riscv_vcreate_v_f16m1_f16m2(vfloat16m1_t v0, vfloat16m1_t v1);
vfloat16m4_t __riscv_vcreate_v_f16m1_f16m4(vfloat16m1_t v0, vfloat16m1_t v1,
                                           vfloat16m1_t v2, vfloat16m1_t v3);
vfloat16m8_t __riscv_vcreate_v_f16m1_f16m8(vfloat16m1_t v0, vfloat16m1_t v1,
                                           vfloat16m1_t v2, vfloat16m1_t v3,
                                           vfloat16m1_t v4, vfloat16m1_t v5,
                                           vfloat16m1_t v6, vfloat16m1_t v7);
vfloat16m4_t __riscv_vcreate_v_f16m2_f16m4(vfloat16m2_t v0, vfloat16m2_t v1);
vfloat16m8_t __riscv_vcreate_v_f16m2_f16m8(vfloat16m2_t v0, vfloat16m2_t v1,
                                           vfloat16m2_t v2, vfloat16m2_t v3);
vfloat16m8_t __riscv_vcreate_v_f16m4_f16m8(vfloat16m4_t v0, vfloat16m4_t v1);
vfloat32m2_t __riscv_vcreate_v_f32m1_f32m2(vfloat32m1_t v0, vfloat32m1_t v1);
vfloat32m4_t __riscv_vcreate_v_f32m1_f32m4(vfloat32m1_t v0, vfloat32m1_t v1,
                                           vfloat32m1_t v2, vfloat32m1_t v3);
```

```
vfloat32m8_t __riscv_vcreate_v_f32m1_f32m8(vfloat32m1_t v0, vfloat32m1_t v1,
                                           vfloat32m1_t v2, vfloat32m1_t v3,
                                           vfloat32m1_t v4, vfloat32m1_t v5,
                                           vfloat32m1_t v6, vfloat32m1_t v7);
vfloat32m4_t __riscv_vcreate_v_f32m2_f32m4(vfloat32m2_t v0, vfloat32m2_t v1);
vfloat32m8_t __riscv_vcreate_v_f32m2_f32m8(vfloat32m2_t v0, vfloat32m2_t v1,
                                           vfloat32m2_t v2, vfloat32m2_t v3);
vfloat32m8_t __riscv_vcreate_v_f32m4_f32m8(vfloat32m4_t v0, vfloat32m4_t v1);
vfloat64m2_t __riscv_vcreate_v_f64m1_f64m2(vfloat64m1_t v0, vfloat64m1_t v1);
vfloat64m4_t __riscv_vcreate_v_f64m1_f64m4(vfloat64m1_t v0, vfloat64m1_t v1,
                                           vfloat64m1_t v2, vfloat64m1_t v3);
vfloat64m8_t __riscv_vcreate_v_f64m1_f64m8(vfloat64m1_t v0, vfloat64m1_t v1,
                                           vfloat64m1_t v2, vfloat64m1_t v3,
                                           vfloat64m1_t v4, vfloat64m1_t v5,
                                           vfloat64m1_t v6, vfloat64m1_t v7);
vfloat64m4_t __riscv_vcreate_v_f64m2_f64m4(vfloat64m2_t v0, vfloat64m2_t v1);
vfloat64m8_t __riscv_vcreate_v_f64m2_f64m8(vfloat64m2_t v0, vfloat64m2_t v1,
                                           vfloat64m2_t v2, vfloat64m2_t v3);
vfloat64m8_t __riscv_vcreate_v_f64m4_f64m8(vfloat64m4_t v0, vfloat64m4_t v1);
vint8m2_t __riscv_vcreate_v_i8m1_i8m2(vint8m1_t v0, vint8m1_t v1);
vint8m4_t __riscv_vcreate_v_i8m1_i8m4(vint8m1_t v0, vint8m1_t v1, vint8m1_t v2,
                                      vint8m1_t v3);
vint8m8_t __riscv_vcreate_v_i8m1_i8m8(vint8m1_t v0, vint8m1_t v1, vint8m1_t v2,
                                      vint8m1_t v3, vint8m1_t v4, vint8m1_t v5,
                                      vint8m1_t v6, vint8m1_t v7);
vint8m4_t __riscv_vcreate_v_i8m2_i8m4(vint8m2_t v0, vint8m2_t v1);
vint8m8_t __riscv_vcreate_v_i8m2_i8m8(vint8m2_t v0, vint8m2_t v1, vint8m2_t v2,
                                      vint8m2_t v3);
vint8m8_t __riscv_vcreate_v_i8m4_i8m8(vint8m4_t v0, vint8m4_t v1);
vint16m2_t __riscv_vcreate_v_i16m1_i16m2(vint16m1_t v0, vint16m1_t v1);
vint16m4_t __riscv_vcreate_v_i16m1_i16m4(vint16m1_t v0, vint16m1_t v1,
                                         vint16m1_t v2, vint16m1_t v3);
vint16m8_t __riscv_vcreate_v_i16m1_i16m8(vint16m1_t v0, vint16m1_t v1,
                                         vint16m1_t v2, vint16m1_t v3,
                                         vint16m1_t v4, vint16m1_t v5,
                                         vint16m1_t v6, vint16m1_t v7);
vint16m4_t __riscv_vcreate_v_i16m2_i16m4(vint16m2_t v0, vint16m2_t v1);
vint16m8_t __riscv_vcreate_v_i16m2_i16m8(vint16m2_t v0, vint16m2_t v1,
                                         vint16m2_t v2, vint16m2_t v3);
vint16m8_t __riscv_vcreate_v_i16m4_i16m8(vint16m4_t v0, vint16m4_t v1);
vint32m2_t __riscv_vcreate_v_i32m1_i32m2(vint32m1_t v0, vint32m1_t v1);
vint32m4_t __riscv_vcreate_v_i32m1_i32m4(vint32m1_t v0, vint32m1_t v1,
                                         vint32m1_t v2, vint32m1_t v3);
vint32m8_t __riscv_vcreate_v_i32m1_i32m8(vint32m1_t v0, vint32m1_t v1,
                                         vint32m1_t v2, vint32m1_t v3,
                                         vint32m1_t v4, vint32m1_t v5,
                                         vint32m1_t v6, vint32m1_t v7);
vint32m4_t __riscv_vcreate_v_i32m2_i32m4(vint32m2_t v0, vint32m2_t v1);
vint32m8_t __riscv_vcreate_v_i32m2_i32m8(vint32m2_t v0, vint32m2_t v1,
                                         vint32m2_t v2, vint32m2_t v3);
vint32m8_t __riscv_vcreate_v_i32m4_i32m8(vint32m4_t v0, vint32m4_t v1);
vint64m2_t __riscv_vcreate_v_i64m1_i64m2(vint64m1_t v0, vint64m1_t v1);
vint64m4_t __riscv_vcreate_v_i64m1_i64m4(vint64m1_t v0, vint64m1_t v1,
                                         vint64m1_t v2, vint64m1_t v3);
vint64m8_t __riscv_vcreate_v_i64m1_i64m8(vint64m1_t v0, vint64m1_t v1,
                                         vint64m1_t v2, vint64m1_t v3,
                                         vint64m1_t v4, vint64m1_t v5,
                                         vint64m1_t v6, vint64m1_t v7);
vint64m4_t __riscv_vcreate_v_i64m2_i64m4(vint64m2_t v0, vint64m2_t v1);
vint64m8_t __riscv_vcreate_v_i64m2_i64m8(vint64m2_t v0, vint64m2_t v1,
                                         vint64m2_t v2, vint64m2_t v3);
vint64m8_t __riscv_vcreate_v_i64m4_i64m8(vint64m4_t v0, vint64m4_t v1);
vuint8m2_t __riscv_vcreate_v_u8m1_u8m2(vuint8m1_t v0, vuint8m1_t v1);
vuint8m4_t __riscv_vcreate_v_u8m1_u8m4(vuint8m1_t v0, vuint8m1_t v1,
                                       vuint8m1_t v2, vuint8m1_t v3);
vuint8m8_t __riscv_vcreate_v_u8m1_u8m8(vuint8m1_t v0, vuint8m1_t v1,
                                       vuint8m1_t v2, vuint8m1_t v3,
```

```
                                      vuint8m1_t v4, vuint8m1_t v5,
                                      vuint8m1_t v6, vuint8m1_t v7);
vuint8m4_t __riscv_vcreate_v_u8m2_u8m4(vuint8m2_t v0, vuint8m2_t v1);
vuint8m8_t __riscv_vcreate_v_u8m2_u8m8(vuint8m2_t v0, vuint8m2_t v1,
                                      vuint8m2_t v2, vuint8m2_t v3);
vuint8m8_t __riscv_vcreate_v_u8m4_u8m8(vuint8m4_t v0, vuint8m4_t v1);
vuint16m2_t __riscv_vcreate_v_u16m1_u16m2(vuint16m1_t v0, vuint16m1_t v1);
vuint16m4_t __riscv_vcreate_v_u16m1_u16m4(vuint16m1_t v0, vuint16m1_t v1,
                                         vuint16m1_t v2, vuint16m1_t v3);
vuint16m8_t __riscv_vcreate_v_u16m1_u16m8(vuint16m1_t v0, vuint16m1_t v1,
                                         vuint16m1_t v2, vuint16m1_t v3,
                                         vuint16m1_t v4, vuint16m1_t v5,
                                         vuint16m1_t v6, vuint16m1_t v7);
vuint16m4_t __riscv_vcreate_v_u16m2_u16m4(vuint16m2_t v0, vuint16m2_t v1);
vuint16m8_t __riscv_vcreate_v_u16m2_u16m8(vuint16m2_t v0, vuint16m2_t v1,
                                         vuint16m2_t v2, vuint16m2_t v3);
vuint16m8_t __riscv_vcreate_v_u16m4_u16m8(vuint16m4_t v0, vuint16m4_t v1);
vuint32m2_t __riscv_vcreate_v_u32m1_u32m2(vuint32m1_t v0, vuint32m1_t v1);
vuint32m4_t __riscv_vcreate_v_u32m1_u32m4(vuint32m1_t v0, vuint32m1_t v1,
                                         vuint32m1_t v2, vuint32m1_t v3);
vuint32m8_t __riscv_vcreate_v_u32m1_u32m8(vuint32m1_t v0, vuint32m1_t v1,
                                         vuint32m1_t v2, vuint32m1_t v3,
                                         vuint32m1_t v4, vuint32m1_t v5,
                                         vuint32m1_t v6, vuint32m1_t v7);
vuint32m4_t __riscv_vcreate_v_u32m2_u32m4(vuint32m2_t v0, vuint32m2_t v1);
vuint32m8_t __riscv_vcreate_v_u32m2_u32m8(vuint32m2_t v0, vuint32m2_t v1,
                                         vuint32m2_t v2, vuint32m2_t v3);
vuint32m8_t __riscv_vcreate_v_u32m4_u32m8(vuint32m4_t v0, vuint32m4_t v1);
vuint64m2_t __riscv_vcreate_v_u64m1_u64m2(vuint64m1_t v0, vuint64m1_t v1);
vuint64m4_t __riscv_vcreate_v_u64m1_u64m4(vuint64m1_t v0, vuint64m1_t v1,
                                         vuint64m1_t v2, vuint64m1_t v3);
vuint64m8_t __riscv_vcreate_v_u64m1_u64m8(vuint64m1_t v0, vuint64m1_t v1,
                                         vuint64m1_t v2, vuint64m1_t v3,
                                         vuint64m1_t v4, vuint64m1_t v5,
                                         vuint64m1_t v6, vuint64m1_t v7);
vuint64m4_t __riscv_vcreate_v_u64m2_u64m4(vuint64m2_t v0, vuint64m2_t v1);
vuint64m8_t __riscv_vcreate_v_u64m2_u64m8(vuint64m2_t v0, vuint64m2_t v1,
                                         vuint64m2_t v2, vuint64m2_t v3);
vuint64m8_t __riscv_vcreate_v_u64m4_u64m8(vuint64m4_t v0, vuint64m4_t v1);
vfloat16mf4x2_t __riscv_vcreate_v_f16mf4x2(vfloat16mf4_t v0, vfloat16mf4_t v1);
vfloat16mf4x3_t __riscv_vcreate_v_f16mf4x3(vfloat16mf4_t v0, vfloat16mf4_t v1,
                                          vfloat16mf4_t v2);
vfloat16mf4x4_t __riscv_vcreate_v_f16mf4x4(vfloat16mf4_t v0, vfloat16mf4_t v1,
                                          vfloat16mf4_t v2, vfloat16mf4_t v3);
vfloat16mf4x5_t __riscv_vcreate_v_f16mf4x5(vfloat16mf4_t v0, vfloat16mf4_t v1,
                                          vfloat16mf4_t v2, vfloat16mf4_t v3,
                                          vfloat16mf4_t v4);
vfloat16mf4x6_t __riscv_vcreate_v_f16mf4x6(vfloat16mf4_t v0, vfloat16mf4_t v1,
                                          vfloat16mf4_t v2, vfloat16mf4_t v3,
                                          vfloat16mf4_t v4, vfloat16mf4_t v5);
vfloat16mf4x7_t __riscv_vcreate_v_f16mf4x7(vfloat16mf4_t v0, vfloat16mf4_t v1,
                                          vfloat16mf4_t v2, vfloat16mf4_t v3,
                                          vfloat16mf4_t v4, vfloat16mf4_t v5,
                                          vfloat16mf4_t v6);
vfloat16mf4x8_t __riscv_vcreate_v_f16mf4x8(vfloat16mf4_t v0, vfloat16mf4_t v1,
                                          vfloat16mf4_t v2, vfloat16mf4_t v3,
                                          vfloat16mf4_t v4, vfloat16mf4_t v5,
                                          vfloat16mf4_t v6, vfloat16mf4_t v7);
vfloat16mf2x2_t __riscv_vcreate_v_f16mf2x2(vfloat16mf2_t v0, vfloat16mf2_t v1);
vfloat16mf2x3_t __riscv_vcreate_v_f16mf2x3(vfloat16mf2_t v0, vfloat16mf2_t v1,
                                          vfloat16mf2_t v2);
vfloat16mf2x4_t __riscv_vcreate_v_f16mf2x4(vfloat16mf2_t v0, vfloat16mf2_t v1,
                                          vfloat16mf2_t v2, vfloat16mf2_t v3);
vfloat16mf2x5_t __riscv_vcreate_v_f16mf2x5(vfloat16mf2_t v0, vfloat16mf2_t v1,
                                          vfloat16mf2_t v2, vfloat16mf2_t v3,
                                          vfloat16mf2_t v4);
vfloat16mf2x6_t __riscv_vcreate_v_f16mf2x6(vfloat16mf2_t v0, vfloat16mf2_t v1,
```

```
                                        vfloat16mf2_t v2, vfloat16mf2_t v3,
                                        vfloat16mf2_t v4, vfloat16mf2_t v5);
vfloat16mf2x7_t __riscv_vcreate_v_f16mf2x7(vfloat16mf2_t v0, vfloat16mf2_t v1,
                                        vfloat16mf2_t v2, vfloat16mf2_t v3,
                                        vfloat16mf2_t v4, vfloat16mf2_t v5,
                                        vfloat16mf2_t v6);
vfloat16mf2x8_t __riscv_vcreate_v_f16mf2x8(vfloat16mf2_t v0, vfloat16mf2_t v1,
                                        vfloat16mf2_t v2, vfloat16mf2_t v3,
                                        vfloat16mf2_t v4, vfloat16mf2_t v5,
                                        vfloat16mf2_t v6, vfloat16mf2_t v7);
vfloat16m1x2_t __riscv_vcreate_v_f16m1x2(vfloat16m1_t v0, vfloat16m1_t v1);
vfloat16m1x3_t __riscv_vcreate_v_f16m1x3(vfloat16m1_t v0, vfloat16m1_t v1,
                                      vfloat16m1_t v2);
vfloat16m1x4_t __riscv_vcreate_v_f16m1x4(vfloat16m1_t v0, vfloat16m1_t v1,
                                      vfloat16m1_t v2, vfloat16m1_t v3);
vfloat16m1x5_t __riscv_vcreate_v_f16m1x5(vfloat16m1_t v0, vfloat16m1_t v1,
                                      vfloat16m1_t v2, vfloat16m1_t v3,
                                      vfloat16m1_t v4);
vfloat16m1x6_t __riscv_vcreate_v_f16m1x6(vfloat16m1_t v0, vfloat16m1_t v1,
                                      vfloat16m1_t v2, vfloat16m1_t v3,
                                      vfloat16m1_t v4, vfloat16m1_t v5);
vfloat16m1x7_t __riscv_vcreate_v_f16m1x7(vfloat16m1_t v0, vfloat16m1_t v1,
                                      vfloat16m1_t v2, vfloat16m1_t v3,
                                      vfloat16m1_t v4, vfloat16m1_t v5,
                                      vfloat16m1_t v6);
vfloat16m1x8_t __riscv_vcreate_v_f16m1x8(vfloat16m1_t v0, vfloat16m1_t v1,
                                      vfloat16m1_t v2, vfloat16m1_t v3,
                                      vfloat16m1_t v4, vfloat16m1_t v5,
                                      vfloat16m1_t v6, vfloat16m1_t v7);
vfloat16m2x2_t __riscv_vcreate_v_f16m2x2(vfloat16m2_t v0, vfloat16m2_t v1);
vfloat16m2x3_t __riscv_vcreate_v_f16m2x3(vfloat16m2_t v0, vfloat16m2_t v1,
                                      vfloat16m2_t v2);
vfloat16m2x4_t __riscv_vcreate_v_f16m2x4(vfloat16m2_t v0, vfloat16m2_t v1,
                                      vfloat16m2_t v2, vfloat16m2_t v3);
vfloat16m4x2_t __riscv_vcreate_v_f16m4x2(vfloat16m4_t v0, vfloat16m4_t v1);
vfloat32mf2x2_t __riscv_vcreate_v_f32mf2x2(vfloat32mf2_t v0, vfloat32mf2_t v1);
vfloat32mf2x3_t __riscv_vcreate_v_f32mf2x3(vfloat32mf2_t v0, vfloat32mf2_t v1,
                                        vfloat32mf2_t v2);
vfloat32mf2x4_t __riscv_vcreate_v_f32mf2x4(vfloat32mf2_t v0, vfloat32mf2_t v1,
                                        vfloat32mf2_t v2, vfloat32mf2_t v3);
vfloat32mf2x5_t __riscv_vcreate_v_f32mf2x5(vfloat32mf2_t v0, vfloat32mf2_t v1,
                                        vfloat32mf2_t v2, vfloat32mf2_t v3,
                                        vfloat32mf2_t v4);
vfloat32mf2x6_t __riscv_vcreate_v_f32mf2x6(vfloat32mf2_t v0, vfloat32mf2_t v1,
                                        vfloat32mf2_t v2, vfloat32mf2_t v3,
                                        vfloat32mf2_t v4, vfloat32mf2_t v5);
vfloat32mf2x7_t __riscv_vcreate_v_f32mf2x7(vfloat32mf2_t v0, vfloat32mf2_t v1,
                                        vfloat32mf2_t v2, vfloat32mf2_t v3,
                                        vfloat32mf2_t v4, vfloat32mf2_t v5,
                                        vfloat32mf2_t v6);
vfloat32mf2x8_t __riscv_vcreate_v_f32mf2x8(vfloat32mf2_t v0, vfloat32mf2_t v1,
                                        vfloat32mf2_t v2, vfloat32mf2_t v3,
                                        vfloat32mf2_t v4, vfloat32mf2_t v5,
                                        vfloat32mf2_t v6, vfloat32mf2_t v7);
vfloat32m1x2_t __riscv_vcreate_v_f32m1x2(vfloat32m1_t v0, vfloat32m1_t v1);
vfloat32m1x3_t __riscv_vcreate_v_f32m1x3(vfloat32m1_t v0, vfloat32m1_t v1,
                                      vfloat32m1_t v2);
vfloat32m1x4_t __riscv_vcreate_v_f32m1x4(vfloat32m1_t v0, vfloat32m1_t v1,
                                      vfloat32m1_t v2, vfloat32m1_t v3);
vfloat32m1x5_t __riscv_vcreate_v_f32m1x5(vfloat32m1_t v0, vfloat32m1_t v1,
                                      vfloat32m1_t v2, vfloat32m1_t v3,
                                      vfloat32m1_t v4);
vfloat32m1x6_t __riscv_vcreate_v_f32m1x6(vfloat32m1_t v0, vfloat32m1_t v1,
                                      vfloat32m1_t v2, vfloat32m1_t v3,
                                      vfloat32m1_t v4, vfloat32m1_t v5);
vfloat32m1x7_t __riscv_vcreate_v_f32m1x7(vfloat32m1_t v0, vfloat32m1_t v1,
                                      vfloat32m1_t v2, vfloat32m1_t v3,
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                                        vfloat32m1_t v4, vfloat32m1_t v5,
                                        vfloat32m1_t v6);
vfloat32m1x8_t __riscv_vcreate_v_f32m1x8(vfloat32m1_t v0, vfloat32m1_t v1,
                                        vfloat32m1_t v2, vfloat32m1_t v3,
                                        vfloat32m1_t v4, vfloat32m1_t v5,
                                        vfloat32m1_t v6, vfloat32m1_t v7);
vfloat32m2x2_t __riscv_vcreate_v_f32m2x2(vfloat32m2_t v0, vfloat32m2_t v1);
vfloat32m2x3_t __riscv_vcreate_v_f32m2x3(vfloat32m2_t v0, vfloat32m2_t v1,
                                        vfloat32m2_t v2);
vfloat32m2x4_t __riscv_vcreate_v_f32m2x4(vfloat32m2_t v0, vfloat32m2_t v1,
                                        vfloat32m2_t v2, vfloat32m2_t v3);
vfloat32m4x2_t __riscv_vcreate_v_f32m4x2(vfloat32m4_t v0, vfloat32m4_t v1);
vfloat64m1x2_t __riscv_vcreate_v_f64m1x2(vfloat64m1_t v0, vfloat64m1_t v1);
vfloat64m1x3_t __riscv_vcreate_v_f64m1x3(vfloat64m1_t v0, vfloat64m1_t v1,
                                        vfloat64m1_t v2);
vfloat64m1x4_t __riscv_vcreate_v_f64m1x4(vfloat64m1_t v0, vfloat64m1_t v1,
                                        vfloat64m1_t v2, vfloat64m1_t v3);
vfloat64m1x5_t __riscv_vcreate_v_f64m1x5(vfloat64m1_t v0, vfloat64m1_t v1,
                                        vfloat64m1_t v2, vfloat64m1_t v3,
                                        vfloat64m1_t v4);
vfloat64m1x6_t __riscv_vcreate_v_f64m1x6(vfloat64m1_t v0, vfloat64m1_t v1,
                                        vfloat64m1_t v2, vfloat64m1_t v3,
                                        vfloat64m1_t v4, vfloat64m1_t v5);
vfloat64m1x7_t __riscv_vcreate_v_f64m1x7(vfloat64m1_t v0, vfloat64m1_t v1,
                                        vfloat64m1_t v2, vfloat64m1_t v3,
                                        vfloat64m1_t v4, vfloat64m1_t v5,
                                        vfloat64m1_t v6);
vfloat64m1x8_t __riscv_vcreate_v_f64m1x8(vfloat64m1_t v0, vfloat64m1_t v1,
                                        vfloat64m1_t v2, vfloat64m1_t v3,
                                        vfloat64m1_t v4, vfloat64m1_t v5,
                                        vfloat64m1_t v6, vfloat64m1_t v7);
vfloat64m2x2_t __riscv_vcreate_v_f64m2x2(vfloat64m2_t v0, vfloat64m2_t v1);
vfloat64m2x3_t __riscv_vcreate_v_f64m2x3(vfloat64m2_t v0, vfloat64m2_t v1,
                                        vfloat64m2_t v2);
vfloat64m2x4_t __riscv_vcreate_v_f64m2x4(vfloat64m2_t v0, vfloat64m2_t v1,
                                        vfloat64m2_t v2, vfloat64m2_t v3);
vfloat64m4x2_t __riscv_vcreate_v_f64m4x2(vfloat64m4_t v0, vfloat64m4_t v1);
vint8mf8x2_t __riscv_vcreate_v_i8mf8x2(vint8mf8_t v0, vint8mf8_t v1);
vint8mf8x3_t __riscv_vcreate_v_i8mf8x3(vint8mf8_t v0, vint8mf8_t v1,
                                       vint8mf8_t v2);
vint8mf8x4_t __riscv_vcreate_v_i8mf8x4(vint8mf8_t v0, vint8mf8_t v1,
                                       vint8mf8_t v2, vint8mf8_t v3);
vint8mf8x5_t __riscv_vcreate_v_i8mf8x5(vint8mf8_t v0, vint8mf8_t v1,
                                       vint8mf8_t v2, vint8mf8_t v3,
                                       vint8mf8_t v4);
vint8mf8x6_t __riscv_vcreate_v_i8mf8x6(vint8mf8_t v0, vint8mf8_t v1,
                                       vint8mf8_t v2, vint8mf8_t v3,
                                       vint8mf8_t v4, vint8mf8_t v5);
vint8mf8x7_t __riscv_vcreate_v_i8mf8x7(vint8mf8_t v0, vint8mf8_t v1,
                                       vint8mf8_t v2, vint8mf8_t v3,
                                       vint8mf8_t v4, vint8mf8_t v5,
                                       vint8mf8_t v6);
vint8mf8x8_t __riscv_vcreate_v_i8mf8x8(vint8mf8_t v0, vint8mf8_t v1,
                                       vint8mf8_t v2, vint8mf8_t v3,
                                       vint8mf8_t v4, vint8mf8_t v5,
                                       vint8mf8_t v6, vint8mf8_t v7);
vint8mf4x2_t __riscv_vcreate_v_i8mf4x2(vint8mf4_t v0, vint8mf4_t v1);
vint8mf4x3_t __riscv_vcreate_v_i8mf4x3(vint8mf4_t v0, vint8mf4_t v1,
                                       vint8mf4_t v2);
vint8mf4x4_t __riscv_vcreate_v_i8mf4x4(vint8mf4_t v0, vint8mf4_t v1,
                                       vint8mf4_t v2, vint8mf4_t v3);
vint8mf4x5_t __riscv_vcreate_v_i8mf4x5(vint8mf4_t v0, vint8mf4_t v1,
                                       vint8mf4_t v2, vint8mf4_t v3,
                                       vint8mf4_t v4);
vint8mf4x6_t __riscv_vcreate_v_i8mf4x6(vint8mf4_t v0, vint8mf4_t v1,
                                       vint8mf4_t v2, vint8mf4_t v3,
                                       vint8mf4_t v4, vint8mf4_t v5);
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vint8mf4x7_t __riscv_vcreate_v_i8mf4x7(vint8mf4_t v0, vint8mf4_t v1,
                                       vint8mf4_t v2, vint8mf4_t v3,
                                       vint8mf4_t v4, vint8mf4_t v5,
                                       vint8mf4_t v6);
vint8mf4x8_t __riscv_vcreate_v_i8mf4x8(vint8mf4_t v0, vint8mf4_t v1,
                                       vint8mf4_t v2, vint8mf4_t v3,
                                       vint8mf4_t v4, vint8mf4_t v5,
                                       vint8mf4_t v6, vint8mf4_t v7);
vint8mf2x2_t __riscv_vcreate_v_i8mf2x2(vint8mf2_t v0, vint8mf2_t v1);
vint8mf2x3_t __riscv_vcreate_v_i8mf2x3(vint8mf2_t v0, vint8mf2_t v1,
                                       vint8mf2_t v2);
vint8mf2x4_t __riscv_vcreate_v_i8mf2x4(vint8mf2_t v0, vint8mf2_t v1,
                                       vint8mf2_t v2, vint8mf2_t v3);
vint8mf2x5_t __riscv_vcreate_v_i8mf2x5(vint8mf2_t v0, vint8mf2_t v1,
                                       vint8mf2_t v2, vint8mf2_t v3,
                                       vint8mf2_t v4);
vint8mf2x6_t __riscv_vcreate_v_i8mf2x6(vint8mf2_t v0, vint8mf2_t v1,
                                       vint8mf2_t v2, vint8mf2_t v3,
                                       vint8mf2_t v4, vint8mf2_t v5);
vint8mf2x7_t __riscv_vcreate_v_i8mf2x7(vint8mf2_t v0, vint8mf2_t v1,
                                       vint8mf2_t v2, vint8mf2_t v3,
                                       vint8mf2_t v4, vint8mf2_t v5,
                                       vint8mf2_t v6);
vint8mf2x8_t __riscv_vcreate_v_i8mf2x8(vint8mf2_t v0, vint8mf2_t v1,
                                       vint8mf2_t v2, vint8mf2_t v3,
                                       vint8mf2_t v4, vint8mf2_t v5,
                                       vint8mf2_t v6, vint8mf2_t v7);
vint8m1x2_t __riscv_vcreate_v_i8m1x2(vint8m1_t v0, vint8m1_t v1);
vint8m1x3_t __riscv_vcreate_v_i8m1x3(vint8m1_t v0, vint8m1_t v1, vint8m1_t v2);
vint8m1x4_t __riscv_vcreate_v_i8m1x4(vint8m1_t v0, vint8m1_t v1, vint8m1_t v2,
                                     vint8m1_t v3);
vint8m1x5_t __riscv_vcreate_v_i8m1x5(vint8m1_t v0, vint8m1_t v1, vint8m1_t v2,
                                     vint8m1_t v3, vint8m1_t v4);
vint8m1x6_t __riscv_vcreate_v_i8m1x6(vint8m1_t v0, vint8m1_t v1, vint8m1_t v2,
                                     vint8m1_t v3, vint8m1_t v4, vint8m1_t v5);
vint8m1x7_t __riscv_vcreate_v_i8m1x7(vint8m1_t v0, vint8m1_t v1, vint8m1_t v2,
                                     vint8m1_t v3, vint8m1_t v4, vint8m1_t v5,
                                     vint8m1_t v6);
vint8m1x8_t __riscv_vcreate_v_i8m1x8(vint8m1_t v0, vint8m1_t v1, vint8m1_t v2,
                                     vint8m1_t v3, vint8m1_t v4, vint8m1_t v5,
                                     vint8m1_t v6, vint8m1_t v7);
vint8m2x2_t __riscv_vcreate_v_i8m2x2(vint8m2_t v0, vint8m2_t v1);
vint8m2x3_t __riscv_vcreate_v_i8m2x3(vint8m2_t v0, vint8m2_t v1, vint8m2_t v2);
vint8m2x4_t __riscv_vcreate_v_i8m2x4(vint8m2_t v0, vint8m2_t v1, vint8m2_t v2,
                                     vint8m2_t v3);
vint8m4x2_t __riscv_vcreate_v_i8m4x2(vint8m4_t v0, vint8m4_t v1);
vint16mf4x2_t __riscv_vcreate_v_i16mf4x2(vint16mf4_t v0, vint16mf4_t v1);
vint16mf4x3_t __riscv_vcreate_v_i16mf4x3(vint16mf4_t v0, vint16mf4_t v1,
                                         vint16mf4_t v2);
vint16mf4x4_t __riscv_vcreate_v_i16mf4x4(vint16mf4_t v0, vint16mf4_t v1,
                                         vint16mf4_t v2, vint16mf4_t v3);
vint16mf4x5_t __riscv_vcreate_v_i16mf4x5(vint16mf4_t v0, vint16mf4_t v1,
                                         vint16mf4_t v2, vint16mf4_t v3,
                                         vint16mf4_t v4);
vint16mf4x6_t __riscv_vcreate_v_i16mf4x6(vint16mf4_t v0, vint16mf4_t v1,
                                         vint16mf4_t v2, vint16mf4_t v3,
                                         vint16mf4_t v4, vint16mf4_t v5);
vint16mf4x7_t __riscv_vcreate_v_i16mf4x7(vint16mf4_t v0, vint16mf4_t v1,
                                         vint16mf4_t v2, vint16mf4_t v3,
                                         vint16mf4_t v4, vint16mf4_t v5,
                                         vint16mf4_t v6);
vint16mf4x8_t __riscv_vcreate_v_i16mf4x8(vint16mf4_t v0, vint16mf4_t v1,
                                         vint16mf4_t v2, vint16mf4_t v3,
                                         vint16mf4_t v4, vint16mf4_t v5,
                                         vint16mf4_t v6, vint16mf4_t v7);
vint16mf2x2_t __riscv_vcreate_v_i16mf2x2(vint16mf2_t v0, vint16mf2_t v1);
vint16mf2x3_t __riscv_vcreate_v_i16mf2x3(vint16mf2_t v0, vint16mf2_t v1,
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                                        vint16mf2_t v2);
vint16mf2x4_t __riscv_vcreate_v_i16mf2x4(vint16mf2_t v0, vint16mf2_t v1,
                                        vint16mf2_t v2, vint16mf2_t v3);
vint16mf2x5_t __riscv_vcreate_v_i16mf2x5(vint16mf2_t v0, vint16mf2_t v1,
                                        vint16mf2_t v2, vint16mf2_t v3,
                                        vint16mf2_t v4);
vint16mf2x6_t __riscv_vcreate_v_i16mf2x6(vint16mf2_t v0, vint16mf2_t v1,
                                        vint16mf2_t v2, vint16mf2_t v3,
                                        vint16mf2_t v4, vint16mf2_t v5);
vint16mf2x7_t __riscv_vcreate_v_i16mf2x7(vint16mf2_t v0, vint16mf2_t v1,
                                        vint16mf2_t v2, vint16mf2_t v3,
                                        vint16mf2_t v4, vint16mf2_t v5,
                                        vint16mf2_t v6);
vint16mf2x8_t __riscv_vcreate_v_i16mf2x8(vint16mf2_t v0, vint16mf2_t v1,
                                        vint16mf2_t v2, vint16mf2_t v3,
                                        vint16mf2_t v4, vint16mf2_t v5,
                                        vint16mf2_t v6, vint16mf2_t v7);
vint16m1x2_t __riscv_vcreate_v_i16m1x2(vint16m1_t v0, vint16m1_t v1);
vint16m1x3_t __riscv_vcreate_v_i16m1x3(vint16m1_t v0, vint16m1_t v1,
                                       vint16m1_t v2);
vint16m1x4_t __riscv_vcreate_v_i16m1x4(vint16m1_t v0, vint16m1_t v1,
                                       vint16m1_t v2, vint16m1_t v3);
vint16m1x5_t __riscv_vcreate_v_i16m1x5(vint16m1_t v0, vint16m1_t v1,
                                       vint16m1_t v2, vint16m1_t v3,
                                       vint16m1_t v4);
vint16m1x6_t __riscv_vcreate_v_i16m1x6(vint16m1_t v0, vint16m1_t v1,
                                       vint16m1_t v2, vint16m1_t v3,
                                       vint16m1_t v4, vint16m1_t v5);
vint16m1x7_t __riscv_vcreate_v_i16m1x7(vint16m1_t v0, vint16m1_t v1,
                                       vint16m1_t v2, vint16m1_t v3,
                                       vint16m1_t v4, vint16m1_t v5,
                                       vint16m1_t v6);
vint16m1x8_t __riscv_vcreate_v_i16m1x8(vint16m1_t v0, vint16m1_t v1,
                                       vint16m1_t v2, vint16m1_t v3,
                                       vint16m1_t v4, vint16m1_t v5,
                                       vint16m1_t v6, vint16m1_t v7);
vint16m2x2_t __riscv_vcreate_v_i16m2x2(vint16m2_t v0, vint16m2_t v1);
vint16m2x3_t __riscv_vcreate_v_i16m2x3(vint16m2_t v0, vint16m2_t v1,
                                       vint16m2_t v2);
vint16m2x4_t __riscv_vcreate_v_i16m2x4(vint16m2_t v0, vint16m2_t v1,
                                       vint16m2_t v2, vint16m2_t v3);
vint16m4x2_t __riscv_vcreate_v_i16m4x2(vint16m4_t v0, vint16m4_t v1);
vint32mf2x2_t __riscv_vcreate_v_i32mf2x2(vint32mf2_t v0, vint32mf2_t v1);
vint32mf2x3_t __riscv_vcreate_v_i32mf2x3(vint32mf2_t v0, vint32mf2_t v1,
                                        vint32mf2_t v2);
vint32mf2x4_t __riscv_vcreate_v_i32mf2x4(vint32mf2_t v0, vint32mf2_t v1,
                                        vint32mf2_t v2, vint32mf2_t v3);
vint32mf2x5_t __riscv_vcreate_v_i32mf2x5(vint32mf2_t v0, vint32mf2_t v1,
                                        vint32mf2_t v2, vint32mf2_t v3,
                                        vint32mf2_t v4);
vint32mf2x6_t __riscv_vcreate_v_i32mf2x6(vint32mf2_t v0, vint32mf2_t v1,
                                        vint32mf2_t v2, vint32mf2_t v3,
                                        vint32mf2_t v4, vint32mf2_t v5);
vint32mf2x7_t __riscv_vcreate_v_i32mf2x7(vint32mf2_t v0, vint32mf2_t v1,
                                        vint32mf2_t v2, vint32mf2_t v3,
                                        vint32mf2_t v4, vint32mf2_t v5,
                                        vint32mf2_t v6);
vint32mf2x8_t __riscv_vcreate_v_i32mf2x8(vint32mf2_t v0, vint32mf2_t v1,
                                        vint32mf2_t v2, vint32mf2_t v3,
                                        vint32mf2_t v4, vint32mf2_t v5,
                                        vint32mf2_t v6, vint32mf2_t v7);
vint32m1x2_t __riscv_vcreate_v_i32m1x2(vint32m1_t v0, vint32m1_t v1);
vint32m1x3_t __riscv_vcreate_v_i32m1x3(vint32m1_t v0, vint32m1_t v1,
                                       vint32m1_t v2);
vint32m1x4_t __riscv_vcreate_v_i32m1x4(vint32m1_t v0, vint32m1_t v1,
                                       vint32m1_t v2, vint32m1_t v3);
vint32m1x5_t __riscv_vcreate_v_i32m1x5(vint32m1_t v0, vint32m1_t v1,
```

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                                    vint32m1_t v2, vint32m1_t v3,
                                    vint32m1_t v4);
vint32m1x6_t __riscv_vcreate_v_i32m1x6(vint32m1_t v0, vint32m1_t v1,
                                    vint32m1_t v2, vint32m1_t v3,
                                    vint32m1_t v4, vint32m1_t v5);
vint32m1x7_t __riscv_vcreate_v_i32m1x7(vint32m1_t v0, vint32m1_t v1,
                                    vint32m1_t v2, vint32m1_t v3,
                                    vint32m1_t v4, vint32m1_t v5,
                                    vint32m1_t v6);
vint32m1x8_t __riscv_vcreate_v_i32m1x8(vint32m1_t v0, vint32m1_t v1,
                                    vint32m1_t v2, vint32m1_t v3,
                                    vint32m1_t v4, vint32m1_t v5,
                                    vint32m1_t v6, vint32m1_t v7);
vint32m2x2_t __riscv_vcreate_v_i32m2x2(vint32m2_t v0, vint32m2_t v1);
vint32m2x3_t __riscv_vcreate_v_i32m2x3(vint32m2_t v0, vint32m2_t v1,
                                    vint32m2_t v2);
vint32m2x4_t __riscv_vcreate_v_i32m2x4(vint32m2_t v0, vint32m2_t v1,
                                    vint32m2_t v2, vint32m2_t v3);
vint32m4x2_t __riscv_vcreate_v_i32m4x2(vint32m4_t v0, vint32m4_t v1);
vint64m1x2_t __riscv_vcreate_v_i64m1x2(vint64m1_t v0, vint64m1_t v1);
vint64m1x3_t __riscv_vcreate_v_i64m1x3(vint64m1_t v0, vint64m1_t v1,
                                    vint64m1_t v2);
vint64m1x4_t __riscv_vcreate_v_i64m1x4(vint64m1_t v0, vint64m1_t v1,
                                    vint64m1_t v2, vint64m1_t v3);
vint64m1x5_t __riscv_vcreate_v_i64m1x5(vint64m1_t v0, vint64m1_t v1,
                                    vint64m1_t v2, vint64m1_t v3,
                                    vint64m1_t v4);
vint64m1x6_t __riscv_vcreate_v_i64m1x6(vint64m1_t v0, vint64m1_t v1,
                                    vint64m1_t v2, vint64m1_t v3,
                                    vint64m1_t v4, vint64m1_t v5);
vint64m1x7_t __riscv_vcreate_v_i64m1x7(vint64m1_t v0, vint64m1_t v1,
                                    vint64m1_t v2, vint64m1_t v3,
                                    vint64m1_t v4, vint64m1_t v5,
                                    vint64m1_t v6);
vint64m1x8_t __riscv_vcreate_v_i64m1x8(vint64m1_t v0, vint64m1_t v1,
                                    vint64m1_t v2, vint64m1_t v3,
                                    vint64m1_t v4, vint64m1_t v5,
                                    vint64m1_t v6, vint64m1_t v7);
vint64m2x2_t __riscv_vcreate_v_i64m2x2(vint64m2_t v0, vint64m2_t v1);
vint64m2x3_t __riscv_vcreate_v_i64m2x3(vint64m2_t v0, vint64m2_t v1,
                                    vint64m2_t v2);
vint64m2x4_t __riscv_vcreate_v_i64m2x4(vint64m2_t v0, vint64m2_t v1,
                                    vint64m2_t v2, vint64m2_t v3);
vint64m4x2_t __riscv_vcreate_v_i64m4x2(vint64m4_t v0, vint64m4_t v1);
vuint8mf8x2_t __riscv_vcreate_v_u8mf8x2(vuint8mf8_t v0, vuint8mf8_t v1);
vuint8mf8x3_t __riscv_vcreate_v_u8mf8x3(vuint8mf8_t v0, vuint8mf8_t v1,
                                     vuint8mf8_t v2);
vuint8mf8x4_t __riscv_vcreate_v_u8mf8x4(vuint8mf8_t v0, vuint8mf8_t v1,
                                     vuint8mf8_t v2, vuint8mf8_t v3);
vuint8mf8x5_t __riscv_vcreate_v_u8mf8x5(vuint8mf8_t v0, vuint8mf8_t v1,
                                     vuint8mf8_t v2, vuint8mf8_t v3,
                                     vuint8mf8_t v4);
vuint8mf8x6_t __riscv_vcreate_v_u8mf8x6(vuint8mf8_t v0, vuint8mf8_t v1,
                                     vuint8mf8_t v2, vuint8mf8_t v3,
                                     vuint8mf8_t v4, vuint8mf8_t v5);
vuint8mf8x7_t __riscv_vcreate_v_u8mf8x7(vuint8mf8_t v0, vuint8mf8_t v1,
                                     vuint8mf8_t v2, vuint8mf8_t v3,
                                     vuint8mf8_t v4, vuint8mf8_t v5,
                                     vuint8mf8_t v6);
vuint8mf8x8_t __riscv_vcreate_v_u8mf8x8(vuint8mf8_t v0, vuint8mf8_t v1,
                                     vuint8mf8_t v2, vuint8mf8_t v3,
                                     vuint8mf8_t v4, vuint8mf8_t v5,
                                     vuint8mf8_t v6, vuint8mf8_t v7);
vuint8mf4x2_t __riscv_vcreate_v_u8mf4x2(vuint8mf4_t v0, vuint8mf4_t v1);
vuint8mf4x3_t __riscv_vcreate_v_u8mf4x3(vuint8mf4_t v0, vuint8mf4_t v1,
                                     vuint8mf4_t v2);
vuint8mf4x4_t __riscv_vcreate_v_u8mf4x4(vuint8mf4_t v0, vuint8mf4_t v1,
```

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                                      vuint8mf4_t v2, vuint8mf4_t v3);
vuint8mf4x5_t __riscv_vcreate_v_u8mf4x5(vuint8mf4_t v0, vuint8mf4_t v1,
                                      vuint8mf4_t v2, vuint8mf4_t v3,
                                      vuint8mf4_t v4);
vuint8mf4x6_t __riscv_vcreate_v_u8mf4x6(vuint8mf4_t v0, vuint8mf4_t v1,
                                      vuint8mf4_t v2, vuint8mf4_t v3,
                                      vuint8mf4_t v4, vuint8mf4_t v5);
vuint8mf4x7_t __riscv_vcreate_v_u8mf4x7(vuint8mf4_t v0, vuint8mf4_t v1,
                                      vuint8mf4_t v2, vuint8mf4_t v3,
                                      vuint8mf4_t v4, vuint8mf4_t v5,
                                      vuint8mf4_t v6);
vuint8mf4x8_t __riscv_vcreate_v_u8mf4x8(vuint8mf4_t v0, vuint8mf4_t v1,
                                      vuint8mf4_t v2, vuint8mf4_t v3,
                                      vuint8mf4_t v4, vuint8mf4_t v5,
                                      vuint8mf4_t v6, vuint8mf4_t v7);
vuint8mf2x2_t __riscv_vcreate_v_u8mf2x2(vuint8mf2_t v0, vuint8mf2_t v1);
vuint8mf2x3_t __riscv_vcreate_v_u8mf2x3(vuint8mf2_t v0, vuint8mf2_t v1,
                                      vuint8mf2_t v2);
vuint8mf2x4_t __riscv_vcreate_v_u8mf2x4(vuint8mf2_t v0, vuint8mf2_t v1,
                                      vuint8mf2_t v2, vuint8mf2_t v3);
vuint8mf2x5_t __riscv_vcreate_v_u8mf2x5(vuint8mf2_t v0, vuint8mf2_t v1,
                                      vuint8mf2_t v2, vuint8mf2_t v3,
                                      vuint8mf2_t v4);
vuint8mf2x6_t __riscv_vcreate_v_u8mf2x6(vuint8mf2_t v0, vuint8mf2_t v1,
                                      vuint8mf2_t v2, vuint8mf2_t v3,
                                      vuint8mf2_t v4, vuint8mf2_t v5);
vuint8mf2x7_t __riscv_vcreate_v_u8mf2x7(vuint8mf2_t v0, vuint8mf2_t v1,
                                      vuint8mf2_t v2, vuint8mf2_t v3,
                                      vuint8mf2_t v4, vuint8mf2_t v5,
                                      vuint8mf2_t v6);
vuint8mf2x8_t __riscv_vcreate_v_u8mf2x8(vuint8mf2_t v0, vuint8mf2_t v1,
                                      vuint8mf2_t v2, vuint8mf2_t v3,
                                      vuint8mf2_t v4, vuint8mf2_t v5,
                                      vuint8mf2_t v6, vuint8mf2_t v7);
vuint8m1x2_t __riscv_vcreate_v_u8m1x2(vuint8m1_t v0, vuint8m1_t v1);
vuint8m1x3_t __riscv_vcreate_v_u8m1x3(vuint8m1_t v0, vuint8m1_t v1,
                                    vuint8m1_t v2);
vuint8m1x4_t __riscv_vcreate_v_u8m1x4(vuint8m1_t v0, vuint8m1_t v1,
                                    vuint8m1_t v2, vuint8m1_t v3);
vuint8m1x5_t __riscv_vcreate_v_u8m1x5(vuint8m1_t v0, vuint8m1_t v1,
                                    vuint8m1_t v2, vuint8m1_t v3,
                                    vuint8m1_t v4);
vuint8m1x6_t __riscv_vcreate_v_u8m1x6(vuint8m1_t v0, vuint8m1_t v1,
                                    vuint8m1_t v2, vuint8m1_t v3,
                                    vuint8m1_t v4, vuint8m1_t v5);
vuint8m1x7_t __riscv_vcreate_v_u8m1x7(vuint8m1_t v0, vuint8m1_t v1,
                                    vuint8m1_t v2, vuint8m1_t v3,
                                    vuint8m1_t v4, vuint8m1_t v5,
                                    vuint8m1_t v6);
vuint8m1x8_t __riscv_vcreate_v_u8m1x8(vuint8m1_t v0, vuint8m1_t v1,
                                    vuint8m1_t v2, vuint8m1_t v3,
                                    vuint8m1_t v4, vuint8m1_t v5,
                                    vuint8m1_t v6, vuint8m1_t v7);
vuint8m2x2_t __riscv_vcreate_v_u8m2x2(vuint8m2_t v0, vuint8m2_t v1);
vuint8m2x3_t __riscv_vcreate_v_u8m2x3(vuint8m2_t v0, vuint8m2_t v1,
                                    vuint8m2_t v2);
vuint8m2x4_t __riscv_vcreate_v_u8m2x4(vuint8m2_t v0, vuint8m2_t v1,
                                    vuint8m2_t v2, vuint8m2_t v3);
vuint8m4x2_t __riscv_vcreate_v_u8m4x2(vuint8m4_t v0, vuint8m4_t v1);
vuint16mf4x2_t __riscv_vcreate_v_u16mf4x2(vuint16mf4_t v0, vuint16mf4_t v1);
vuint16mf4x3_t __riscv_vcreate_v_u16mf4x3(vuint16mf4_t v0, vuint16mf4_t v1,
                                        vuint16mf4_t v2);
vuint16mf4x4_t __riscv_vcreate_v_u16mf4x4(vuint16mf4_t v0, vuint16mf4_t v1,
                                        vuint16mf4_t v2, vuint16mf4_t v3);
vuint16mf4x5_t __riscv_vcreate_v_u16mf4x5(vuint16mf4_t v0, vuint16mf4_t v1,
                                        vuint16mf4_t v2, vuint16mf4_t v3,
                                        vuint16mf4_t v4);
```

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vuint16mf4x6_t __riscv_vcreate_v_u16mf4x6(vuint16mf4_t v0, vuint16mf4_t v1,
                                          vuint16mf4_t v2, vuint16mf4_t v3,
                                          vuint16mf4_t v4, vuint16mf4_t v5);
vuint16mf4x7_t __riscv_vcreate_v_u16mf4x7(vuint16mf4_t v0, vuint16mf4_t v1,
                                          vuint16mf4_t v2, vuint16mf4_t v3,
                                          vuint16mf4_t v4, vuint16mf4_t v5,
                                          vuint16mf4_t v6);
vuint16mf4x8_t __riscv_vcreate_v_u16mf4x8(vuint16mf4_t v0, vuint16mf4_t v1,
                                          vuint16mf4_t v2, vuint16mf4_t v3,
                                          vuint16mf4_t v4, vuint16mf4_t v5,
                                          vuint16mf4_t v6, vuint16mf4_t v7);
vuint16mf2x2_t __riscv_vcreate_v_u16mf2x2(vuint16mf2_t v0, vuint16mf2_t v1);
vuint16mf2x3_t __riscv_vcreate_v_u16mf2x3(vuint16mf2_t v0, vuint16mf2_t v1,
                                          vuint16mf2_t v2);
vuint16mf2x4_t __riscv_vcreate_v_u16mf2x4(vuint16mf2_t v0, vuint16mf2_t v1,
                                          vuint16mf2_t v2, vuint16mf2_t v3);
vuint16mf2x5_t __riscv_vcreate_v_u16mf2x5(vuint16mf2_t v0, vuint16mf2_t v1,
                                          vuint16mf2_t v2, vuint16mf2_t v3,
                                          vuint16mf2_t v4);
vuint16mf2x6_t __riscv_vcreate_v_u16mf2x6(vuint16mf2_t v0, vuint16mf2_t v1,
                                          vuint16mf2_t v2, vuint16mf2_t v3,
                                          vuint16mf2_t v4, vuint16mf2_t v5);
vuint16mf2x7_t __riscv_vcreate_v_u16mf2x7(vuint16mf2_t v0, vuint16mf2_t v1,
                                          vuint16mf2_t v2, vuint16mf2_t v3,
                                          vuint16mf2_t v4, vuint16mf2_t v5,
                                          vuint16mf2_t v6);
vuint16mf2x8_t __riscv_vcreate_v_u16mf2x8(vuint16mf2_t v0, vuint16mf2_t v1,
                                          vuint16mf2_t v2, vuint16mf2_t v3,
                                          vuint16mf2_t v4, vuint16mf2_t v5,
                                          vuint16mf2_t v6, vuint16mf2_t v7);
vuint16m1x2_t __riscv_vcreate_v_u16m1x2(vuint16m1_t v0, vuint16m1_t v1);
vuint16m1x3_t __riscv_vcreate_v_u16m1x3(vuint16m1_t v0, vuint16m1_t v1,
                                        vuint16m1_t v2);
vuint16m1x4_t __riscv_vcreate_v_u16m1x4(vuint16m1_t v0, vuint16m1_t v1,
                                        vuint16m1_t v2, vuint16m1_t v3);
vuint16m1x5_t __riscv_vcreate_v_u16m1x5(vuint16m1_t v0, vuint16m1_t v1,
                                        vuint16m1_t v2, vuint16m1_t v3,
                                        vuint16m1_t v4);
vuint16m1x6_t __riscv_vcreate_v_u16m1x6(vuint16m1_t v0, vuint16m1_t v1,
                                        vuint16m1_t v2, vuint16m1_t v3,
                                        vuint16m1_t v4, vuint16m1_t v5);
vuint16m1x7_t __riscv_vcreate_v_u16m1x7(vuint16m1_t v0, vuint16m1_t v1,
                                        vuint16m1_t v2, vuint16m1_t v3,
                                        vuint16m1_t v4, vuint16m1_t v5,
                                        vuint16m1_t v6);
vuint16m1x8_t __riscv_vcreate_v_u16m1x8(vuint16m1_t v0, vuint16m1_t v1,
                                        vuint16m1_t v2, vuint16m1_t v3,
                                        vuint16m1_t v4, vuint16m1_t v5,
                                        vuint16m1_t v6, vuint16m1_t v7);
vuint16m2x2_t __riscv_vcreate_v_u16m2x2(vuint16m2_t v0, vuint16m2_t v1);
vuint16m2x3_t __riscv_vcreate_v_u16m2x3(vuint16m2_t v0, vuint16m2_t v1,
                                        vuint16m2_t v2);
vuint16m2x4_t __riscv_vcreate_v_u16m2x4(vuint16m2_t v0, vuint16m2_t v1,
                                        vuint16m2_t v2, vuint16m2_t v3);
vuint16m4x2_t __riscv_vcreate_v_u16m4x2(vuint16m4_t v0, vuint16m4_t v1);
vuint32mf2x2_t __riscv_vcreate_v_u32mf2x2(vuint32mf2_t v0, vuint32mf2_t v1);
vuint32mf2x3_t __riscv_vcreate_v_u32mf2x3(vuint32mf2_t v0, vuint32mf2_t v1,
                                          vuint32mf2_t v2);
vuint32mf2x4_t __riscv_vcreate_v_u32mf2x4(vuint32mf2_t v0, vuint32mf2_t v1,
                                          vuint32mf2_t v2, vuint32mf2_t v3);
vuint32mf2x5_t __riscv_vcreate_v_u32mf2x5(vuint32mf2_t v0, vuint32mf2_t v1,
                                          vuint32mf2_t v2, vuint32mf2_t v3,
                                          vuint32mf2_t v4);
vuint32mf2x6_t __riscv_vcreate_v_u32mf2x6(vuint32mf2_t v0, vuint32mf2_t v1,
                                          vuint32mf2_t v2, vuint32mf2_t v3,
                                          vuint32mf2_t v4, vuint32mf2_t v5);
vuint32mf2x7_t __riscv_vcreate_v_u32mf2x7(vuint32mf2_t v0, vuint32mf2_t v1,
```

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                                        vuint32mf2_t v2, vuint32mf2_t v3,
                                        vuint32mf2_t v4, vuint32mf2_t v5,
                                        vuint32mf2_t v6);
vuint32mf2x8_t __riscv_vcreate_v_u32mf2x8(vuint32mf2_t v0, vuint32mf2_t v1,
                                        vuint32mf2_t v2, vuint32mf2_t v3,
                                        vuint32mf2_t v4, vuint32mf2_t v5,
                                        vuint32mf2_t v6, vuint32mf2_t v7);
vuint32m1x2_t __riscv_vcreate_v_u32m1x2(vuint32m1_t v0, vuint32m1_t v1);
vuint32m1x3_t __riscv_vcreate_v_u32m1x3(vuint32m1_t v0, vuint32m1_t v1,
                                      vuint32m1_t v2);
vuint32m1x4_t __riscv_vcreate_v_u32m1x4(vuint32m1_t v0, vuint32m1_t v1,
                                      vuint32m1_t v2, vuint32m1_t v3);
vuint32m1x5_t __riscv_vcreate_v_u32m1x5(vuint32m1_t v0, vuint32m1_t v1,
                                      vuint32m1_t v2, vuint32m1_t v3,
                                      vuint32m1_t v4);
vuint32m1x6_t __riscv_vcreate_v_u32m1x6(vuint32m1_t v0, vuint32m1_t v1,
                                      vuint32m1_t v2, vuint32m1_t v3,
                                      vuint32m1_t v4, vuint32m1_t v5);
vuint32m1x7_t __riscv_vcreate_v_u32m1x7(vuint32m1_t v0, vuint32m1_t v1,
                                      vuint32m1_t v2, vuint32m1_t v3,
                                      vuint32m1_t v4, vuint32m1_t v5,
                                      vuint32m1_t v6);
vuint32m1x8_t __riscv_vcreate_v_u32m1x8(vuint32m1_t v0, vuint32m1_t v1,
                                      vuint32m1_t v2, vuint32m1_t v3,
                                      vuint32m1_t v4, vuint32m1_t v5,
                                      vuint32m1_t v6, vuint32m1_t v7);
vuint32m2x2_t __riscv_vcreate_v_u32m2x2(vuint32m2_t v0, vuint32m2_t v1);
vuint32m2x3_t __riscv_vcreate_v_u32m2x3(vuint32m2_t v0, vuint32m2_t v1,
                                      vuint32m2_t v2);
vuint32m2x4_t __riscv_vcreate_v_u32m2x4(vuint32m2_t v0, vuint32m2_t v1,
                                      vuint32m2_t v2, vuint32m2_t v3);
vuint32m4x2_t __riscv_vcreate_v_u32m4x2(vuint32m4_t v0, vuint32m4_t v1);
vuint64m1x2_t __riscv_vcreate_v_u64m1x2(vuint64m1_t v0, vuint64m1_t v1);
vuint64m1x3_t __riscv_vcreate_v_u64m1x3(vuint64m1_t v0, vuint64m1_t v1,
                                      vuint64m1_t v2);
vuint64m1x4_t __riscv_vcreate_v_u64m1x4(vuint64m1_t v0, vuint64m1_t v1,
                                      vuint64m1_t v2, vuint64m1_t v3);
vuint64m1x5_t __riscv_vcreate_v_u64m1x5(vuint64m1_t v0, vuint64m1_t v1,
                                      vuint64m1_t v2, vuint64m1_t v3,
                                      vuint64m1_t v4);
vuint64m1x6_t __riscv_vcreate_v_u64m1x6(vuint64m1_t v0, vuint64m1_t v1,
                                      vuint64m1_t v2, vuint64m1_t v3,
                                      vuint64m1_t v4, vuint64m1_t v5);
vuint64m1x7_t __riscv_vcreate_v_u64m1x7(vuint64m1_t v0, vuint64m1_t v1,
                                      vuint64m1_t v2, vuint64m1_t v3,
                                      vuint64m1_t v4, vuint64m1_t v5,
                                      vuint64m1_t v6);
vuint64m1x8_t __riscv_vcreate_v_u64m1x8(vuint64m1_t v0, vuint64m1_t v1,
                                      vuint64m1_t v2, vuint64m1_t v3,
                                      vuint64m1_t v4, vuint64m1_t v5,
                                      vuint64m1_t v6, vuint64m1_t v7);
vuint64m2x2_t __riscv_vcreate_v_u64m2x2(vuint64m2_t v0, vuint64m2_t v1);
vuint64m2x3_t __riscv_vcreate_v_u64m2x3(vuint64m2_t v0, vuint64m2_t v1,
                                      vuint64m2_t v2);
vuint64m2x4_t __riscv_vcreate_v_u64m2x4(vuint64m2_t v0, vuint64m2_t v1,
                                      vuint64m2_t v2, vuint64m2_t v3);
vuint64m4x2_t __riscv_vcreate_v_u64m4x2(vuint64m4_t v0, vuint64m4_t v1);
```

Appendix B: Explicit (Non-overloaded) intrinsics, policy variants

B.1. Vector Loads and Stores Intrinsics

B.1.1. Vector Unit-Stride Load Intrinsics

```
vfloat16mf4_t __riscv_vle16_v_f16mf4_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vle16_v_f16mf2_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                        size_t vl);
vfloat16m1_t __riscv_vle16_v_f16m1_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                      size_t vl);
vfloat16m2_t __riscv_vle16_v_f16m2_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                      size_t vl);
vfloat16m4_t __riscv_vle16_v_f16m4_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                      size_t vl);
vfloat16m8_t __riscv_vle16_v_f16m8_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vle32_v_f32mf2_tu(vfloat32mf2_t vd, const float *rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vle32_v_f32m1_tu(vfloat32m1_t vd, const float *rs1,
                                      size_t vl);
vfloat32m2_t __riscv_vle32_v_f32m2_tu(vfloat32m2_t vd, const float *rs1,
                                      size_t vl);
vfloat32m4_t __riscv_vle32_v_f32m4_tu(vfloat32m4_t vd, const float *rs1,
                                      size_t vl);
vfloat32m8_t __riscv_vle32_v_f32m8_tu(vfloat32m8_t vd, const float *rs1,
                                      size_t vl);
vfloat64m1_t __riscv_vle64_v_f64m1_tu(vfloat64m1_t vd, const double *rs1,
                                      size_t vl);
vfloat64m2_t __riscv_vle64_v_f64m2_tu(vfloat64m2_t vd, const double *rs1,
                                      size_t vl);
vfloat64m4_t __riscv_vle64_v_f64m4_tu(vfloat64m4_t vd, const double *rs1,
                                      size_t vl);
vfloat64m8_t __riscv_vle64_v_f64m8_tu(vfloat64m8_t vd, const double *rs1,
                                      size_t vl);
vint8mf8_t __riscv_vle8_v_i8mf8_tu(vint8mf8_t vd, const int8_t *rs1, size_t vl);
vint8mf4_t __riscv_vle8_v_i8mf4_tu(vint8mf4_t vd, const int8_t *rs1, size_t vl);
vint8mf2_t __riscv_vle8_v_i8mf2_tu(vint8mf2_t vd, const int8_t *rs1, size_t vl);
vint8m1_t __riscv_vle8_v_i8m1_tu(vint8m1_t vd, const int8_t *rs1, size_t vl);
vint8m2_t __riscv_vle8_v_i8m2_tu(vint8m2_t vd, const int8_t *rs1, size_t vl);
vint8m4_t __riscv_vle8_v_i8m4_tu(vint8m4_t vd, const int8_t *rs1, size_t vl);
vint8m8_t __riscv_vle8_v_i8m8_tu(vint8m8_t vd, const int8_t *rs1, size_t vl);
vint16mf4_t __riscv_vle16_v_i16mf4_tu(vint16mf4_t vd, const int16_t *rs1,
                                      size_t vl);
vint16mf2_t __riscv_vle16_v_i16mf2_tu(vint16mf2_t vd, const int16_t *rs1,
                                      size_t vl);
vint16m1_t __riscv_vle16_v_i16m1_tu(vint16m1_t vd, const int16_t *rs1,
                                    size_t vl);
vint16m2_t __riscv_vle16_v_i16m2_tu(vint16m2_t vd, const int16_t *rs1,
                                    size_t vl);
vint16m4_t __riscv_vle16_v_i16m4_tu(vint16m4_t vd, const int16_t *rs1,
                                    size_t vl);
vint16m8_t __riscv_vle16_v_i16m8_tu(vint16m8_t vd, const int16_t *rs1,
                                    size_t vl);
vint32mf2_t __riscv_vle32_v_i32mf2_tu(vint32mf2_t vd, const int32_t *rs1,
                                      size_t vl);
vint32m1_t __riscv_vle32_v_i32m1_tu(vint32m1_t vd, const int32_t *rs1,
                                    size_t vl);
vint32m2_t __riscv_vle32_v_i32m2_tu(vint32m2_t vd, const int32_t *rs1,
```

```
                                    size_t vl);
vint32m4_t __riscv_vle32_v_i32m4_tu(vint32m4_t vd, const int32_t *rs1,
                                    size_t vl);
vint32m8_t __riscv_vle32_v_i32m8_tu(vint32m8_t vd, const int32_t *rs1,
                                    size_t vl);
vint64m1_t __riscv_vle64_v_i64m1_tu(vint64m1_t vd, const int64_t *rs1,
                                    size_t vl);
vint64m2_t __riscv_vle64_v_i64m2_tu(vint64m2_t vd, const int64_t *rs1,
                                    size_t vl);
vint64m4_t __riscv_vle64_v_i64m4_tu(vint64m4_t vd, const int64_t *rs1,
                                    size_t vl);
vint64m8_t __riscv_vle64_v_i64m8_tu(vint64m8_t vd, const int64_t *rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vle8_v_u8mf8_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                    size_t vl);
vuint8mf4_t __riscv_vle8_v_u8mf4_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                    size_t vl);
vuint8mf2_t __riscv_vle8_v_u8mf2_tu(vuint8mf2_t vd, const uint8_t *rs1,
                                    size_t vl);
vuint8m1_t __riscv_vle8_v_u8m1_tu(vuint8m1_t vd, const uint8_t *rs1, size_t vl);
vuint8m2_t __riscv_vle8_v_u8m2_tu(vuint8m2_t vd, const uint8_t *rs1, size_t vl);
vuint8m4_t __riscv_vle8_v_u8m4_tu(vuint8m4_t vd, const uint8_t *rs1, size_t vl);
vuint8m8_t __riscv_vle8_v_u8m8_tu(vuint8m8_t vd, const uint8_t *rs1, size_t vl);
vuint16mf4_t __riscv_vle16_v_u16mf4_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vle16_v_u16mf2_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                       size_t vl);
vuint16m1_t __riscv_vle16_v_u16m1_tu(vuint16m1_t vd, const uint16_t *rs1,
                                     size_t vl);
vuint16m2_t __riscv_vle16_v_u16m2_tu(vuint16m2_t vd, const uint16_t *rs1,
                                     size_t vl);
vuint16m4_t __riscv_vle16_v_u16m4_tu(vuint16m4_t vd, const uint16_t *rs1,
                                     size_t vl);
vuint16m8_t __riscv_vle16_v_u16m8_tu(vuint16m8_t vd, const uint16_t *rs1,
                                     size_t vl);
vuint32mf2_t __riscv_vle32_v_u32mf2_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                       size_t vl);
vuint32m1_t __riscv_vle32_v_u32m1_tu(vuint32m1_t vd, const uint32_t *rs1,
                                     size_t vl);
vuint32m2_t __riscv_vle32_v_u32m2_tu(vuint32m2_t vd, const uint32_t *rs1,
                                     size_t vl);
vuint32m4_t __riscv_vle32_v_u32m4_tu(vuint32m4_t vd, const uint32_t *rs1,
                                     size_t vl);
vuint32m8_t __riscv_vle32_v_u32m8_tu(vuint32m8_t vd, const uint32_t *rs1,
                                     size_t vl);
vuint64m1_t __riscv_vle64_v_u64m1_tu(vuint64m1_t vd, const uint64_t *rs1,
                                     size_t vl);
vuint64m2_t __riscv_vle64_v_u64m2_tu(vuint64m2_t vd, const uint64_t *rs1,
                                     size_t vl);
vuint64m4_t __riscv_vle64_v_u64m4_tu(vuint64m4_t vd, const uint64_t *rs1,
                                     size_t vl);
vuint64m8_t __riscv_vle64_v_u64m8_tu(vuint64m8_t vd, const uint64_t *rs1,
                                     size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                         const _Float16 *rs1, size_t vl);
vfloat16mf2_t __riscv_vle16_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                         const _Float16 *rs1, size_t vl);
vfloat16m1_t __riscv_vle16_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16m2_t __riscv_vle16_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16m4_t __riscv_vle16_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16m8_t __riscv_vle16_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat32mf2_t __riscv_vle32_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
```

```
                                        const float *rs1, size_t vl);
vfloat32m1_t __riscv_vle32_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                       const float *rs1, size_t vl);
vfloat32m2_t __riscv_vle32_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                       const float *rs1, size_t vl);
vfloat32m4_t __riscv_vle32_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                       const float *rs1, size_t vl);
vfloat32m8_t __riscv_vle32_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                       const float *rs1, size_t vl);
vfloat64m1_t __riscv_vle64_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                       const double *rs1, size_t vl);
vfloat64m2_t __riscv_vle64_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                       const double *rs1, size_t vl);
vfloat64m4_t __riscv_vle64_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                       const double *rs1, size_t vl);
vfloat64m8_t __riscv_vle64_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                       const double *rs1, size_t vl);
vint8mf8_t __riscv_vle8_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                    const int8_t *rs1, size_t vl);
vint8mf4_t __riscv_vle8_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                    const int8_t *rs1, size_t vl);
vint8mf2_t __riscv_vle8_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                    const int8_t *rs1, size_t vl);
vint8m1_t __riscv_vle8_v_i8m1_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                  size_t vl);
vint8m2_t __riscv_vle8_v_i8m2_tum(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                                  size_t vl);
vint8m4_t __riscv_vle8_v_i8m4_tum(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                                  size_t vl);
vint8m8_t __riscv_vle8_v_i8m8_tum(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                                  size_t vl);
vint16mf4_t __riscv_vle16_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       const int16_t *rs1, size_t vl);
vint16mf2_t __riscv_vle16_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       const int16_t *rs1, size_t vl);
vint16m1_t __riscv_vle16_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     const int16_t *rs1, size_t vl);
vint16m2_t __riscv_vle16_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                     const int16_t *rs1, size_t vl);
vint16m4_t __riscv_vle16_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                     const int16_t *rs1, size_t vl);
vint16m8_t __riscv_vle16_v_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                     const int16_t *rs1, size_t vl);
vint32mf2_t __riscv_vle32_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       const int32_t *rs1, size_t vl);
vint32m1_t __riscv_vle32_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     const int32_t *rs1, size_t vl);
vint32m2_t __riscv_vle32_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     const int32_t *rs1, size_t vl);
vint32m4_t __riscv_vle32_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                     const int32_t *rs1, size_t vl);
vint32m8_t __riscv_vle32_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                     const int32_t *rs1, size_t vl);
vint64m1_t __riscv_vle64_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     const int64_t *rs1, size_t vl);
vint64m2_t __riscv_vle64_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     const int64_t *rs1, size_t vl);
vint64m4_t __riscv_vle64_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     const int64_t *rs1, size_t vl);
vint64m8_t __riscv_vle64_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                     const int64_t *rs1, size_t vl);
vuint8mf8_t __riscv_vle8_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                     const uint8_t *rs1, size_t vl);
vuint8mf4_t __riscv_vle8_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                     const uint8_t *rs1, size_t vl);
vuint8mf2_t __riscv_vle8_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                     const uint8_t *rs1, size_t vl);
```

```
vuint8m1_t __riscv_vle8_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m2_t __riscv_vle8_v_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m4_t __riscv_vle8_v_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m8_t __riscv_vle8_v_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint16mf4_t __riscv_vle16_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        const uint16_t *rs1, size_t vl);
vuint16mf2_t __riscv_vle16_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        const uint16_t *rs1, size_t vl);
vuint16m1_t __riscv_vle16_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16m2_t __riscv_vle16_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16m4_t __riscv_vle16_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16m8_t __riscv_vle16_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint32mf2_t __riscv_vle32_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1, size_t vl);
vuint32m1_t __riscv_vle32_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32m2_t __riscv_vle32_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32m4_t __riscv_vle32_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32m8_t __riscv_vle32_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint64m1_t __riscv_vle64_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      const uint64_t *rs1, size_t vl);
vuint64m2_t __riscv_vle64_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      const uint64_t *rs1, size_t vl);
vuint64m4_t __riscv_vle64_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      const uint64_t *rs1, size_t vl);
vuint64m8_t __riscv_vle64_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      const uint64_t *rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          const _Float16 *rs1, size_t vl);
vfloat16mf2_t __riscv_vle16_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          const _Float16 *rs1, size_t vl);
vfloat16m1_t __riscv_vle16_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        const _Float16 *rs1, size_t vl);
vfloat16m2_t __riscv_vle16_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        const _Float16 *rs1, size_t vl);
vfloat16m4_t __riscv_vle16_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        const _Float16 *rs1, size_t vl);
vfloat16m8_t __riscv_vle16_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        const _Float16 *rs1, size_t vl);
vfloat32mf2_t __riscv_vle32_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          const float *rs1, size_t vl);
vfloat32m1_t __riscv_vle32_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        const float *rs1, size_t vl);
vfloat32m2_t __riscv_vle32_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        const float *rs1, size_t vl);
vfloat32m4_t __riscv_vle32_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        const float *rs1, size_t vl);
vfloat32m8_t __riscv_vle32_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        const float *rs1, size_t vl);
vfloat64m1_t __riscv_vle64_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, size_t vl);
vfloat64m2_t __riscv_vle64_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, size_t vl);
vfloat64m4_t __riscv_vle64_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, size_t vl);
```

```
vfloat64m8_t __riscv_vle64_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, size_t vl);
vint8mf8_t __riscv_vle8_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                     const int8_t *rs1, size_t vl);
vint8mf4_t __riscv_vle8_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                     const int8_t *rs1, size_t vl);
vint8mf2_t __riscv_vle8_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                     const int8_t *rs1, size_t vl);
vint8m1_t __riscv_vle8_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                   size_t vl);
vint8m2_t __riscv_vle8_v_i8m2_tumu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                                   size_t vl);
vint8m4_t __riscv_vle8_v_i8m4_tumu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                                   size_t vl);
vint8m8_t __riscv_vle8_v_i8m8_tumu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                                   size_t vl);
vint16mf4_t __riscv_vle16_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        const int16_t *rs1, size_t vl);
vint16mf2_t __riscv_vle16_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        const int16_t *rs1, size_t vl);
vint16m1_t __riscv_vle16_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      const int16_t *rs1, size_t vl);
vint16m2_t __riscv_vle16_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      const int16_t *rs1, size_t vl);
vint16m4_t __riscv_vle16_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      const int16_t *rs1, size_t vl);
vint16m8_t __riscv_vle16_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      const int16_t *rs1, size_t vl);
vint32mf2_t __riscv_vle32_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        const int32_t *rs1, size_t vl);
vint32m1_t __riscv_vle32_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      const int32_t *rs1, size_t vl);
vint32m2_t __riscv_vle32_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      const int32_t *rs1, size_t vl);
vint32m4_t __riscv_vle32_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      const int32_t *rs1, size_t vl);
vint32m8_t __riscv_vle32_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      const int32_t *rs1, size_t vl);
vint64m1_t __riscv_vle64_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, size_t vl);
vint64m2_t __riscv_vle64_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, size_t vl);
vint64m4_t __riscv_vle64_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, size_t vl);
vint64m8_t __riscv_vle64_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, size_t vl);
vuint8mf8_t __riscv_vle8_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      const uint8_t *rs1, size_t vl);
vuint8mf4_t __riscv_vle8_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      const uint8_t *rs1, size_t vl);
vuint8mf2_t __riscv_vle8_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      const uint8_t *rs1, size_t vl);
vuint8m1_t __riscv_vle8_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8m2_t __riscv_vle8_v_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8m4_t __riscv_vle8_v_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8m8_t __riscv_vle8_v_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint16mf4_t __riscv_vle16_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         const uint16_t *rs1, size_t vl);
vuint16mf2_t __riscv_vle16_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         const uint16_t *rs1, size_t vl);
vuint16m1_t __riscv_vle16_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       const uint16_t *rs1, size_t vl);
vuint16m2_t __riscv_vle16_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
```

```
                                      const uint16_t *rs1, size_t vl);
vuint16m4_t __riscv_vle16_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16m8_t __riscv_vle16_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint32mf2_t __riscv_vle32_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1, size_t vl);
vuint32m1_t __riscv_vle32_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32m2_t __riscv_vle32_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32m4_t __riscv_vle32_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32m8_t __riscv_vle32_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint64m1_t __riscv_vle64_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                      const uint64_t *rs1, size_t vl);
vuint64m2_t __riscv_vle64_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                      const uint64_t *rs1, size_t vl);
vuint64m4_t __riscv_vle64_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      const uint64_t *rs1, size_t vl);
vuint64m8_t __riscv_vle64_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      const uint64_t *rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf2_t __riscv_vle16_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16m1_t __riscv_vle16_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m2_t __riscv_vle16_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m4_t __riscv_vle16_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m8_t __riscv_vle16_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat32mf2_t __riscv_vle32_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                       const float *rs1, size_t vl);
vfloat32m1_t __riscv_vle32_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                     const float *rs1, size_t vl);
vfloat32m2_t __riscv_vle32_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                     const float *rs1, size_t vl);
vfloat32m4_t __riscv_vle32_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                     const float *rs1, size_t vl);
vfloat32m8_t __riscv_vle32_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                     const float *rs1, size_t vl);
vfloat64m1_t __riscv_vle64_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                     const double *rs1, size_t vl);
vfloat64m2_t __riscv_vle64_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                     const double *rs1, size_t vl);
vfloat64m4_t __riscv_vle64_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                     const double *rs1, size_t vl);
vfloat64m8_t __riscv_vle64_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                     const double *rs1, size_t vl);
vint8mf8_t __riscv_vle8_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf4_t __riscv_vle8_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf2_t __riscv_vle8_v_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                   const int8_t *rs1, size_t vl);
vint8m1_t __riscv_vle8_v_i8m1_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m2_t __riscv_vle8_v_i8m2_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m4_t __riscv_vle8_v_i8m4_mu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m8_t __riscv_vle8_v_i8m8_mu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
```

```
                                  size_t vl);
vint16mf4_t __riscv_vle16_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      const int16_t *rs1, size_t vl);
vint16mf2_t __riscv_vle16_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      const int16_t *rs1, size_t vl);
vint16m1_t __riscv_vle16_v_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m2_t __riscv_vle16_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m4_t __riscv_vle16_v_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m8_t __riscv_vle16_v_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                    const int16_t *rs1, size_t vl);
vint32mf2_t __riscv_vle32_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      const int32_t *rs1, size_t vl);
vint32m1_t __riscv_vle32_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m2_t __riscv_vle32_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m4_t __riscv_vle32_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m8_t __riscv_vle32_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                    const int32_t *rs1, size_t vl);
vint64m1_t __riscv_vle64_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m2_t __riscv_vle64_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m4_t __riscv_vle64_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m8_t __riscv_vle64_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                    const int64_t *rs1, size_t vl);
vuint8mf8_t __riscv_vle8_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8mf4_t __riscv_vle8_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8mf2_t __riscv_vle8_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8m1_t __riscv_vle8_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m2_t __riscv_vle8_v_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m4_t __riscv_vle8_v_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m8_t __riscv_vle8_v_u8m8_mu(vbool1_t vm, vuint8m8_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint16mf4_t __riscv_vle16_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       const uint16_t *rs1, size_t vl);
vuint16mf2_t __riscv_vle16_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       const uint16_t *rs1, size_t vl);
vuint16m1_t __riscv_vle16_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m2_t __riscv_vle16_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m4_t __riscv_vle16_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m8_t __riscv_vle16_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint32mf2_t __riscv_vle32_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       const uint32_t *rs1, size_t vl);
vuint32m1_t __riscv_vle32_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m2_t __riscv_vle32_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m4_t __riscv_vle32_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m8_t __riscv_vle32_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                     const uint32_t *rs1, size_t vl);
```

```
vuint64m1_t __riscv_vle64_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m2_t __riscv_vle64_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m4_t __riscv_vle64_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m8_t __riscv_vle64_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                     const uint64_t *rs1, size_t vl);
```

B.1.2. Vector Unit-Stride Store Intrinsics

Intrinsics here don't have a policy variant.

B.1.3. Vector Mask Load/Store Intrinsics

Intrinsics here don't have a policy variant.

B.1.4. Vector Strided Load Intrinsics

```
vfloat16mf4_t __riscv_vlse16_v_f16mf4_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                         ptrdiff_t rs2, size_t vl);
vfloat16mf2_t __riscv_vlse16_v_f16mf2_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                         ptrdiff_t rs2, size_t vl);
vfloat16m1_t __riscv_vlse16_v_f16m1_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                       ptrdiff_t rs2, size_t vl);
vfloat16m2_t __riscv_vlse16_v_f16m2_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                       ptrdiff_t rs2, size_t vl);
vfloat16m4_t __riscv_vlse16_v_f16m4_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                       ptrdiff_t rs2, size_t vl);
vfloat16m8_t __riscv_vlse16_v_f16m8_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                       ptrdiff_t rs2, size_t vl);
vfloat32mf2_t __riscv_vlse32_v_f32mf2_tu(vfloat32mf2_t vd, const float *rs1,
                                         ptrdiff_t rs2, size_t vl);
vfloat32m1_t __riscv_vlse32_v_f32m1_tu(vfloat32m1_t vd, const float *rs1,
                                       ptrdiff_t rs2, size_t vl);
vfloat32m2_t __riscv_vlse32_v_f32m2_tu(vfloat32m2_t vd, const float *rs1,
                                       ptrdiff_t rs2, size_t vl);
vfloat32m4_t __riscv_vlse32_v_f32m4_tu(vfloat32m4_t vd, const float *rs1,
                                       ptrdiff_t rs2, size_t vl);
vfloat32m8_t __riscv_vlse32_v_f32m8_tu(vfloat32m8_t vd, const float *rs1,
                                       ptrdiff_t rs2, size_t vl);
vfloat64m1_t __riscv_vlse64_v_f64m1_tu(vfloat64m1_t vd, const double *rs1,
                                       ptrdiff_t rs2, size_t vl);
vfloat64m2_t __riscv_vlse64_v_f64m2_tu(vfloat64m2_t vd, const double *rs1,
                                       ptrdiff_t rs2, size_t vl);
vfloat64m4_t __riscv_vlse64_v_f64m4_tu(vfloat64m4_t vd, const double *rs1,
                                       ptrdiff_t rs2, size_t vl);
vfloat64m8_t __riscv_vlse64_v_f64m8_tu(vfloat64m8_t vd, const double *rs1,
                                       ptrdiff_t rs2, size_t vl);
vint8mf8_t __riscv_vlse8_v_i8mf8_tu(vint8mf8_t vd, const int8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint8mf4_t __riscv_vlse8_v_i8mf4_tu(vint8mf4_t vd, const int8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint8mf2_t __riscv_vlse8_v_i8mf2_tu(vint8mf2_t vd, const int8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint8m1_t __riscv_vlse8_v_i8m1_tu(vint8m1_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8m2_t __riscv_vlse8_v_i8m2_tu(vint8m2_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8m4_t __riscv_vlse8_v_i8m4_tu(vint8m4_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8m8_t __riscv_vlse8_v_i8m8_tu(vint8m8_t vd, const int8_t *rs1,
```

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                                    ptrdiff_t rs2, size_t vl);
vint16mf4_t __riscv_vlse16_v_i16mf4_tu(vint16mf4_t vd, const int16_t *rs1,
                                       ptrdiff_t rs2, size_t vl);
vint16mf2_t __riscv_vlse16_v_i16mf2_tu(vint16mf2_t vd, const int16_t *rs1,
                                       ptrdiff_t rs2, size_t vl);
vint16m1_t __riscv_vlse16_v_i16m1_tu(vint16m1_t vd, const int16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint16m2_t __riscv_vlse16_v_i16m2_tu(vint16m2_t vd, const int16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint16m4_t __riscv_vlse16_v_i16m4_tu(vint16m4_t vd, const int16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint16m8_t __riscv_vlse16_v_i16m8_tu(vint16m8_t vd, const int16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint32mf2_t __riscv_vlse32_v_i32mf2_tu(vint32mf2_t vd, const int32_t *rs1,
                                       ptrdiff_t rs2, size_t vl);
vint32m1_t __riscv_vlse32_v_i32m1_tu(vint32m1_t vd, const int32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint32m2_t __riscv_vlse32_v_i32m2_tu(vint32m2_t vd, const int32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint32m4_t __riscv_vlse32_v_i32m4_tu(vint32m4_t vd, const int32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint32m8_t __riscv_vlse32_v_i32m8_tu(vint32m8_t vd, const int32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint64m1_t __riscv_vlse64_v_i64m1_tu(vint64m1_t vd, const int64_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint64m2_t __riscv_vlse64_v_i64m2_tu(vint64m2_t vd, const int64_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint64m4_t __riscv_vlse64_v_i64m4_tu(vint64m4_t vd, const int64_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint64m8_t __riscv_vlse64_v_i64m8_tu(vint64m8_t vd, const int64_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint8mf8_t __riscv_vlse8_v_u8mf8_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint8mf4_t __riscv_vlse8_v_u8mf4_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint8mf2_t __riscv_vlse8_v_u8mf2_tu(vuint8mf2_t vd, const uint8_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint8m1_t __riscv_vlse8_v_u8m1_tu(vuint8m1_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint8m2_t __riscv_vlse8_v_u8m2_tu(vuint8m2_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint8m4_t __riscv_vlse8_v_u8m4_tu(vuint8m4_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint8m8_t __riscv_vlse8_v_u8m8_tu(vuint8m8_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint16mf4_t __riscv_vlse16_v_u16mf4_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                        ptrdiff_t rs2, size_t vl);
vuint16mf2_t __riscv_vlse16_v_u16mf2_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                        ptrdiff_t rs2, size_t vl);
vuint16m1_t __riscv_vlse16_v_u16m1_tu(vuint16m1_t vd, const uint16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vuint16m2_t __riscv_vlse16_v_u16m2_tu(vuint16m2_t vd, const uint16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vuint16m4_t __riscv_vlse16_v_u16m4_tu(vuint16m4_t vd, const uint16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vuint16m8_t __riscv_vlse16_v_u16m8_tu(vuint16m8_t vd, const uint16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vuint32mf2_t __riscv_vlse32_v_u32mf2_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                        ptrdiff_t rs2, size_t vl);
vuint32m1_t __riscv_vlse32_v_u32m1_tu(vuint32m1_t vd, const uint32_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vuint32m2_t __riscv_vlse32_v_u32m2_tu(vuint32m2_t vd, const uint32_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vuint32m4_t __riscv_vlse32_v_u32m4_tu(vuint32m4_t vd, const uint32_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vuint32m8_t __riscv_vlse32_v_u32m8_tu(vuint32m8_t vd, const uint32_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
```

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vuint64m1_t __riscv_vlse64_v_u64m1_tu(vuint64m1_t vd, const uint64_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vuint64m2_t __riscv_vlse64_v_u64m2_tu(vuint64m2_t vd, const uint64_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vuint64m4_t __riscv_vlse64_v_u64m4_tu(vuint64m4_t vd, const uint64_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vuint64m8_t __riscv_vlse64_v_u64m8_tu(vuint64m8_t vd, const uint64_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vlse16_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          const _Float16 *rs1, ptrdiff_t rs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vlse16_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          const _Float16 *rs1, ptrdiff_t rs2,
                                          size_t vl);
vfloat16m1_t __riscv_vlse16_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        const _Float16 *rs1, ptrdiff_t rs2,
                                        size_t vl);
vfloat16m2_t __riscv_vlse16_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        const _Float16 *rs1, ptrdiff_t rs2,
                                        size_t vl);
vfloat16m4_t __riscv_vlse16_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        const _Float16 *rs1, ptrdiff_t rs2,
                                        size_t vl);
vfloat16m8_t __riscv_vlse16_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        const _Float16 *rs1, ptrdiff_t rs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vlse32_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          const float *rs1, ptrdiff_t rs2,
                                          size_t vl);
vfloat32m1_t __riscv_vlse32_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        const float *rs1, ptrdiff_t rs2,
                                        size_t vl);
vfloat32m2_t __riscv_vlse32_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        const float *rs1, ptrdiff_t rs2,
                                        size_t vl);
vfloat32m4_t __riscv_vlse32_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        const float *rs1, ptrdiff_t rs2,
                                        size_t vl);
vfloat32m8_t __riscv_vlse32_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        const float *rs1, ptrdiff_t rs2,
                                        size_t vl);
vfloat64m1_t __riscv_vlse64_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, ptrdiff_t rs2,
                                        size_t vl);
vfloat64m2_t __riscv_vlse64_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, ptrdiff_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vlse64_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, ptrdiff_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vlse64_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf8_t __riscv_vlse8_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     const int8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint8mf4_t __riscv_vlse8_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     const int8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint8mf2_t __riscv_vlse8_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     const int8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint8m1_t __riscv_vlse8_v_i8m1_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m2_t __riscv_vlse8_v_i8m2_tum(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
```

```
vint8m4_t __riscv_vlse8_v_i8m4_tum(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m8_t __riscv_vlse8_v_i8m8_tum(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint16mf4_t __riscv_vlse16_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16mf2_t __riscv_vlse16_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        const int16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16m1_t __riscv_vlse16_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16m2_t __riscv_vlse16_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16m4_t __riscv_vlse16_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16m8_t __riscv_vlse16_v_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint32mf2_t __riscv_vlse32_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        const int32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint32m1_t __riscv_vlse32_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      const int32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint32m2_t __riscv_vlse32_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      const int32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint32m4_t __riscv_vlse32_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      const int32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint32m8_t __riscv_vlse32_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      const int32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint64m1_t __riscv_vlse64_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint64m2_t __riscv_vlse64_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint64m4_t __riscv_vlse64_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint64m8_t __riscv_vlse64_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vlse8_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      const uint8_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint8mf4_t __riscv_vlse8_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      const uint8_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint8mf2_t __riscv_vlse8_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      const uint8_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint8m1_t __riscv_vlse8_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8m2_t __riscv_vlse8_v_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8m4_t __riscv_vlse8_v_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
```

```
vuint8m8_t __riscv_vlse8_v_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint16mf4_t __riscv_vlse16_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         const uint16_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vuint16mf2_t __riscv_vlse16_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         const uint16_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vuint16m1_t __riscv_vlse16_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16m2_t __riscv_vlse16_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16m4_t __riscv_vlse16_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16m8_t __riscv_vlse16_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint32mf2_t __riscv_vlse32_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         const uint32_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vuint32m1_t __riscv_vlse32_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       const uint32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint32m2_t __riscv_vlse32_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       const uint32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint32m4_t __riscv_vlse32_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       const uint32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint32m8_t __riscv_vlse32_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       const uint32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint64m1_t __riscv_vlse64_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       const uint64_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint64m2_t __riscv_vlse64_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       const uint64_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint64m4_t __riscv_vlse64_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       const uint64_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint64m8_t __riscv_vlse64_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       const uint64_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
// masked functions
vfloat16mf4_t __riscv_vlse16_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           const _Float16 *rs1, ptrdiff_t rs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vlse16_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           const _Float16 *rs1, ptrdiff_t rs2,
                                           size_t vl);
vfloat16m1_t __riscv_vlse16_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         const _Float16 *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat16m2_t __riscv_vlse16_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         const _Float16 *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat16m4_t __riscv_vlse16_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         const _Float16 *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat16m8_t __riscv_vlse16_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         const _Float16 *rs1, ptrdiff_t rs2,
                                         size_t vl);
```

```
vfloat32mf2_t __riscv_vlse32_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           const float *rs1, ptrdiff_t rs2,
                                           size_t vl);
vfloat32m1_t __riscv_vlse32_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         const float *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat32m2_t __riscv_vlse32_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         const float *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat32m4_t __riscv_vlse32_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         const float *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat32m8_t __riscv_vlse32_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         const float *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat64m1_t __riscv_vlse64_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         const double *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat64m2_t __riscv_vlse64_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                         const double *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat64m4_t __riscv_vlse64_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                         const double *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat64m8_t __riscv_vlse64_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                         const double *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint8mf8_t __riscv_vlse8_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      const int8_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint8mf4_t __riscv_vlse8_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      const int8_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint8mf2_t __riscv_vlse8_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      const int8_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint8m1_t __riscv_vlse8_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8m2_t __riscv_vlse8_v_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8m4_t __riscv_vlse8_v_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8m8_t __riscv_vlse8_v_i8m8_tumu(vbool1_t vm, vint8m8_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf4_t __riscv_vlse16_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         const int16_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint16mf2_t __riscv_vlse16_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         const int16_t *rs1, ptrdiff_t rs2,
                                         size_t vl);
vint16m1_t __riscv_vlse16_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       const int16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint16m2_t __riscv_vlse16_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       const int16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint16m4_t __riscv_vlse16_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       const int16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint16m8_t __riscv_vlse16_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       const int16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint32mf2_t __riscv_vlse32_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
```

```
                                      const int32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint32m1_t __riscv_vlse32_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       const int32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint32m2_t __riscv_vlse32_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       const int32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint32m4_t __riscv_vlse32_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       const int32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint32m8_t __riscv_vlse32_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       const int32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint64m1_t __riscv_vlse64_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       const int64_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint64m2_t __riscv_vlse64_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       const int64_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint64m4_t __riscv_vlse64_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       const int64_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint64m8_t __riscv_vlse64_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       const int64_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint8mf8_t __riscv_vlse8_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       const uint8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint8mf4_t __riscv_vlse8_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       const uint8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint8mf2_t __riscv_vlse8_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       const uint8_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint8m1_t __riscv_vlse8_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8m2_t __riscv_vlse8_v_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8m4_t __riscv_vlse8_v_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8m8_t __riscv_vlse8_v_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf4_t __riscv_vlse16_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          const uint16_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint16mf2_t __riscv_vlse16_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          const uint16_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint16m1_t __riscv_vlse16_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        const uint16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint16m2_t __riscv_vlse16_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        const uint16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint16m4_t __riscv_vlse16_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        const uint16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint16m8_t __riscv_vlse16_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        const uint16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint32mf2_t __riscv_vlse32_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          const uint32_t *rs1, ptrdiff_t rs2,
```

```
                                        size_t vl);
vuint32m1_t __riscv_vlse32_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        const uint32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint32m2_t __riscv_vlse32_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        const uint32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint32m4_t __riscv_vlse32_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        const uint32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint32m8_t __riscv_vlse32_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        const uint32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint64m1_t __riscv_vlse64_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        const uint64_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint64m2_t __riscv_vlse64_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        const uint64_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint64m4_t __riscv_vlse64_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        const uint64_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint64m8_t __riscv_vlse64_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        const uint64_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vlse16_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         const _Float16 *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vlse16_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         const _Float16 *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat16m1_t __riscv_vlse16_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16m2_t __riscv_vlse16_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16m4_t __riscv_vlse16_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16m8_t __riscv_vlse16_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32mf2_t __riscv_vlse32_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         const float *rs1, ptrdiff_t rs2,
                                         size_t vl);
vfloat32m1_t __riscv_vlse32_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32m2_t __riscv_vlse32_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32m4_t __riscv_vlse32_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32m8_t __riscv_vlse32_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m1_t __riscv_vlse64_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m2_t __riscv_vlse64_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m4_t __riscv_vlse64_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       const double *rs1, ptrdiff_t rs2,
```

```
                                      size_t vl);
vfloat64m8_t __riscv_vlse64_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8mf8_t __riscv_vlse8_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf4_t __riscv_vlse8_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf2_t __riscv_vlse8_v_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8m1_t __riscv_vlse8_v_i8m1_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8m2_t __riscv_vlse8_v_i8m2_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8m4_t __riscv_vlse8_v_i8m4_mu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8m8_t __riscv_vlse8_v_i8m8_mu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint16mf4_t __riscv_vlse16_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       const int16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint16mf2_t __riscv_vlse16_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       const int16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint16m1_t __riscv_vlse16_v_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16m2_t __riscv_vlse16_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16m4_t __riscv_vlse16_v_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16m8_t __riscv_vlse16_v_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2_t __riscv_vlse32_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       const int32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint32m1_t __riscv_vlse32_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32m2_t __riscv_vlse32_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32m4_t __riscv_vlse32_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32m8_t __riscv_vlse32_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m1_t __riscv_vlse64_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m2_t __riscv_vlse64_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m4_t __riscv_vlse64_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m8_t __riscv_vlse64_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf8_t __riscv_vlse8_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
```

```
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4_t __riscv_vlse8_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2_t __riscv_vlse8_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8m1_t __riscv_vlse8_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m2_t __riscv_vlse8_v_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m4_t __riscv_vlse8_v_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m8_t __riscv_vlse8_v_u8m8_mu(vbool1_t vm, vuint8m8_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint16mf4_t __riscv_vlse16_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        const uint16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint16mf2_t __riscv_vlse16_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        const uint16_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint16m1_t __riscv_vlse16_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m2_t __riscv_vlse16_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m4_t __riscv_vlse16_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m8_t __riscv_vlse16_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32mf2_t __riscv_vlse32_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vuint32m1_t __riscv_vlse32_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m2_t __riscv_vlse32_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m4_t __riscv_vlse32_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m8_t __riscv_vlse32_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint64m1_t __riscv_vlse64_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      const uint64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint64m2_t __riscv_vlse64_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      const uint64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint64m4_t __riscv_vlse64_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      const uint64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint64m8_t __riscv_vlse64_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      const uint64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
```

B.1.5. Vector Strided Store Intrinsics

Intrinsics here don't have a policy variant.

B.1.6. Vector Indexed Load Intrinsics

```
vfloat16mf4_t __riscv_vloxei8_v_f16mf4_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                          vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei8_v_f16mf2_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                          vuint8mf4_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei8_v_f16m1_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                        vuint8mf2_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei8_v_f16m2_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                        vuint8m1_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei8_v_f16m4_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                        vuint8m2_t rs2, size_t vl);
vfloat16m8_t __riscv_vloxei8_v_f16m8_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                        vuint8m4_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei16_v_f16mf4_tu(vfloat16mf4_t vd,
                                           const _Float16 *rs1,
                                           vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei16_v_f16mf2_tu(vfloat16mf2_t vd,
                                           const _Float16 *rs1,
                                           vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei16_v_f16m1_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                         vuint16m1_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei16_v_f16m2_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                         vuint16m2_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei16_v_f16m4_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                         vuint16m4_t rs2, size_t vl);
vfloat16m8_t __riscv_vloxei16_v_f16m8_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                         vuint16m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei32_v_f16mf4_tu(vfloat16mf4_t vd,
                                           const _Float16 *rs1,
                                           vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei32_v_f16mf2_tu(vfloat16mf2_t vd,
                                           const _Float16 *rs1, vuint32m1_t rs2,
                                           size_t vl);
vfloat16m1_t __riscv_vloxei32_v_f16m1_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                         vuint32m2_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei32_v_f16m2_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                         vuint32m4_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei32_v_f16m4_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                         vuint32m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei64_v_f16mf4_tu(vfloat16mf4_t vd,
                                           const _Float16 *rs1, vuint64m1_t rs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vloxei64_v_f16mf2_tu(vfloat16mf2_t vd,
                                           const _Float16 *rs1, vuint64m2_t rs2,
                                           size_t vl);
vfloat16m1_t __riscv_vloxei64_v_f16m1_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                         vuint64m4_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei64_v_f16m2_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                         vuint64m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei8_v_f32mf2_tu(vfloat32mf2_t vd, const float *rs1,
                                          vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei8_v_f32m1_tu(vfloat32m1_t vd, const float *rs1,
                                        vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei8_v_f32m2_tu(vfloat32m2_t vd, const float *rs1,
                                        vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei8_v_f32m4_tu(vfloat32m4_t vd, const float *rs1,
                                        vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei8_v_f32m8_tu(vfloat32m8_t vd, const float *rs1,
                                        vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei16_v_f32mf2_tu(vfloat32mf2_t vd, const float *rs1,
```

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                                          vuint16mf4_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei16_v_f32m1_tu(vfloat32m1_t vd, const float *rs1,
                                         vuint16mf2_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei16_v_f32m2_tu(vfloat32m2_t vd, const float *rs1,
                                         vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei16_v_f32m4_tu(vfloat32m4_t vd, const float *rs1,
                                         vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei16_v_f32m8_tu(vfloat32m8_t vd, const float *rs1,
                                         vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei32_v_f32mf2_tu(vfloat32mf2_t vd, const float *rs1,
                                           vuint32mf2_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei32_v_f32m1_tu(vfloat32m1_t vd, const float *rs1,
                                         vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei32_v_f32m2_tu(vfloat32m2_t vd, const float *rs1,
                                         vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei32_v_f32m4_tu(vfloat32m4_t vd, const float *rs1,
                                         vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei32_v_f32m8_tu(vfloat32m8_t vd, const float *rs1,
                                         vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei64_v_f32mf2_tu(vfloat32mf2_t vd, const float *rs1,
                                           vuint64m1_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei64_v_f32m1_tu(vfloat32m1_t vd, const float *rs1,
                                         vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei64_v_f32m2_tu(vfloat32m2_t vd, const float *rs1,
                                         vuint64m4_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei64_v_f32m4_tu(vfloat32m4_t vd, const float *rs1,
                                         vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei8_v_f64m1_tu(vfloat64m1_t vd, const double *rs1,
                                        vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei8_v_f64m2_tu(vfloat64m2_t vd, const double *rs1,
                                        vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei8_v_f64m4_tu(vfloat64m4_t vd, const double *rs1,
                                        vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei8_v_f64m8_tu(vfloat64m8_t vd, const double *rs1,
                                        vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei16_v_f64m1_tu(vfloat64m1_t vd, const double *rs1,
                                         vuint16mf4_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei16_v_f64m2_tu(vfloat64m2_t vd, const double *rs1,
                                         vuint16mf2_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei16_v_f64m4_tu(vfloat64m4_t vd, const double *rs1,
                                         vuint16m1_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei16_v_f64m8_tu(vfloat64m8_t vd, const double *rs1,
                                         vuint16m2_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei32_v_f64m1_tu(vfloat64m1_t vd, const double *rs1,
                                         vuint32mf2_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei32_v_f64m2_tu(vfloat64m2_t vd, const double *rs1,
                                         vuint32m1_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei32_v_f64m4_tu(vfloat64m4_t vd, const double *rs1,
                                         vuint32m2_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei32_v_f64m8_tu(vfloat64m8_t vd, const double *rs1,
                                         vuint32m4_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei64_v_f64m1_tu(vfloat64m1_t vd, const double *rs1,
                                         vuint64m1_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei64_v_f64m2_tu(vfloat64m2_t vd, const double *rs1,
                                         vuint64m2_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei64_v_f64m4_tu(vfloat64m4_t vd, const double *rs1,
                                         vuint64m4_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei64_v_f64m8_tu(vfloat64m8_t vd, const double *rs1,
                                         vuint64m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei8_v_f16mf4_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                          vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei8_v_f16mf2_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                          vuint8mf4_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei8_v_f16m1_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                        vuint8mf2_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei8_v_f16m2_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                        vuint8m1_t rs2, size_t vl);
```

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vfloat16m4_t __riscv_vluxei8_v_f16m4_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                        vuint8m2_t rs2, size_t vl);
vfloat16m8_t __riscv_vluxei8_v_f16m8_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                        vuint8m4_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei16_v_f16mf4_tu(vfloat16mf4_t vd,
                                           const _Float16 *rs1,
                                           vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei16_v_f16mf2_tu(vfloat16mf2_t vd,
                                           const _Float16 *rs1,
                                           vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei16_v_f16m1_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                         vuint16m1_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei16_v_f16m2_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                         vuint16m2_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei16_v_f16m4_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                         vuint16m4_t rs2, size_t vl);
vfloat16m8_t __riscv_vluxei16_v_f16m8_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                         vuint16m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei32_v_f16mf4_tu(vfloat16mf4_t vd,
                                           const _Float16 *rs1,
                                           vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei32_v_f16mf2_tu(vfloat16mf2_t vd,
                                           const _Float16 *rs1, vuint32m1_t rs2,
                                           size_t vl);
vfloat16m1_t __riscv_vluxei32_v_f16m1_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                         vuint32m2_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei32_v_f16m2_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                         vuint32m4_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei32_v_f16m4_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                         vuint32m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei64_v_f16mf4_tu(vfloat16mf4_t vd,
                                           const _Float16 *rs1, vuint64m1_t rs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vluxei64_v_f16mf2_tu(vfloat16mf2_t vd,
                                           const _Float16 *rs1, vuint64m2_t rs2,
                                           size_t vl);
vfloat16m1_t __riscv_vluxei64_v_f16m1_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                         vuint64m4_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei64_v_f16m2_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                         vuint64m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei8_v_f32mf2_tu(vfloat32mf2_t vd, const float *rs1,
                                          vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei8_v_f32m1_tu(vfloat32m1_t vd, const float *rs1,
                                        vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei8_v_f32m2_tu(vfloat32m2_t vd, const float *rs1,
                                        vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei8_v_f32m4_tu(vfloat32m4_t vd, const float *rs1,
                                        vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei8_v_f32m8_tu(vfloat32m8_t vd, const float *rs1,
                                        vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei16_v_f32mf2_tu(vfloat32mf2_t vd, const float *rs1,
                                           vuint16mf4_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei16_v_f32m1_tu(vfloat32m1_t vd, const float *rs1,
                                         vuint16mf2_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei16_v_f32m2_tu(vfloat32m2_t vd, const float *rs1,
                                         vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei16_v_f32m4_tu(vfloat32m4_t vd, const float *rs1,
                                         vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei16_v_f32m8_tu(vfloat32m8_t vd, const float *rs1,
                                         vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei32_v_f32mf2_tu(vfloat32mf2_t vd, const float *rs1,
                                           vuint32mf2_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei32_v_f32m1_tu(vfloat32m1_t vd, const float *rs1,
                                         vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei32_v_f32m2_tu(vfloat32m2_t vd, const float *rs1,
                                         vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei32_v_f32m4_tu(vfloat32m4_t vd, const float *rs1,
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                                        vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei32_v_f32m8_tu(vfloat32m8_t vd, const float *rs1,
                                        vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei64_v_f32mf2_tu(vfloat32mf2_t vd, const float *rs1,
                                          vuint64m1_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei64_v_f32m1_tu(vfloat32m1_t vd, const float *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei64_v_f32m2_tu(vfloat32m2_t vd, const float *rs1,
                                        vuint64m4_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei64_v_f32m4_tu(vfloat32m4_t vd, const float *rs1,
                                        vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei8_v_f64m1_tu(vfloat64m1_t vd, const double *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei8_v_f64m2_tu(vfloat64m2_t vd, const double *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei8_v_f64m4_tu(vfloat64m4_t vd, const double *rs1,
                                       vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei8_v_f64m8_tu(vfloat64m8_t vd, const double *rs1,
                                       vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei16_v_f64m1_tu(vfloat64m1_t vd, const double *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei16_v_f64m2_tu(vfloat64m2_t vd, const double *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei16_v_f64m4_tu(vfloat64m4_t vd, const double *rs1,
                                        vuint16m1_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei16_v_f64m8_tu(vfloat64m8_t vd, const double *rs1,
                                        vuint16m2_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei32_v_f64m1_tu(vfloat64m1_t vd, const double *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei32_v_f64m2_tu(vfloat64m2_t vd, const double *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei32_v_f64m4_tu(vfloat64m4_t vd, const double *rs1,
                                        vuint32m2_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei32_v_f64m8_tu(vfloat64m8_t vd, const double *rs1,
                                        vuint32m4_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei64_v_f64m1_tu(vfloat64m1_t vd, const double *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei64_v_f64m2_tu(vfloat64m2_t vd, const double *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei64_v_f64m4_tu(vfloat64m4_t vd, const double *rs1,
                                        vuint64m4_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei64_v_f64m8_tu(vfloat64m8_t vd, const double *rs1,
                                        vuint64m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei8_v_i8mf8_tu(vint8mf8_t vd, const int8_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei8_v_i8mf4_tu(vint8mf4_t vd, const int8_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei8_v_i8mf2_tu(vint8mf2_t vd, const int8_t *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei8_v_i8m1_tu(vint8m1_t vd, const int8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vloxei8_v_i8m2_tu(vint8m2_t vd, const int8_t *rs1,
                                    vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vloxei8_v_i8m4_tu(vint8m4_t vd, const int8_t *rs1,
                                    vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vloxei8_v_i8m8_tu(vint8m8_t vd, const int8_t *rs1,
                                    vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei16_v_i8mf8_tu(vint8mf8_t vd, const int8_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei16_v_i8mf4_tu(vint8mf4_t vd, const int8_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei16_v_i8mf2_tu(vint8mf2_t vd, const int8_t *rs1,
                                       vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vloxei16_v_i8m1_tu(vint8m1_t vd, const int8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vint8m2_t __riscv_vloxei16_v_i8m2_tu(vint8m2_t vd, const int8_t *rs1,
                                     vuint16m4_t rs2, size_t vl);
```

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vint8m4_t __riscv_vloxei16_v_i8m4_tu(vint8m4_t vd, const int8_t *rs1,
                                     vuint16m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei32_v_i8mf8_tu(vint8mf8_t vd, const int8_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei32_v_i8mf4_tu(vint8mf4_t vd, const int8_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei32_v_i8mf2_tu(vint8mf2_t vd, const int8_t *rs1,
                                       vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei32_v_i8m1_tu(vint8m1_t vd, const int8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vint8m2_t __riscv_vloxei32_v_i8m2_tu(vint8m2_t vd, const int8_t *rs1,
                                     vuint32m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei64_v_i8mf8_tu(vint8mf8_t vd, const int8_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei64_v_i8mf4_tu(vint8mf4_t vd, const int8_t *rs1,
                                       vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei64_v_i8mf2_tu(vint8mf2_t vd, const int8_t *rs1,
                                       vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vloxei64_v_i8m1_tu(vint8m1_t vd, const int8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei8_v_i16mf4_tu(vint16mf4_t vd, const int16_t *rs1,
                                        vuint8mf8_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei8_v_i16mf2_tu(vint16mf2_t vd, const int16_t *rs1,
                                        vuint8mf4_t rs2, size_t vl);
vint16m1_t __riscv_vloxei8_v_i16m1_tu(vint16m1_t vd, const int16_t *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei8_v_i16m2_tu(vint16m2_t vd, const int16_t *rs1,
                                      vuint8m1_t rs2, size_t vl);
vint16m4_t __riscv_vloxei8_v_i16m4_tu(vint16m4_t vd, const int16_t *rs1,
                                      vuint8m2_t rs2, size_t vl);
vint16m8_t __riscv_vloxei8_v_i16m8_tu(vint16m8_t vd, const int16_t *rs1,
                                      vuint8m4_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei16_v_i16mf4_tu(vint16mf4_t vd, const int16_t *rs1,
                                         vuint16mf4_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei16_v_i16mf2_tu(vint16mf2_t vd, const int16_t *rs1,
                                         vuint16mf2_t rs2, size_t vl);
vint16m1_t __riscv_vloxei16_v_i16m1_tu(vint16m1_t vd, const int16_t *rs1,
                                       vuint16m1_t rs2, size_t vl);
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                                       vuint16m2_t rs2, size_t vl);
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                                       vuint16m4_t rs2, size_t vl);
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                                       vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei32_v_i16mf4_tu(vint16mf4_t vd, const int16_t *rs1,
                                         vuint32mf2_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei32_v_i16mf2_tu(vint16mf2_t vd, const int16_t *rs1,
                                         vuint32m1_t rs2, size_t vl);
vint16m1_t __riscv_vloxei32_v_i16m1_tu(vint16m1_t vd, const int16_t *rs1,
                                       vuint32m2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei32_v_i16m2_tu(vint16m2_t vd, const int16_t *rs1,
                                       vuint32m4_t rs2, size_t vl);
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                                       vuint32m8_t rs2, size_t vl);
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                                       vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei8_v_i32mf2_tu(vint32mf2_t vd, const int32_t *rs1,
                                        vuint8mf8_t rs2, size_t vl);
vint32m1_t __riscv_vloxei8_v_i32m1_tu(vint32m1_t vd, const int32_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vloxei8_v_i32m2_tu(vint32m2_t vd, const int32_t *rs1,
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                                      vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei8_v_i32m4_tu(vint32m4_t vd, const int32_t *rs1,
                                      vuint8m1_t rs2, size_t vl);
vint32m8_t __riscv_vloxei8_v_i32m8_tu(vint32m8_t vd, const int32_t *rs1,
                                      vuint8m2_t rs2, size_t vl);
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                                       vuint16m1_t rs2, size_t vl);
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                                       vuint16m2_t rs2, size_t vl);
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                                       vuint16m4_t rs2, size_t vl);
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                                       vuint32m1_t rs2, size_t vl);
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                                       vuint32m2_t rs2, size_t vl);
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                                       vuint32m4_t rs2, size_t vl);
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                                         vuint64m1_t rs2, size_t vl);
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                                       vuint64m2_t rs2, size_t vl);
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                                       vuint64m4_t rs2, size_t vl);
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                                       vuint64m8_t rs2, size_t vl);
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                                      vuint8m1_t rs2, size_t vl);
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                                      vuint8mf8_t rs2, size_t vl);
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                                      vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei8_v_i8mf2_tu(vint8mf2_t vd, const int8_t *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vluxei8_v_i8m1_tu(vint8m1_t vd, const int8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
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                                    vuint8m2_t rs2, size_t vl);
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                                     vuint16m8_t rs2, size_t vl);
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                                       vuint32mf2_t rs2, size_t vl);
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                                       vuint32m2_t rs2, size_t vl);
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                                      vuint8mf2_t rs2, size_t vl);
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                                        vuint32mf2_t rs2, size_t vl);
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                                        vuint32m1_t rs2, size_t vl);
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                                       vuint64m4_t rs2, size_t vl);
vint32m4_t __riscv_vluxei64_v_i32m4_tu(vint32m4_t vd, const int32_t *rs1,
                                       vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vluxei8_v_i64m1_tu(vint64m1_t vd, const int64_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vluxei8_v_i64m2_tu(vint64m2_t vd, const int64_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vluxei8_v_i64m4_tu(vint64m4_t vd, const int64_t *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vluxei8_v_i64m8_tu(vint64m8_t vd, const int64_t *rs1,
                                      vuint8m1_t rs2, size_t vl);
vint64m1_t __riscv_vluxei16_v_i64m1_tu(vint64m1_t vd, const int64_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vint64m2_t __riscv_vluxei16_v_i64m2_tu(vint64m2_t vd, const int64_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
```

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vint64m4_t __riscv_vluxei16_v_i64m4_tu(vint64m4_t vd, const int64_t *rs1,
                                       vuint16m1_t rs2, size_t vl);
vint64m8_t __riscv_vluxei16_v_i64m8_tu(vint64m8_t vd, const int64_t *rs1,
                                       vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vluxei32_v_i64m1_tu(vint64m1_t vd, const int64_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vint64m2_t __riscv_vluxei32_v_i64m2_tu(vint64m2_t vd, const int64_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vint64m4_t __riscv_vluxei32_v_i64m4_tu(vint64m4_t vd, const int64_t *rs1,
                                       vuint32m2_t rs2, size_t vl);
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                                       vuint32m4_t rs2, size_t vl);
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                                       vuint64m1_t rs2, size_t vl);
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                                       vuint64m2_t rs2, size_t vl);
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                                       vuint64m4_t rs2, size_t vl);
vint64m8_t __riscv_vluxei64_v_i64m8_tu(vint64m8_t vd, const int64_t *rs1,
                                       vuint64m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei8_v_u8mf8_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei8_v_u8mf4_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                       vuint8mf4_t rs2, size_t vl);
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                                       vuint8mf2_t rs2, size_t vl);
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                                     vuint8m1_t rs2, size_t vl);
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                                     vuint8m2_t rs2, size_t vl);
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                                     vuint8m4_t rs2, size_t vl);
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                                     vuint8m8_t rs2, size_t vl);
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                                        vuint16mf4_t rs2, size_t vl);
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                                        vuint16mf2_t rs2, size_t vl);
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                                        vuint16m1_t rs2, size_t vl);
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                                      vuint16m2_t rs2, size_t vl);
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                                      vuint16m4_t rs2, size_t vl);
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                                      vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei32_v_u8mf8_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei32_v_u8mf4_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                        vuint32m1_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei32_v_u8mf2_tu(vuint8mf2_t vd, const uint8_t *rs1,
                                        vuint32m2_t rs2, size_t vl);
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                                      vuint32m4_t rs2, size_t vl);
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                                      vuint32m8_t rs2, size_t vl);
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                                        vuint64m1_t rs2, size_t vl);
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                                        vuint64m2_t rs2, size_t vl);
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                                        vuint64m4_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei64_v_u8m1_tu(vuint8m1_t vd, const uint8_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei8_v_u16mf4_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                         vuint8mf8_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei8_v_u16mf2_tu(vuint16mf2_t vd, const uint16_t *rs1,
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                                        vuint8mf4_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei8_v_u16m1_tu(vuint16m1_t vd, const uint16_t *rs1,
                                       vuint8mf2_t rs2, size_t vl);
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                                       vuint8m1_t rs2, size_t vl);
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                                       vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vloxei8_v_u16m8_tu(vuint16m8_t vd, const uint16_t *rs1,
                                       vuint8m4_t rs2, size_t vl);
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                                          vuint16mf4_t rs2, size_t vl);
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                                          vuint32mf2_t rs2, size_t vl);
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                                          vuint32m1_t rs2, size_t vl);
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                                        vuint32m2_t rs2, size_t vl);
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                                        vuint32m4_t rs2, size_t vl);
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                                        vuint32m8_t rs2, size_t vl);
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                                          vuint64m1_t rs2, size_t vl);
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                                        vuint64m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei8_v_u32mf2_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                         vuint8mf8_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei8_v_u32m1_tu(vuint32m1_t vd, const uint32_t *rs1,
                                       vuint8mf4_t rs2, size_t vl);
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                                       vuint8m1_t rs2, size_t vl);
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                                        vuint32m4_t rs2, size_t vl);
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                                        vuint32m8_t rs2, size_t vl);
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                                          vuint64m1_t rs2, size_t vl);
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                                        vuint64m2_t rs2, size_t vl);
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                                        vuint64m4_t rs2, size_t vl);
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                                        vuint64m8_t rs2, size_t vl);
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                                       vuint8mf8_t rs2, size_t vl);
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                                       vuint8mf4_t rs2, size_t vl);
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                                       vuint8mf2_t rs2, size_t vl);
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                                        vuint16m1_t rs2, size_t vl);
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                                        vuint64m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei8_v_u8mf8_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei8_v_u8mf4_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                       vuint8mf4_t rs2, size_t vl);
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                                      vuint16m2_t rs2, size_t vl);
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                                      vuint16m4_t rs2, size_t vl);
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                                      vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei32_v_u8mf8_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
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                                        vuint32m1_t rs2, size_t vl);
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                                        vuint64m1_t rs2, size_t vl);
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vuint16m2_t __riscv_vluxei8_v_u16m2_tu(vuint16m2_t vd, const uint16_t *rs1,
                                       vuint8m1_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei8_v_u16m4_tu(vuint16m4_t vd, const uint16_t *rs1,
                                       vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vluxei8_v_u16m8_tu(vuint16m8_t vd, const uint16_t *rs1,
                                       vuint8m4_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei16_v_u16mf4_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei16_v_u16mf2_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                          vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei16_v_u16m1_tu(vuint16m1_t vd, const uint16_t *rs1,
                                        vuint16m1_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei16_v_u16m2_tu(vuint16m2_t vd, const uint16_t *rs1,
                                        vuint16m2_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei16_v_u16m4_tu(vuint16m4_t vd, const uint16_t *rs1,
                                        vuint16m4_t rs2, size_t vl);
vuint16m8_t __riscv_vluxei16_v_u16m8_tu(vuint16m8_t vd, const uint16_t *rs1,
                                        vuint16m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei32_v_u16mf4_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei32_v_u16mf2_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                          vuint32m1_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei32_v_u16m1_tu(vuint16m1_t vd, const uint16_t *rs1,
                                        vuint32m2_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei32_v_u16m2_tu(vuint16m2_t vd, const uint16_t *rs1,
                                        vuint32m4_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei32_v_u16m4_tu(vuint16m4_t vd, const uint16_t *rs1,
                                        vuint32m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei64_v_u16mf4_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                          vuint64m1_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei64_v_u16mf2_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                          vuint64m2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei64_v_u16m1_tu(vuint16m1_t vd, const uint16_t *rs1,
                                        vuint64m4_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei64_v_u16m2_tu(vuint16m2_t vd, const uint16_t *rs1,
                                        vuint64m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei8_v_u32mf2_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                         vuint8mf8_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei8_v_u32m1_tu(vuint32m1_t vd, const uint32_t *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei8_v_u32m2_tu(vuint32m2_t vd, const uint32_t *rs1,
                                       vuint8mf2_t rs2, size_t vl);
```

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vuint32m4_t __riscv_vluxei8_v_u32m4_tu(vuint32m4_t vd, const uint32_t *rs1,
                                       vuint8m1_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei8_v_u32m8_tu(vuint32m8_t vd, const uint32_t *rs1,
                                       vuint8m2_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei16_v_u32mf2_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei16_v_u32m1_tu(vuint32m1_t vd, const uint32_t *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei16_v_u32m2_tu(vuint32m2_t vd, const uint32_t *rs1,
                                        vuint16m1_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei16_v_u32m4_tu(vuint32m4_t vd, const uint32_t *rs1,
                                        vuint16m2_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei16_v_u32m8_tu(vuint32m8_t vd, const uint32_t *rs1,
                                        vuint16m4_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei32_v_u32mf2_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei32_v_u32m1_tu(vuint32m1_t vd, const uint32_t *rs1,
                                        vuint32m1_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei32_v_u32m2_tu(vuint32m2_t vd, const uint32_t *rs1,
                                        vuint32m2_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei32_v_u32m4_tu(vuint32m4_t vd, const uint32_t *rs1,
                                        vuint32m4_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei32_v_u32m8_tu(vuint32m8_t vd, const uint32_t *rs1,
                                        vuint32m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei64_v_u32mf2_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                          vuint64m1_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei64_v_u32m1_tu(vuint32m1_t vd, const uint32_t *rs1,
                                        vuint64m2_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei64_v_u32m2_tu(vuint32m2_t vd, const uint32_t *rs1,
                                        vuint64m4_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei64_v_u32m4_tu(vuint32m4_t vd, const uint32_t *rs1,
                                        vuint64m8_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei8_v_u64m1_tu(vuint64m1_t vd, const uint64_t *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei8_v_u64m2_tu(vuint64m2_t vd, const uint64_t *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei8_v_u64m4_tu(vuint64m4_t vd, const uint64_t *rs1,
                                       vuint8mf2_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei8_v_u64m8_tu(vuint64m8_t vd, const uint64_t *rs1,
                                       vuint8m1_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei16_v_u64m1_tu(vuint64m1_t vd, const uint64_t *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei16_v_u64m2_tu(vuint64m2_t vd, const uint64_t *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei16_v_u64m4_tu(vuint64m4_t vd, const uint64_t *rs1,
                                        vuint16m1_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei16_v_u64m8_tu(vuint64m8_t vd, const uint64_t *rs1,
                                        vuint16m2_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei32_v_u64m1_tu(vuint64m1_t vd, const uint64_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei32_v_u64m2_tu(vuint64m2_t vd, const uint64_t *rs1,
                                        vuint32m1_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei32_v_u64m4_tu(vuint64m4_t vd, const uint64_t *rs1,
                                        vuint32m2_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei32_v_u64m8_tu(vuint64m8_t vd, const uint64_t *rs1,
                                        vuint32m4_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei64_v_u64m1_tu(vuint64m1_t vd, const uint64_t *rs1,
                                        vuint64m1_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei64_v_u64m2_tu(vuint64m2_t vd, const uint64_t *rs1,
                                        vuint64m2_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei64_v_u64m4_tu(vuint64m4_t vd, const uint64_t *rs1,
                                        vuint64m4_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei64_v_u64m8_tu(vuint64m8_t vd, const uint64_t *rs1,
                                        vuint64m8_t rs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vloxei8_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                           const _Float16 *rs1, vuint8mf8_t rs2,
```

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                                        size_t vl);
vfloat16mf2_t __riscv_vloxei8_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16m1_t __riscv_vloxei8_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m2_t __riscv_vloxei8_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                       const _Float16 *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat16m4_t __riscv_vloxei8_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                       const _Float16 *rs1, vuint8m2_t rs2,
                                       size_t vl);
vfloat16m8_t __riscv_vloxei8_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                       const _Float16 *rs1, vuint8m4_t rs2,
                                       size_t vl);
vfloat16mf4_t __riscv_vloxei16_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                         const _Float16 *rs1,
                                         vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei16_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                         const _Float16 *rs1,
                                         vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei16_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        const _Float16 *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat16m2_t __riscv_vloxei16_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        const _Float16 *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat16m4_t __riscv_vloxei16_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        const _Float16 *rs1, vuint16m4_t rs2,
                                        size_t vl);
vfloat16m8_t __riscv_vloxei16_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        const _Float16 *rs1, vuint16m8_t rs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vloxei32_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                         const _Float16 *rs1,
                                         vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei32_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                         const _Float16 *rs1,
                                         vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei32_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat16m2_t __riscv_vloxei32_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        const _Float16 *rs1, vuint32m4_t rs2,
                                        size_t vl);
vfloat16m4_t __riscv_vloxei32_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        const _Float16 *rs1, vuint32m8_t rs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vloxei64_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                         const _Float16 *rs1,
                                         vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei64_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                         const _Float16 *rs1,
                                         vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei64_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m2_t __riscv_vloxei64_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        const _Float16 *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vloxei8_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32m1_t __riscv_vloxei8_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
```

```
vfloat32m2_t __riscv_vloxei8_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         const float *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vfloat32m4_t __riscv_vloxei8_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         const float *rs1, vuint8m1_t rs2,
                                         size_t vl);
vfloat32m8_t __riscv_vloxei8_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         const float *rs1, vuint8m2_t rs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vloxei16_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            const float *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vfloat32m1_t __riscv_vloxei16_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          const float *rs1, vuint16mf2_t rs2,
                                          size_t vl);
vfloat32m2_t __riscv_vloxei16_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          const float *rs1, vuint16m1_t rs2,
                                          size_t vl);
vfloat32m4_t __riscv_vloxei16_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          const float *rs1, vuint16m2_t rs2,
                                          size_t vl);
vfloat32m8_t __riscv_vloxei16_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                          const float *rs1, vuint16m4_t rs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vloxei32_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            const float *rs1, vuint32mf2_t rs2,
                                            size_t vl);
vfloat32m1_t __riscv_vloxei32_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          const float *rs1, vuint32m1_t rs2,
                                          size_t vl);
vfloat32m2_t __riscv_vloxei32_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          const float *rs1, vuint32m2_t rs2,
                                          size_t vl);
vfloat32m4_t __riscv_vloxei32_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          const float *rs1, vuint32m4_t rs2,
                                          size_t vl);
vfloat32m8_t __riscv_vloxei32_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                          const float *rs1, vuint32m8_t rs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vloxei64_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            const float *rs1, vuint64m1_t rs2,
                                            size_t vl);
vfloat32m1_t __riscv_vloxei64_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          const float *rs1, vuint64m2_t rs2,
                                          size_t vl);
vfloat32m2_t __riscv_vloxei64_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          const float *rs1, vuint64m4_t rs2,
                                          size_t vl);
vfloat32m4_t __riscv_vloxei64_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          const float *rs1, vuint64m8_t rs2,
                                          size_t vl);
vfloat64m1_t __riscv_vloxei8_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         const double *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat64m2_t __riscv_vloxei8_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         const double *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat64m4_t __riscv_vloxei8_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         const double *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vfloat64m8_t __riscv_vloxei8_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         const double *rs1, vuint8m1_t rs2,
                                         size_t vl);
vfloat64m1_t __riscv_vloxei16_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                          const double *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat64m2_t __riscv_vloxei16_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
```

```
                                        const double *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vloxei16_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vloxei16_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat64m1_t __riscv_vloxei32_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m2_t __riscv_vloxei32_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vloxei32_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vloxei32_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, vuint32m4_t rs2,
                                        size_t vl);
vfloat64m1_t __riscv_vloxei64_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m2_t __riscv_vloxei64_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vloxei64_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vloxei64_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vluxei8_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vluxei8_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                         const _Float16 *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat16m1_t __riscv_vluxei8_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m2_t __riscv_vluxei8_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                       const _Float16 *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat16m4_t __riscv_vluxei8_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                       const _Float16 *rs1, vuint8m2_t rs2,
                                       size_t vl);
vfloat16m8_t __riscv_vluxei8_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                       const _Float16 *rs1, vuint8m4_t rs2,
                                       size_t vl);
vfloat16mf4_t __riscv_vluxei16_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          const _Float16 *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei16_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          const _Float16 *rs1,
                                          vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei16_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        const _Float16 *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat16m2_t __riscv_vluxei16_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        const _Float16 *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat16m4_t __riscv_vluxei16_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        const _Float16 *rs1, vuint16m4_t rs2,
                                        size_t vl);
vfloat16m8_t __riscv_vluxei16_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        const _Float16 *rs1, vuint16m8_t rs2,
```

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                                          size_t vl);
vfloat16mf4_t __riscv_vluxei32_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            const _Float16 *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei32_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            const _Float16 *rs1,
                                            vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei32_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                          const _Float16 *rs1, vuint32m2_t rs2,
                                          size_t vl);
vfloat16m2_t __riscv_vluxei32_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                          const _Float16 *rs1, vuint32m4_t rs2,
                                          size_t vl);
vfloat16m4_t __riscv_vluxei32_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                          const _Float16 *rs1, vuint32m8_t rs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vluxei64_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            const _Float16 *rs1,
                                            vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei64_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            const _Float16 *rs1,
                                            vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei64_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                          const _Float16 *rs1, vuint64m4_t rs2,
                                          size_t vl);
vfloat16m2_t __riscv_vluxei64_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                          const _Float16 *rs1, vuint64m8_t rs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vluxei8_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           const float *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vfloat32m1_t __riscv_vluxei8_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         const float *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat32m2_t __riscv_vluxei8_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         const float *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vfloat32m4_t __riscv_vluxei8_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         const float *rs1, vuint8m1_t rs2,
                                         size_t vl);
vfloat32m8_t __riscv_vluxei8_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         const float *rs1, vuint8m2_t rs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vluxei16_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            const float *rs1, vuint16mf4_t rs2,
                                            size_t vl);
vfloat32m1_t __riscv_vluxei16_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          const float *rs1, vuint16mf2_t rs2,
                                          size_t vl);
vfloat32m2_t __riscv_vluxei16_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          const float *rs1, vuint16m1_t rs2,
                                          size_t vl);
vfloat32m4_t __riscv_vluxei16_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          const float *rs1, vuint16m2_t rs2,
                                          size_t vl);
vfloat32m8_t __riscv_vluxei16_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                          const float *rs1, vuint16m4_t rs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vluxei32_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            const float *rs1, vuint32mf2_t rs2,
                                            size_t vl);
vfloat32m1_t __riscv_vluxei32_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          const float *rs1, vuint32m1_t rs2,
                                          size_t vl);
vfloat32m2_t __riscv_vluxei32_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          const float *rs1, vuint32m2_t rs2,
                                          size_t vl);
```

```
vfloat32m4_t __riscv_vluxei32_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          const float *rs1, vuint32m4_t rs2,
                                          size_t vl);
vfloat32m8_t __riscv_vluxei32_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                          const float *rs1, vuint32m8_t rs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vluxei64_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            const float *rs1, vuint64m1_t rs2,
                                            size_t vl);
vfloat32m1_t __riscv_vluxei64_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          const float *rs1, vuint64m2_t rs2,
                                          size_t vl);
vfloat32m2_t __riscv_vluxei64_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          const float *rs1, vuint64m4_t rs2,
                                          size_t vl);
vfloat32m4_t __riscv_vluxei64_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          const float *rs1, vuint64m8_t rs2,
                                          size_t vl);
vfloat64m1_t __riscv_vluxei8_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         const double *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat64m2_t __riscv_vluxei8_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         const double *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat64m4_t __riscv_vluxei8_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         const double *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vfloat64m8_t __riscv_vluxei8_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         const double *rs1, vuint8m1_t rs2,
                                         size_t vl);
vfloat64m1_t __riscv_vluxei16_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                          const double *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat64m2_t __riscv_vluxei16_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                          const double *rs1, vuint16mf2_t rs2,
                                          size_t vl);
vfloat64m4_t __riscv_vluxei16_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                          const double *rs1, vuint16m1_t rs2,
                                          size_t vl);
vfloat64m8_t __riscv_vluxei16_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          const double *rs1, vuint16m2_t rs2,
                                          size_t vl);
vfloat64m1_t __riscv_vluxei32_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                          const double *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat64m2_t __riscv_vluxei32_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                          const double *rs1, vuint32m1_t rs2,
                                          size_t vl);
vfloat64m4_t __riscv_vluxei32_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                          const double *rs1, vuint32m2_t rs2,
                                          size_t vl);
vfloat64m8_t __riscv_vluxei32_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          const double *rs1, vuint32m4_t rs2,
                                          size_t vl);
vfloat64m1_t __riscv_vluxei64_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                          const double *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat64m2_t __riscv_vluxei64_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                          const double *rs1, vuint64m2_t rs2,
                                          size_t vl);
vfloat64m4_t __riscv_vluxei64_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                          const double *rs1, vuint64m4_t rs2,
                                          size_t vl);
vfloat64m8_t __riscv_vluxei64_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          const double *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8mf8_t __riscv_vloxei8_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
```

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                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf4_t __riscv_vloxei8_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf2_t __riscv_vloxei8_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     const int8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint8m1_t __riscv_vloxei8_v_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                    const int8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vint8m2_t __riscv_vloxei8_v_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                    const int8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vint8m4_t __riscv_vloxei8_v_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                    const int8_t *rs1, vuint8m4_t rs2,
                                    size_t vl);
vint8m8_t __riscv_vloxei8_v_i8m8_tum(vbool1_t vm, vint8m8_t vd,
                                    const int8_t *rs1, vuint8m8_t rs2,
                                    size_t vl);
vint8mf8_t __riscv_vloxei16_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      const int8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint8mf4_t __riscv_vloxei16_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      const int8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint8mf2_t __riscv_vloxei16_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      const int8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint8m1_t __riscv_vloxei16_v_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m2_t __riscv_vloxei16_v_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                     const int8_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vint8m4_t __riscv_vloxei16_v_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                     const int8_t *rs1, vuint16m8_t rs2,
                                     size_t vl);
vint8mf8_t __riscv_vloxei32_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf4_t __riscv_vloxei32_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf2_t __riscv_vloxei32_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      const int8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint8m1_t __riscv_vloxei32_v_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                     const int8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vint8m2_t __riscv_vloxei32_v_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                     const int8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vint8mf8_t __riscv_vloxei64_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      const int8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint8mf4_t __riscv_vloxei64_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf2_t __riscv_vloxei64_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8m1_t __riscv_vloxei64_v_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint16mf4_t __riscv_vloxei8_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       const int16_t *rs1, vuint8mf8_t rs2,
```

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                                        size_t vl);
vint16mf2_t __riscv_vloxei8_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                         const int16_t *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vint16m1_t __riscv_vloxei8_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                       const int16_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vint16m2_t __riscv_vloxei8_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                       const int16_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vint16m4_t __riscv_vloxei8_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                       const int16_t *rs1, vuint8m2_t rs2,
                                       size_t vl);
vint16m8_t __riscv_vloxei8_v_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                       const int16_t *rs1, vuint8m4_t rs2,
                                       size_t vl);
vint16mf4_t __riscv_vloxei16_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                          const int16_t *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vint16mf2_t __riscv_vloxei16_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                          const int16_t *rs1, vuint16mf2_t rs2,
                                          size_t vl);
vint16m1_t __riscv_vloxei16_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                        const int16_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vint16m2_t __riscv_vloxei16_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                        const int16_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint16m4_t __riscv_vloxei16_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                        const int16_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vint16m8_t __riscv_vloxei16_v_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                        const int16_t *rs1, vuint16m8_t rs2,
                                        size_t vl);
vint16mf4_t __riscv_vloxei32_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                          const int16_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint16mf2_t __riscv_vloxei32_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                          const int16_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint16m1_t __riscv_vloxei32_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                        const int16_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vint16m2_t __riscv_vloxei32_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                        const int16_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vint16m4_t __riscv_vloxei32_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                        const int16_t *rs1, vuint32m8_t rs2,
                                        size_t vl);
vint16mf4_t __riscv_vloxei64_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                          const int16_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint16mf2_t __riscv_vloxei64_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                          const int16_t *rs1, vuint64m2_t rs2,
                                          size_t vl);
vint16m1_t __riscv_vloxei64_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                        const int16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vint16m2_t __riscv_vloxei64_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                        const int16_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint32mf2_t __riscv_vloxei8_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                         const int32_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vint32m1_t __riscv_vloxei8_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                       const int32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
```

```
vint32m2_t __riscv_vloxei8_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                       const int32_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vint32m4_t __riscv_vloxei8_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                       const int32_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vint32m8_t __riscv_vloxei8_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                       const int32_t *rs1, vuint8m2_t rs2,
                                       size_t vl);
vint32mf2_t __riscv_vloxei16_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                          const int32_t *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vint32m1_t __riscv_vloxei16_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                        const int32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint32m2_t __riscv_vloxei16_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                        const int32_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vint32m4_t __riscv_vloxei16_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                        const int32_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint32m8_t __riscv_vloxei16_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                        const int32_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vint32mf2_t __riscv_vloxei32_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                          const int32_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint32m1_t __riscv_vloxei32_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                        const int32_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint32m2_t __riscv_vloxei32_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                        const int32_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vint32m4_t __riscv_vloxei32_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                        const int32_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vint32m8_t __riscv_vloxei32_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                        const int32_t *rs1, vuint32m8_t rs2,
                                        size_t vl);
vint32mf2_t __riscv_vloxei64_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                          const int32_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint32m1_t __riscv_vloxei64_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                        const int32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vint32m2_t __riscv_vloxei64_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                        const int32_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vint32m4_t __riscv_vloxei64_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                        const int32_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint64m1_t __riscv_vloxei8_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                       const int64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint64m2_t __riscv_vloxei8_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                       const int64_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vint64m4_t __riscv_vloxei8_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                       const int64_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vint64m8_t __riscv_vloxei8_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                       const int64_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vint64m1_t __riscv_vloxei16_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                        const int64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint64m2_t __riscv_vloxei16_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
```

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                                      const int64_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint64m4_t __riscv_vloxei16_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint64m8_t __riscv_vloxei16_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint64m1_t __riscv_vloxei32_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint64m2_t __riscv_vloxei32_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint64m4_t __riscv_vloxei32_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint64m8_t __riscv_vloxei32_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint64m1_t __riscv_vloxei64_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m2_t __riscv_vloxei64_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m4_t __riscv_vloxei64_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint64m8_t __riscv_vloxei64_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8mf8_t __riscv_vluxei8_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf4_t __riscv_vluxei8_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      const int8_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint8mf2_t __riscv_vluxei8_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint8m1_t __riscv_vluxei8_v_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                    const int8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vint8m2_t __riscv_vluxei8_v_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                    const int8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vint8m4_t __riscv_vluxei8_v_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                    const int8_t *rs1, vuint8m4_t rs2,
                                    size_t vl);
vint8m8_t __riscv_vluxei8_v_i8m8_tum(vbool1_t vm, vint8m8_t vd,
                                    const int8_t *rs1, vuint8m8_t rs2,
                                    size_t vl);
vint8mf8_t __riscv_vluxei16_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      const int8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint8mf4_t __riscv_vluxei16_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      const int8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint8mf2_t __riscv_vluxei16_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      const int8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint8m1_t __riscv_vluxei16_v_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m2_t __riscv_vluxei16_v_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                     const int8_t *rs1, vuint16m4_t rs2,
```

```
                                     size_t vl);
vint8m4_t __riscv_vluxei16_v_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                     const int8_t *rs1, vuint16m8_t rs2,
                                     size_t vl);
vint8mf8_t __riscv_vluxei32_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                       const int8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint8mf4_t __riscv_vluxei32_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                       const int8_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vint8mf2_t __riscv_vluxei32_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                       const int8_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint8m1_t __riscv_vluxei32_v_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                     const int8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vint8m2_t __riscv_vluxei32_v_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                     const int8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vint8mf8_t __riscv_vluxei64_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf4_t __riscv_vluxei64_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf2_t __riscv_vluxei64_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8m1_t __riscv_vluxei64_v_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint16mf4_t __riscv_vluxei8_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        const int16_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vint16mf2_t __riscv_vluxei8_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        const int16_t *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vint16m1_t __riscv_vluxei8_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      const int16_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint16m2_t __riscv_vluxei8_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      const int16_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vint16m4_t __riscv_vluxei8_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      const int16_t *rs1, vuint8m2_t rs2,
                                      size_t vl);
vint16m8_t __riscv_vluxei8_v_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      const int16_t *rs1, vuint8m4_t rs2,
                                      size_t vl);
vint16mf4_t __riscv_vluxei16_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                         const int16_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vint16mf2_t __riscv_vluxei16_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                         const int16_t *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vint16m1_t __riscv_vluxei16_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                       const int16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint16m2_t __riscv_vluxei16_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                       const int16_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vint16m4_t __riscv_vluxei16_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                       const int16_t *rs1, vuint16m4_t rs2,
                                       size_t vl);
vint16m8_t __riscv_vluxei16_v_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                       const int16_t *rs1, vuint16m8_t rs2,
                                       size_t vl);
```

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vint16mf4_t __riscv_vluxei32_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                          const int16_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint16mf2_t __riscv_vluxei32_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                          const int16_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint16m1_t __riscv_vluxei32_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                        const int16_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vint16m2_t __riscv_vluxei32_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                        const int16_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vint16m4_t __riscv_vluxei32_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                        const int16_t *rs1, vuint32m8_t rs2,
                                        size_t vl);
vint16mf4_t __riscv_vluxei64_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                          const int16_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint16mf2_t __riscv_vluxei64_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                          const int16_t *rs1, vuint64m2_t rs2,
                                          size_t vl);
vint16m1_t __riscv_vluxei64_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                        const int16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vint16m2_t __riscv_vluxei64_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                        const int16_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint32mf2_t __riscv_vluxei8_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                         const int32_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vint32m1_t __riscv_vluxei8_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                       const int32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vint32m2_t __riscv_vluxei8_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                       const int32_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vint32m4_t __riscv_vluxei8_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                       const int32_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vint32m8_t __riscv_vluxei8_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                       const int32_t *rs1, vuint8m2_t rs2,
                                       size_t vl);
vint32mf2_t __riscv_vluxei16_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                          const int32_t *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vint32m1_t __riscv_vluxei16_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                        const int32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint32m2_t __riscv_vluxei16_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                        const int32_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vint32m4_t __riscv_vluxei16_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                        const int32_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint32m8_t __riscv_vluxei16_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                        const int32_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vint32mf2_t __riscv_vluxei32_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                          const int32_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint32m1_t __riscv_vluxei32_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                        const int32_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint32m2_t __riscv_vluxei32_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                        const int32_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vint32m4_t __riscv_vluxei32_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
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                                      const int32_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint32m8_t __riscv_vluxei32_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      const int32_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint32mf2_t __riscv_vluxei64_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        const int32_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint32m1_t __riscv_vluxei64_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      const int32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint32m2_t __riscv_vluxei64_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      const int32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint32m4_t __riscv_vluxei64_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      const int32_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint64m1_t __riscv_vluxei8_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     const int64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint64m2_t __riscv_vluxei8_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     const int64_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint64m4_t __riscv_vluxei8_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     const int64_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint64m8_t __riscv_vluxei8_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                     const int64_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint64m1_t __riscv_vluxei16_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint64m2_t __riscv_vluxei16_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint64m4_t __riscv_vluxei16_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint64m8_t __riscv_vluxei16_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint64m1_t __riscv_vluxei32_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint64m2_t __riscv_vluxei32_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint64m4_t __riscv_vluxei32_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint64m8_t __riscv_vluxei32_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint64m1_t __riscv_vluxei64_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m2_t __riscv_vluxei64_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m4_t __riscv_vluxei64_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint64m8_t __riscv_vluxei64_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vloxei8_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
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                                      size_t vl);
vuint8mf4_t __riscv_vloxei8_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       const uint8_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint8mf2_t __riscv_vloxei8_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       const uint8_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint8m1_t __riscv_vloxei8_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                     const uint8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint8m2_t __riscv_vloxei8_v_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                     const uint8_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vuint8m4_t __riscv_vloxei8_v_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                     const uint8_t *rs1, vuint8m4_t rs2,
                                     size_t vl);
vuint8m8_t __riscv_vloxei8_v_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                     const uint8_t *rs1, vuint8m8_t rs2,
                                     size_t vl);
vuint8mf8_t __riscv_vloxei16_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf4_t __riscv_vloxei16_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf2_t __riscv_vloxei16_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8m1_t __riscv_vloxei16_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m2_t __riscv_vloxei16_v_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint8m4_t __riscv_vloxei16_v_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                      const uint8_t *rs1, vuint16m8_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vloxei32_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                        const uint8_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint8mf4_t __riscv_vloxei32_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                        const uint8_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint8mf2_t __riscv_vloxei32_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8m1_t __riscv_vloxei32_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                      const uint8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint8m2_t __riscv_vloxei32_v_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                      const uint8_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vloxei64_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf4_t __riscv_vloxei64_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf2_t __riscv_vloxei64_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8m1_t __riscv_vloxei64_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint16mf4_t __riscv_vloxei8_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         const uint16_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
```

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vuint16mf2_t __riscv_vloxei8_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                          const uint16_t *rs1, vuint8mf4_t rs2,
                                          size_t vl);
vuint16m1_t __riscv_vloxei8_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        const uint16_t *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vuint16m2_t __riscv_vloxei8_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        const uint16_t *rs1, vuint8m1_t rs2,
                                        size_t vl);
vuint16m4_t __riscv_vloxei8_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        const uint16_t *rs1, vuint8m2_t rs2,
                                        size_t vl);
vuint16m8_t __riscv_vloxei8_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        const uint16_t *rs1, vuint8m4_t rs2,
                                        size_t vl);
vuint16mf4_t __riscv_vloxei16_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                           const uint16_t *rs1,
                                           vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei16_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                           const uint16_t *rs1,
                                           vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei16_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                         const uint16_t *rs1, vuint16m1_t rs2,
                                         size_t vl);
vuint16m2_t __riscv_vloxei16_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                         const uint16_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vuint16m4_t __riscv_vloxei16_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                         const uint16_t *rs1, vuint16m4_t rs2,
                                         size_t vl);
vuint16m8_t __riscv_vloxei16_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                         const uint16_t *rs1, vuint16m8_t rs2,
                                         size_t vl);
vuint16mf4_t __riscv_vloxei32_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                           const uint16_t *rs1,
                                           vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei32_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                           const uint16_t *rs1, vuint32m1_t rs2,
                                           size_t vl);
vuint16m1_t __riscv_vloxei32_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                         const uint16_t *rs1, vuint32m2_t rs2,
                                         size_t vl);
vuint16m2_t __riscv_vloxei32_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                         const uint16_t *rs1, vuint32m4_t rs2,
                                         size_t vl);
vuint16m4_t __riscv_vloxei32_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                         const uint16_t *rs1, vuint32m8_t rs2,
                                         size_t vl);
vuint16mf4_t __riscv_vloxei64_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                           const uint16_t *rs1, vuint64m1_t rs2,
                                           size_t vl);
vuint16mf2_t __riscv_vloxei64_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                           const uint16_t *rs1, vuint64m2_t rs2,
                                           size_t vl);
vuint16m1_t __riscv_vloxei64_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                         const uint16_t *rs1, vuint64m4_t rs2,
                                         size_t vl);
vuint16m2_t __riscv_vloxei64_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                         const uint16_t *rs1, vuint64m8_t rs2,
                                         size_t vl);
vuint32mf2_t __riscv_vloxei8_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          const uint32_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vuint32m1_t __riscv_vloxei8_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        const uint32_t *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vuint32m2_t __riscv_vloxei8_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
```

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                                      const uint32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint32m4_t __riscv_vloxei8_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      const uint32_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint32m8_t __riscv_vloxei8_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      const uint32_t *rs1, vuint8m2_t rs2,
                                      size_t vl);
vuint32mf2_t __riscv_vloxei16_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei16_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       const uint32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint32m2_t __riscv_vloxei16_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       const uint32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint32m4_t __riscv_vloxei16_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       const uint32_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vuint32m8_t __riscv_vloxei16_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       const uint32_t *rs1, vuint16m4_t rs2,
                                       size_t vl);
vuint32mf2_t __riscv_vloxei32_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei32_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m2_t __riscv_vloxei32_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       const uint32_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint32m4_t __riscv_vloxei32_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       const uint32_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint32m8_t __riscv_vloxei32_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       const uint32_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vuint32mf2_t __riscv_vloxei64_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint32m1_t __riscv_vloxei64_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       const uint32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint32m2_t __riscv_vloxei64_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       const uint32_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint32m4_t __riscv_vloxei64_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       const uint32_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint64m1_t __riscv_vloxei8_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      const uint64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint64m2_t __riscv_vloxei8_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      const uint64_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint64m4_t __riscv_vloxei8_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      const uint64_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint64m8_t __riscv_vloxei8_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      const uint64_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint64m1_t __riscv_vloxei16_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       const uint64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint64m2_t __riscv_vloxei16_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       const uint64_t *rs1, vuint16mf2_t rs2,
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                                        size_t vl);
vuint64m4_t __riscv_vloxei16_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                         const uint64_t *rs1, vuint16m1_t rs2,
                                         size_t vl);
vuint64m8_t __riscv_vloxei16_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                         const uint64_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vuint64m1_t __riscv_vloxei32_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                         const uint64_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint64m2_t __riscv_vloxei32_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                         const uint64_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint64m4_t __riscv_vloxei32_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                         const uint64_t *rs1, vuint32m2_t rs2,
                                         size_t vl);
vuint64m8_t __riscv_vloxei32_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                         const uint64_t *rs1, vuint32m4_t rs2,
                                         size_t vl);
vuint64m1_t __riscv_vloxei64_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                         const uint64_t *rs1, vuint64m1_t rs2,
                                         size_t vl);
vuint64m2_t __riscv_vloxei64_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                         const uint64_t *rs1, vuint64m2_t rs2,
                                         size_t vl);
vuint64m4_t __riscv_vloxei64_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                         const uint64_t *rs1, vuint64m4_t rs2,
                                         size_t vl);
vuint64m8_t __riscv_vloxei64_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                         const uint64_t *rs1, vuint64m8_t rs2,
                                         size_t vl);
vuint8mf8_t __riscv_vluxei8_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                        const uint8_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint8mf4_t __riscv_vluxei8_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                        const uint8_t *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vuint8mf2_t __riscv_vluxei8_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                        const uint8_t *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vuint8m1_t __riscv_vluxei8_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                      const uint8_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint8m2_t __riscv_vluxei8_v_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                      const uint8_t *rs1, vuint8m2_t rs2,
                                      size_t vl);
vuint8m4_t __riscv_vluxei8_v_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                      const uint8_t *rs1, vuint8m4_t rs2,
                                      size_t vl);
vuint8m8_t __riscv_vluxei8_v_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                      const uint8_t *rs1, vuint8m8_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vluxei16_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                         const uint8_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint8mf4_t __riscv_vluxei16_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                         const uint8_t *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vuint8mf2_t __riscv_vluxei16_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                         const uint8_t *rs1, vuint16m1_t rs2,
                                         size_t vl);
vuint8m1_t __riscv_vluxei16_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                       const uint8_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vuint8m2_t __riscv_vluxei16_v_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                       const uint8_t *rs1, vuint16m4_t rs2,
                                       size_t vl);
```

```
vuint8m4_t __riscv_vluxei16_v_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                       const uint8_t *rs1, vuint16m8_t rs2,
                                       size_t vl);
vuint8mf8_t __riscv_vluxei32_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                         const uint8_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint8mf4_t __riscv_vluxei32_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                         const uint8_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint8mf2_t __riscv_vluxei32_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                         const uint8_t *rs1, vuint32m2_t rs2,
                                         size_t vl);
vuint8m1_t __riscv_vluxei32_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m2_t __riscv_vluxei32_v_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                       const uint8_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vuint8mf8_t __riscv_vluxei64_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                         const uint8_t *rs1, vuint64m1_t rs2,
                                         size_t vl);
vuint8mf4_t __riscv_vluxei64_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                         const uint8_t *rs1, vuint64m2_t rs2,
                                         size_t vl);
vuint8mf2_t __riscv_vluxei64_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                         const uint8_t *rs1, vuint64m4_t rs2,
                                         size_t vl);
vuint8m1_t __riscv_vluxei64_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint16mf4_t __riscv_vluxei8_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          const uint16_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vuint16mf2_t __riscv_vluxei8_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                          const uint16_t *rs1, vuint8mf4_t rs2,
                                          size_t vl);
vuint16m1_t __riscv_vluxei8_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        const uint16_t *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vuint16m2_t __riscv_vluxei8_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        const uint16_t *rs1, vuint8m1_t rs2,
                                        size_t vl);
vuint16m4_t __riscv_vluxei8_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        const uint16_t *rs1, vuint8m2_t rs2,
                                        size_t vl);
vuint16m8_t __riscv_vluxei8_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        const uint16_t *rs1, vuint8m4_t rs2,
                                        size_t vl);
vuint16mf4_t __riscv_vluxei16_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                           const uint16_t *rs1,
                                           vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei16_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                           const uint16_t *rs1,
                                           vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei16_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                         const uint16_t *rs1, vuint16m1_t rs2,
                                         size_t vl);
vuint16m2_t __riscv_vluxei16_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                         const uint16_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vuint16m4_t __riscv_vluxei16_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                         const uint16_t *rs1, vuint16m4_t rs2,
                                         size_t vl);
vuint16m8_t __riscv_vluxei16_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                         const uint16_t *rs1, vuint16m8_t rs2,
                                         size_t vl);
vuint16mf4_t __riscv_vluxei32_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
```

```
                                        const uint16_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei32_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        const uint16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint16m1_t __riscv_vluxei32_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m2_t __riscv_vluxei32_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      const uint16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint16m4_t __riscv_vluxei32_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      const uint16_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vuint16mf4_t __riscv_vluxei64_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf2_t __riscv_vluxei64_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        const uint16_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint16m1_t __riscv_vluxei64_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m2_t __riscv_vluxei64_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      const uint16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint32mf2_t __riscv_vluxei8_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                       const uint32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint32m1_t __riscv_vluxei8_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m2_t __riscv_vluxei8_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                     const uint32_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint32m4_t __riscv_vluxei8_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                     const uint32_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint32m8_t __riscv_vluxei8_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                     const uint32_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vuint32mf2_t __riscv_vluxei16_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei16_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      const uint32_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint32m2_t __riscv_vluxei16_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      const uint32_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint32m4_t __riscv_vluxei16_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      const uint32_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint32m8_t __riscv_vluxei16_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      const uint32_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint32mf2_t __riscv_vluxei32_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei32_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m2_t __riscv_vluxei32_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m4_t __riscv_vluxei32_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      const uint32_t *rs1, vuint32m4_t rs2,
```

```
                                        size_t vl);
vuint32m8_t __riscv_vluxei32_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        const uint32_t *rs1, vuint32m8_t rs2,
                                        size_t vl);
vuint32mf2_t __riscv_vluxei64_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          const uint32_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vuint32m1_t __riscv_vluxei64_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        const uint32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint32m2_t __riscv_vluxei64_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        const uint32_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint32m4_t __riscv_vluxei64_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        const uint32_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint64m1_t __riscv_vluxei8_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       const uint64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint64m2_t __riscv_vluxei8_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       const uint64_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint64m4_t __riscv_vluxei8_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       const uint64_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint64m8_t __riscv_vluxei8_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       const uint64_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vuint64m1_t __riscv_vluxei16_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m2_t __riscv_vluxei16_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        const uint64_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint64m4_t __riscv_vluxei16_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        const uint64_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint64m8_t __riscv_vluxei16_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        const uint64_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint64m1_t __riscv_vluxei32_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m2_t __riscv_vluxei32_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        const uint64_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint64m4_t __riscv_vluxei32_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        const uint64_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint64m8_t __riscv_vluxei32_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        const uint64_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vuint64m1_t __riscv_vluxei64_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        const uint64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint64m2_t __riscv_vluxei64_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        const uint64_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint64m4_t __riscv_vluxei64_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        const uint64_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint64m8_t __riscv_vluxei64_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        const uint64_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vloxei8_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           const _Float16 *rs1,
```

```
                                          vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei8_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           const _Float16 *rs1,
                                           vuint8mf4_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei8_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         const _Float16 *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vfloat16m2_t __riscv_vloxei8_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         const _Float16 *rs1, vuint8m1_t rs2,
                                         size_t vl);
vfloat16m4_t __riscv_vloxei8_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         const _Float16 *rs1, vuint8m2_t rs2,
                                         size_t vl);
vfloat16m8_t __riscv_vloxei8_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         const _Float16 *rs1, vuint8m4_t rs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vloxei16_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            const _Float16 *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei16_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            const _Float16 *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei16_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          const _Float16 *rs1, vuint16m1_t rs2,
                                          size_t vl);
vfloat16m2_t __riscv_vloxei16_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          const _Float16 *rs1, vuint16m2_t rs2,
                                          size_t vl);
vfloat16m4_t __riscv_vloxei16_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          const _Float16 *rs1, vuint16m4_t rs2,
                                          size_t vl);
vfloat16m8_t __riscv_vloxei16_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          const _Float16 *rs1, vuint16m8_t rs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vloxei32_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            const _Float16 *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei32_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            const _Float16 *rs1,
                                            vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei32_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          const _Float16 *rs1, vuint32m2_t rs2,
                                          size_t vl);
vfloat16m2_t __riscv_vloxei32_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          const _Float16 *rs1, vuint32m4_t rs2,
                                          size_t vl);
vfloat16m4_t __riscv_vloxei32_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          const _Float16 *rs1, vuint32m8_t rs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vloxei64_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            const _Float16 *rs1,
                                            vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei64_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            const _Float16 *rs1,
                                            vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei64_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          const _Float16 *rs1, vuint64m4_t rs2,
                                          size_t vl);
vfloat16m2_t __riscv_vloxei64_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          const _Float16 *rs1, vuint64m8_t rs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vloxei8_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           const float *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vfloat32m1_t __riscv_vloxei8_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         const float *rs1, vuint8mf4_t rs2,
                                         size_t vl);
```

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vfloat32m2_t __riscv_vloxei8_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          const float *rs1, vuint8mf2_t rs2,
                                          size_t vl);
vfloat32m4_t __riscv_vloxei8_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          const float *rs1, vuint8m1_t rs2,
                                          size_t vl);
vfloat32m8_t __riscv_vloxei8_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          const float *rs1, vuint8m2_t rs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vloxei16_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             const float *rs1, vuint16mf4_t rs2,
                                             size_t vl);
vfloat32m1_t __riscv_vloxei16_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           const float *rs1, vuint16mf2_t rs2,
                                           size_t vl);
vfloat32m2_t __riscv_vloxei16_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           const float *rs1, vuint16m1_t rs2,
                                           size_t vl);
vfloat32m4_t __riscv_vloxei16_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           const float *rs1, vuint16m2_t rs2,
                                           size_t vl);
vfloat32m8_t __riscv_vloxei16_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           const float *rs1, vuint16m4_t rs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vloxei32_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             const float *rs1, vuint32mf2_t rs2,
                                             size_t vl);
vfloat32m1_t __riscv_vloxei32_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           const float *rs1, vuint32m1_t rs2,
                                           size_t vl);
vfloat32m2_t __riscv_vloxei32_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           const float *rs1, vuint32m2_t rs2,
                                           size_t vl);
vfloat32m4_t __riscv_vloxei32_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           const float *rs1, vuint32m4_t rs2,
                                           size_t vl);
vfloat32m8_t __riscv_vloxei32_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           const float *rs1, vuint32m8_t rs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vloxei64_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             const float *rs1, vuint64m1_t rs2,
                                             size_t vl);
vfloat32m1_t __riscv_vloxei64_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           const float *rs1, vuint64m2_t rs2,
                                           size_t vl);
vfloat32m2_t __riscv_vloxei64_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           const float *rs1, vuint64m4_t rs2,
                                           size_t vl);
vfloat32m4_t __riscv_vloxei64_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           const float *rs1, vuint64m8_t rs2,
                                           size_t vl);
vfloat64m1_t __riscv_vloxei8_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          const double *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vfloat64m2_t __riscv_vloxei8_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          const double *rs1, vuint8mf4_t rs2,
                                          size_t vl);
vfloat64m4_t __riscv_vloxei8_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          const double *rs1, vuint8mf2_t rs2,
                                          size_t vl);
vfloat64m8_t __riscv_vloxei8_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          const double *rs1, vuint8m1_t rs2,
                                          size_t vl);
vfloat64m1_t __riscv_vloxei16_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           const double *rs1, vuint16mf4_t rs2,
                                           size_t vl);
vfloat64m2_t __riscv_vloxei16_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
```

```
                                        const double *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vloxei16_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vloxei16_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat64m1_t __riscv_vloxei32_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m2_t __riscv_vloxei32_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vloxei32_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vloxei32_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, vuint32m4_t rs2,
                                        size_t vl);
vfloat64m1_t __riscv_vloxei64_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m2_t __riscv_vloxei64_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vloxei64_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vloxei64_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vluxei8_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                         const _Float16 *rs1,
                                         vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei8_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                         const _Float16 *rs1,
                                         vuint8mf4_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei8_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m2_t __riscv_vluxei8_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                       const _Float16 *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat16m4_t __riscv_vluxei8_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                       const _Float16 *rs1, vuint8m2_t rs2,
                                       size_t vl);
vfloat16m8_t __riscv_vluxei8_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                       const _Float16 *rs1, vuint8m4_t rs2,
                                       size_t vl);
vfloat16mf4_t __riscv_vluxei16_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          const _Float16 *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei16_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          const _Float16 *rs1,
                                          vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei16_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        const _Float16 *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat16m2_t __riscv_vluxei16_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        const _Float16 *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat16m4_t __riscv_vluxei16_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        const _Float16 *rs1, vuint16m4_t rs2,
                                        size_t vl);
vfloat16m8_t __riscv_vluxei16_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        const _Float16 *rs1, vuint16m8_t rs2,
```

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                                          size_t vl);
vfloat16mf4_t __riscv_vluxei32_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             const _Float16 *rs1,
                                             vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei32_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                             const _Float16 *rs1,
                                             vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei32_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                           const _Float16 *rs1, vuint32m2_t rs2,
                                           size_t vl);
vfloat16m2_t __riscv_vluxei32_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                           const _Float16 *rs1, vuint32m4_t rs2,
                                           size_t vl);
vfloat16m4_t __riscv_vluxei32_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                           const _Float16 *rs1, vuint32m8_t rs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vluxei64_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             const _Float16 *rs1,
                                             vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei64_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                             const _Float16 *rs1,
                                             vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei64_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                           const _Float16 *rs1, vuint64m4_t rs2,
                                           size_t vl);
vfloat16m2_t __riscv_vluxei64_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                           const _Float16 *rs1, vuint64m8_t rs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vluxei8_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            const float *rs1, vuint8mf8_t rs2,
                                            size_t vl);
vfloat32m1_t __riscv_vluxei8_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          const float *rs1, vuint8mf4_t rs2,
                                          size_t vl);
vfloat32m2_t __riscv_vluxei8_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          const float *rs1, vuint8mf2_t rs2,
                                          size_t vl);
vfloat32m4_t __riscv_vluxei8_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          const float *rs1, vuint8m1_t rs2,
                                          size_t vl);
vfloat32m8_t __riscv_vluxei8_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          const float *rs1, vuint8m2_t rs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vluxei16_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             const float *rs1, vuint16mf4_t rs2,
                                             size_t vl);
vfloat32m1_t __riscv_vluxei16_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           const float *rs1, vuint16mf2_t rs2,
                                           size_t vl);
vfloat32m2_t __riscv_vluxei16_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           const float *rs1, vuint16m1_t rs2,
                                           size_t vl);
vfloat32m4_t __riscv_vluxei16_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           const float *rs1, vuint16m2_t rs2,
                                           size_t vl);
vfloat32m8_t __riscv_vluxei16_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           const float *rs1, vuint16m4_t rs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vluxei32_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             const float *rs1, vuint32mf2_t rs2,
                                             size_t vl);
vfloat32m1_t __riscv_vluxei32_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           const float *rs1, vuint32m1_t rs2,
                                           size_t vl);
vfloat32m2_t __riscv_vluxei32_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           const float *rs1, vuint32m2_t rs2,
                                           size_t vl);
```

```
vfloat32m4_t __riscv_vluxei32_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           const float *rs1, vuint32m4_t rs2,
                                           size_t vl);
vfloat32m8_t __riscv_vluxei32_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           const float *rs1, vuint32m8_t rs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vluxei64_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             const float *rs1, vuint64m1_t rs2,
                                             size_t vl);
vfloat32m1_t __riscv_vluxei64_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           const float *rs1, vuint64m2_t rs2,
                                           size_t vl);
vfloat32m2_t __riscv_vluxei64_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           const float *rs1, vuint64m4_t rs2,
                                           size_t vl);
vfloat32m4_t __riscv_vluxei64_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           const float *rs1, vuint64m8_t rs2,
                                           size_t vl);
vfloat64m1_t __riscv_vluxei8_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          const double *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vfloat64m2_t __riscv_vluxei8_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          const double *rs1, vuint8mf4_t rs2,
                                          size_t vl);
vfloat64m4_t __riscv_vluxei8_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          const double *rs1, vuint8mf2_t rs2,
                                          size_t vl);
vfloat64m8_t __riscv_vluxei8_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          const double *rs1, vuint8m1_t rs2,
                                          size_t vl);
vfloat64m1_t __riscv_vluxei16_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           const double *rs1, vuint16mf4_t rs2,
                                           size_t vl);
vfloat64m2_t __riscv_vluxei16_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           const double *rs1, vuint16mf2_t rs2,
                                           size_t vl);
vfloat64m4_t __riscv_vluxei16_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           const double *rs1, vuint16m1_t rs2,
                                           size_t vl);
vfloat64m8_t __riscv_vluxei16_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           const double *rs1, vuint16m2_t rs2,
                                           size_t vl);
vfloat64m1_t __riscv_vluxei32_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           const double *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vfloat64m2_t __riscv_vluxei32_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           const double *rs1, vuint32m1_t rs2,
                                           size_t vl);
vfloat64m4_t __riscv_vluxei32_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           const double *rs1, vuint32m2_t rs2,
                                           size_t vl);
vfloat64m8_t __riscv_vluxei32_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           const double *rs1, vuint32m4_t rs2,
                                           size_t vl);
vfloat64m1_t __riscv_vluxei64_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           const double *rs1, vuint64m1_t rs2,
                                           size_t vl);
vfloat64m2_t __riscv_vluxei64_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           const double *rs1, vuint64m2_t rs2,
                                           size_t vl);
vfloat64m4_t __riscv_vluxei64_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           const double *rs1, vuint64m4_t rs2,
                                           size_t vl);
vfloat64m8_t __riscv_vluxei64_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           const double *rs1, vuint64m8_t rs2,
                                           size_t vl);
vint8mf8_t __riscv_vloxei8_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
```

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                                      const int8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint8mf4_t __riscv_vloxei8_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      const int8_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint8mf2_t __riscv_vloxei8_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint8m1_t __riscv_vloxei8_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                    const int8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vint8m2_t __riscv_vloxei8_v_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                    const int8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vint8m4_t __riscv_vloxei8_v_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                    const int8_t *rs1, vuint8m4_t rs2,
                                    size_t vl);
vint8m8_t __riscv_vloxei8_v_i8m8_tumu(vbool1_t vm, vint8m8_t vd,
                                    const int8_t *rs1, vuint8m8_t rs2,
                                    size_t vl);
vint8mf8_t __riscv_vloxei16_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       const int8_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint8mf4_t __riscv_vloxei16_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf2_t __riscv_vloxei16_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8m1_t __riscv_vloxei16_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m2_t __riscv_vloxei16_v_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                     const int8_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vint8m4_t __riscv_vloxei16_v_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                     const int8_t *rs1, vuint16m8_t rs2,
                                     size_t vl);
vint8mf8_t __riscv_vloxei32_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       const int8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint8mf4_t __riscv_vloxei32_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       const int8_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vint8mf2_t __riscv_vloxei32_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       const int8_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint8m1_t __riscv_vloxei32_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                     const int8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vint8m2_t __riscv_vloxei32_v_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                     const int8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vint8mf8_t __riscv_vloxei64_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf4_t __riscv_vloxei64_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf2_t __riscv_vloxei64_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8m1_t __riscv_vloxei64_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint16mf4_t __riscv_vloxei8_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        const int16_t *rs1, vuint8mf8_t rs2,
```

```
                                        size_t vl);
vint16mf2_t __riscv_vloxei8_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         const int16_t *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vint16m1_t __riscv_vloxei8_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       const int16_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vint16m2_t __riscv_vloxei8_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       const int16_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vint16m4_t __riscv_vloxei8_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       const int16_t *rs1, vuint8m2_t rs2,
                                       size_t vl);
vint16m8_t __riscv_vloxei8_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       const int16_t *rs1, vuint8m4_t rs2,
                                       size_t vl);
vint16mf4_t __riscv_vloxei16_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          const int16_t *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vint16mf2_t __riscv_vloxei16_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          const int16_t *rs1, vuint16mf2_t rs2,
                                          size_t vl);
vint16m1_t __riscv_vloxei16_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                        const int16_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vint16m2_t __riscv_vloxei16_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                        const int16_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint16m4_t __riscv_vloxei16_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                        const int16_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vint16m8_t __riscv_vloxei16_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                        const int16_t *rs1, vuint16m8_t rs2,
                                        size_t vl);
vint16mf4_t __riscv_vloxei32_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          const int16_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vint16mf2_t __riscv_vloxei32_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          const int16_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vint16m1_t __riscv_vloxei32_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                        const int16_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vint16m2_t __riscv_vloxei32_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                        const int16_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vint16m4_t __riscv_vloxei32_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                        const int16_t *rs1, vuint32m8_t rs2,
                                        size_t vl);
vint16mf4_t __riscv_vloxei64_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          const int16_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint16mf2_t __riscv_vloxei64_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          const int16_t *rs1, vuint64m2_t rs2,
                                          size_t vl);
vint16m1_t __riscv_vloxei64_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                        const int16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vint16m2_t __riscv_vloxei64_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                        const int16_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint32mf2_t __riscv_vloxei8_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         const int32_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vint32m1_t __riscv_vloxei8_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       const int32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
```

```
vint32m2_t __riscv_vloxei8_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        const int32_t *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vint32m4_t __riscv_vloxei8_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        const int32_t *rs1, vuint8m1_t rs2,
                                        size_t vl);
vint32m8_t __riscv_vloxei8_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                        const int32_t *rs1, vuint8m2_t rs2,
                                        size_t vl);
vint32mf2_t __riscv_vloxei16_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                           const int32_t *rs1, vuint16mf4_t rs2,
                                           size_t vl);
vint32m1_t __riscv_vloxei16_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                         const int32_t *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vint32m2_t __riscv_vloxei16_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                         const int32_t *rs1, vuint16m1_t rs2,
                                         size_t vl);
vint32m4_t __riscv_vloxei16_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                         const int32_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vint32m8_t __riscv_vloxei16_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                         const int32_t *rs1, vuint16m4_t rs2,
                                         size_t vl);
vint32mf2_t __riscv_vloxei32_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                           const int32_t *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vint32m1_t __riscv_vloxei32_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                         const int32_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vint32m2_t __riscv_vloxei32_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                         const int32_t *rs1, vuint32m2_t rs2,
                                         size_t vl);
vint32m4_t __riscv_vloxei32_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                         const int32_t *rs1, vuint32m4_t rs2,
                                         size_t vl);
vint32m8_t __riscv_vloxei32_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                         const int32_t *rs1, vuint32m8_t rs2,
                                         size_t vl);
vint32mf2_t __riscv_vloxei64_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                           const int32_t *rs1, vuint64m1_t rs2,
                                           size_t vl);
vint32m1_t __riscv_vloxei64_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                         const int32_t *rs1, vuint64m2_t rs2,
                                         size_t vl);
vint32m2_t __riscv_vloxei64_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                         const int32_t *rs1, vuint64m4_t rs2,
                                         size_t vl);
vint32m4_t __riscv_vloxei64_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                         const int32_t *rs1, vuint64m8_t rs2,
                                         size_t vl);
vint64m1_t __riscv_vloxei8_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        const int64_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vint64m2_t __riscv_vloxei8_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        const int64_t *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vint64m4_t __riscv_vloxei8_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        const int64_t *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vint64m8_t __riscv_vloxei8_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        const int64_t *rs1, vuint8m1_t rs2,
                                        size_t vl);
vint64m1_t __riscv_vloxei16_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                         const int64_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vint64m2_t __riscv_vloxei16_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
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                                        const int64_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint64m4_t __riscv_vloxei16_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        const int64_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vint64m8_t __riscv_vloxei16_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        const int64_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint64m1_t __riscv_vloxei32_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        const int64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint64m2_t __riscv_vloxei32_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        const int64_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint64m4_t __riscv_vloxei32_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        const int64_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vint64m8_t __riscv_vloxei32_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        const int64_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vint64m1_t __riscv_vloxei64_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        const int64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint64m2_t __riscv_vloxei64_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        const int64_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vint64m4_t __riscv_vloxei64_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        const int64_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vint64m8_t __riscv_vloxei64_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        const int64_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint8mf8_t __riscv_vluxei8_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       const int8_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint8mf4_t __riscv_vluxei8_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       const int8_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vint8mf2_t __riscv_vluxei8_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       const int8_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vint8m1_t __riscv_vluxei8_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                     const int8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint8m2_t __riscv_vluxei8_v_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                     const int8_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vint8m4_t __riscv_vluxei8_v_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                     const int8_t *rs1, vuint8m4_t rs2,
                                     size_t vl);
vint8m8_t __riscv_vluxei8_v_i8m8_tumu(vbool1_t vm, vint8m8_t vd,
                                     const int8_t *rs1, vuint8m8_t rs2,
                                     size_t vl);
vint8mf8_t __riscv_vluxei16_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                        const int8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint8mf4_t __riscv_vluxei16_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                        const int8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint8mf2_t __riscv_vluxei16_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                        const int8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vint8m1_t __riscv_vluxei16_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m2_t __riscv_vluxei16_v_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                      const int8_t *rs1, vuint16m4_t rs2,
```

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                                      size_t vl);
vint8m4_t __riscv_vluxei16_v_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                      const int8_t *rs1, vuint16m8_t rs2,
                                      size_t vl);
vint8mf8_t __riscv_vluxei32_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                        const int8_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint8mf4_t __riscv_vluxei32_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                        const int8_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint8mf2_t __riscv_vluxei32_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                        const int8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vint8m1_t __riscv_vluxei32_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m2_t __riscv_vluxei32_v_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                      const int8_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint8mf8_t __riscv_vluxei64_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                        const int8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint8mf4_t __riscv_vluxei64_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                        const int8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vint8mf2_t __riscv_vluxei64_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                        const int8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vint8m1_t __riscv_vluxei64_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint16mf4_t __riscv_vluxei8_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         const int16_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vint16mf2_t __riscv_vluxei8_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         const int16_t *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vint16m1_t __riscv_vluxei8_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       const int16_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vint16m2_t __riscv_vluxei8_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       const int16_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vint16m4_t __riscv_vluxei8_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       const int16_t *rs1, vuint8m2_t rs2,
                                       size_t vl);
vint16m8_t __riscv_vluxei8_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       const int16_t *rs1, vuint8m4_t rs2,
                                       size_t vl);
vint16mf4_t __riscv_vluxei16_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          const int16_t *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vint16mf2_t __riscv_vluxei16_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          const int16_t *rs1, vuint16mf2_t rs2,
                                          size_t vl);
vint16m1_t __riscv_vluxei16_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                        const int16_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vint16m2_t __riscv_vluxei16_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                        const int16_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint16m4_t __riscv_vluxei16_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                        const int16_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vint16m8_t __riscv_vluxei16_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                        const int16_t *rs1, vuint16m8_t rs2,
                                        size_t vl);
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vint16mf4_t __riscv_vluxei32_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                           const int16_t *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vint16mf2_t __riscv_vluxei32_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                           const int16_t *rs1, vuint32m1_t rs2,
                                           size_t vl);
vint16m1_t __riscv_vluxei32_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                         const int16_t *rs1, vuint32m2_t rs2,
                                         size_t vl);
vint16m2_t __riscv_vluxei32_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                         const int16_t *rs1, vuint32m4_t rs2,
                                         size_t vl);
vint16m4_t __riscv_vluxei32_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                         const int16_t *rs1, vuint32m8_t rs2,
                                         size_t vl);
vint16mf4_t __riscv_vluxei64_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                           const int16_t *rs1, vuint64m1_t rs2,
                                           size_t vl);
vint16mf2_t __riscv_vluxei64_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                           const int16_t *rs1, vuint64m2_t rs2,
                                           size_t vl);
vint16m1_t __riscv_vluxei64_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                         const int16_t *rs1, vuint64m4_t rs2,
                                         size_t vl);
vint16m2_t __riscv_vluxei64_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                         const int16_t *rs1, vuint64m8_t rs2,
                                         size_t vl);
vint32mf2_t __riscv_vluxei8_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          const int32_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vint32m1_t __riscv_vluxei8_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        const int32_t *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vint32m2_t __riscv_vluxei8_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        const int32_t *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vint32m4_t __riscv_vluxei8_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        const int32_t *rs1, vuint8m1_t rs2,
                                        size_t vl);
vint32m8_t __riscv_vluxei8_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                        const int32_t *rs1, vuint8m2_t rs2,
                                        size_t vl);
vint32mf2_t __riscv_vluxei16_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                           const int32_t *rs1, vuint16mf4_t rs2,
                                           size_t vl);
vint32m1_t __riscv_vluxei16_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                         const int32_t *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vint32m2_t __riscv_vluxei16_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                         const int32_t *rs1, vuint16m1_t rs2,
                                         size_t vl);
vint32m4_t __riscv_vluxei16_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                         const int32_t *rs1, vuint16m2_t rs2,
                                         size_t vl);
vint32m8_t __riscv_vluxei16_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                         const int32_t *rs1, vuint16m4_t rs2,
                                         size_t vl);
vint32mf2_t __riscv_vluxei32_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                           const int32_t *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vint32m1_t __riscv_vluxei32_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                         const int32_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vint32m2_t __riscv_vluxei32_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                         const int32_t *rs1, vuint32m2_t rs2,
                                         size_t vl);
vint32m4_t __riscv_vluxei32_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
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                                        const int32_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vint32m8_t __riscv_vluxei32_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                        const int32_t *rs1, vuint32m8_t rs2,
                                        size_t vl);
vint32mf2_t __riscv_vluxei64_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          const int32_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vint32m1_t __riscv_vluxei64_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        const int32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vint32m2_t __riscv_vluxei64_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        const int32_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vint32m4_t __riscv_vluxei64_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        const int32_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vint64m1_t __riscv_vluxei8_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       const int64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint64m2_t __riscv_vluxei8_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       const int64_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vint64m4_t __riscv_vluxei8_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       const int64_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vint64m8_t __riscv_vluxei8_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       const int64_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vint64m1_t __riscv_vluxei16_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        const int64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint64m2_t __riscv_vluxei16_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        const int64_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint64m4_t __riscv_vluxei16_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        const int64_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vint64m8_t __riscv_vluxei16_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        const int64_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vint64m1_t __riscv_vluxei32_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        const int64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint64m2_t __riscv_vluxei32_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        const int64_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint64m4_t __riscv_vluxei32_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        const int64_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vint64m8_t __riscv_vluxei32_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        const int64_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vint64m1_t __riscv_vluxei64_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        const int64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint64m2_t __riscv_vluxei64_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        const int64_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vint64m4_t __riscv_vluxei64_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        const int64_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vint64m8_t __riscv_vluxei64_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        const int64_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint8mf8_t __riscv_vloxei8_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                        const uint8_t *rs1, vuint8mf8_t rs2,
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                                        size_t vl);
vuint8mf4_t __riscv_vloxei8_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                        const uint8_t *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vuint8mf2_t __riscv_vloxei8_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                        const uint8_t *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vuint8m1_t __riscv_vloxei8_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                      const uint8_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint8m2_t __riscv_vloxei8_v_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                      const uint8_t *rs1, vuint8m2_t rs2,
                                      size_t vl);
vuint8m4_t __riscv_vloxei8_v_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                      const uint8_t *rs1, vuint8m4_t rs2,
                                      size_t vl);
vuint8m8_t __riscv_vloxei8_v_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      const uint8_t *rs1, vuint8m8_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vloxei16_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                         const uint8_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint8mf4_t __riscv_vloxei16_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                         const uint8_t *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vuint8mf2_t __riscv_vloxei16_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                         const uint8_t *rs1, vuint16m1_t rs2,
                                         size_t vl);
vuint8m1_t __riscv_vloxei16_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                       const uint8_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vuint8m2_t __riscv_vloxei16_v_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                       const uint8_t *rs1, vuint16m4_t rs2,
                                       size_t vl);
vuint8m4_t __riscv_vloxei16_v_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                       const uint8_t *rs1, vuint16m8_t rs2,
                                       size_t vl);
vuint8mf8_t __riscv_vloxei32_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                         const uint8_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint8mf4_t __riscv_vloxei32_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                         const uint8_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint8mf2_t __riscv_vloxei32_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                         const uint8_t *rs1, vuint32m2_t rs2,
                                         size_t vl);
vuint8m1_t __riscv_vloxei32_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m2_t __riscv_vloxei32_v_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                       const uint8_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vuint8mf8_t __riscv_vloxei64_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                         const uint8_t *rs1, vuint64m1_t rs2,
                                         size_t vl);
vuint8mf4_t __riscv_vloxei64_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                         const uint8_t *rs1, vuint64m2_t rs2,
                                         size_t vl);
vuint8mf2_t __riscv_vloxei64_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                         const uint8_t *rs1, vuint64m4_t rs2,
                                         size_t vl);
vuint8m1_t __riscv_vloxei64_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint16mf4_t __riscv_vloxei8_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          const uint16_t *rs1, vuint8mf8_t rs2,
                                          size_t vl);
```

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vuint16mf2_t __riscv_vloxei8_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                           const uint16_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vuint16m1_t __riscv_vloxei8_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         const uint16_t *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vuint16m2_t __riscv_vloxei8_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         const uint16_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vuint16m4_t __riscv_vloxei8_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         const uint16_t *rs1, vuint8m2_t rs2,
                                         size_t vl);
vuint16m8_t __riscv_vloxei8_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         const uint16_t *rs1, vuint8m4_t rs2,
                                         size_t vl);
vuint16mf4_t __riscv_vloxei16_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                            const uint16_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei16_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                            const uint16_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei16_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                          const uint16_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vuint16m2_t __riscv_vloxei16_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                          const uint16_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vuint16m4_t __riscv_vloxei16_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                          const uint16_t *rs1, vuint16m4_t rs2,
                                          size_t vl);
vuint16m8_t __riscv_vloxei16_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                          const uint16_t *rs1, vuint16m8_t rs2,
                                          size_t vl);
vuint16mf4_t __riscv_vloxei32_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                            const uint16_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei32_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                            const uint16_t *rs1,
                                            vuint32m1_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei32_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                          const uint16_t *rs1, vuint32m2_t rs2,
                                          size_t vl);
vuint16m2_t __riscv_vloxei32_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                          const uint16_t *rs1, vuint32m4_t rs2,
                                          size_t vl);
vuint16m4_t __riscv_vloxei32_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                          const uint16_t *rs1, vuint32m8_t rs2,
                                          size_t vl);
vuint16mf4_t __riscv_vloxei64_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                            const uint16_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei64_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                            const uint16_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei64_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                          const uint16_t *rs1, vuint64m4_t rs2,
                                          size_t vl);
vuint16m2_t __riscv_vloxei64_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                          const uint16_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vuint32mf2_t __riscv_vloxei8_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           const uint32_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vuint32m1_t __riscv_vloxei8_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         const uint32_t *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vuint32m2_t __riscv_vloxei8_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
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                                       const uint32_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint32m4_t __riscv_vloxei8_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       const uint32_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vuint32m8_t __riscv_vloxei8_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       const uint32_t *rs1, vuint8m2_t rs2,
                                       size_t vl);
vuint32mf2_t __riscv_vloxei16_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         const uint32_t *rs1,
                                         vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei16_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m2_t __riscv_vloxei16_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        const uint32_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint32m4_t __riscv_vloxei16_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        const uint32_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint32m8_t __riscv_vloxei16_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        const uint32_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vuint32mf2_t __riscv_vloxei32_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         const uint32_t *rs1,
                                         vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei32_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        const uint32_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint32m2_t __riscv_vloxei32_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        const uint32_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint32m4_t __riscv_vloxei32_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        const uint32_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vuint32m8_t __riscv_vloxei32_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        const uint32_t *rs1, vuint32m8_t rs2,
                                        size_t vl);
vuint32mf2_t __riscv_vloxei64_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         const uint32_t *rs1,
                                         vuint64m1_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei64_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        const uint32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint32m2_t __riscv_vloxei64_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        const uint32_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint32m4_t __riscv_vloxei64_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        const uint32_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint64m1_t __riscv_vloxei8_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       const uint64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint64m2_t __riscv_vloxei8_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       const uint64_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint64m4_t __riscv_vloxei8_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       const uint64_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint64m8_t __riscv_vloxei8_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       const uint64_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vuint64m1_t __riscv_vloxei16_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m2_t __riscv_vloxei16_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        const uint64_t *rs1, vuint16mf2_t rs2,
```

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                                        size_t vl);
vuint64m4_t __riscv_vloxei16_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        const uint64_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint64m8_t __riscv_vloxei16_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        const uint64_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint64m1_t __riscv_vloxei32_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m2_t __riscv_vloxei32_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        const uint64_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint64m4_t __riscv_vloxei32_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        const uint64_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint64m8_t __riscv_vloxei32_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        const uint64_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vuint64m1_t __riscv_vloxei64_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        const uint64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint64m2_t __riscv_vloxei64_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        const uint64_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint64m4_t __riscv_vloxei64_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        const uint64_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint64m8_t __riscv_vloxei64_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        const uint64_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint8mf8_t __riscv_vluxei8_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       const uint8_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint8mf4_t __riscv_vluxei8_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       const uint8_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint8mf2_t __riscv_vluxei8_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       const uint8_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint8m1_t __riscv_vluxei8_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                     const uint8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint8m2_t __riscv_vluxei8_v_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                     const uint8_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vuint8m4_t __riscv_vluxei8_v_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                     const uint8_t *rs1, vuint8m4_t rs2,
                                     size_t vl);
vuint8m8_t __riscv_vluxei8_v_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                     const uint8_t *rs1, vuint8m8_t rs2,
                                     size_t vl);
vuint8mf8_t __riscv_vluxei16_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf4_t __riscv_vluxei16_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf2_t __riscv_vluxei16_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8m1_t __riscv_vluxei16_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m2_t __riscv_vluxei16_v_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
```

```
vuint8m4_t __riscv_vluxei16_v_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                        const uint8_t *rs1, vuint16m8_t rs2,
                                        size_t vl);
vuint8mf8_t __riscv_vluxei32_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                          const uint8_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vuint8mf4_t __riscv_vluxei32_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                          const uint8_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vuint8mf2_t __riscv_vluxei32_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                          const uint8_t *rs1, vuint32m2_t rs2,
                                          size_t vl);
vuint8m1_t __riscv_vluxei32_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                        const uint8_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vuint8m2_t __riscv_vluxei32_v_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                        const uint8_t *rs1, vuint32m8_t rs2,
                                        size_t vl);
vuint8mf8_t __riscv_vluxei64_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                          const uint8_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vuint8mf4_t __riscv_vluxei64_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                          const uint8_t *rs1, vuint64m2_t rs2,
                                          size_t vl);
vuint8mf2_t __riscv_vluxei64_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                          const uint8_t *rs1, vuint64m4_t rs2,
                                          size_t vl);
vuint8m1_t __riscv_vluxei64_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                        const uint8_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint16mf4_t __riscv_vluxei8_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                           const uint16_t *rs1, vuint8mf8_t rs2,
                                           size_t vl);
vuint16mf2_t __riscv_vluxei8_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                           const uint16_t *rs1, vuint8mf4_t rs2,
                                           size_t vl);
vuint16m1_t __riscv_vluxei8_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         const uint16_t *rs1, vuint8mf2_t rs2,
                                         size_t vl);
vuint16m2_t __riscv_vluxei8_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         const uint16_t *rs1, vuint8m1_t rs2,
                                         size_t vl);
vuint16m4_t __riscv_vluxei8_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         const uint16_t *rs1, vuint8m2_t rs2,
                                         size_t vl);
vuint16m8_t __riscv_vluxei8_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         const uint16_t *rs1, vuint8m4_t rs2,
                                         size_t vl);
vuint16mf4_t __riscv_vluxei16_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                            const uint16_t *rs1,
                                            vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei16_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                            const uint16_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei16_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                          const uint16_t *rs1, vuint16m1_t rs2,
                                          size_t vl);
vuint16m2_t __riscv_vluxei16_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                          const uint16_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vuint16m4_t __riscv_vluxei16_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                          const uint16_t *rs1, vuint16m4_t rs2,
                                          size_t vl);
vuint16m8_t __riscv_vluxei16_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                          const uint16_t *rs1, vuint16m8_t rs2,
                                          size_t vl);
vuint16mf4_t __riscv_vluxei32_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
```

```
                                          const uint16_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei32_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          const uint16_t *rs1,
                                          vuint32m1_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei32_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        const uint16_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint16m2_t __riscv_vluxei32_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        const uint16_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vuint16m4_t __riscv_vluxei32_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        const uint16_t *rs1, vuint32m8_t rs2,
                                        size_t vl);
vuint16mf4_t __riscv_vluxei64_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          const uint16_t *rs1,
                                          vuint64m1_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei64_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          const uint16_t *rs1,
                                          vuint64m2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei64_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        const uint16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint16m2_t __riscv_vluxei64_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        const uint16_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint32mf2_t __riscv_vluxei8_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         const uint32_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vuint32m1_t __riscv_vluxei8_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       const uint32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint32m2_t __riscv_vluxei8_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       const uint32_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint32m4_t __riscv_vluxei8_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       const uint32_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vuint32m8_t __riscv_vluxei8_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       const uint32_t *rs1, vuint8m2_t rs2,
                                       size_t vl);
vuint32mf2_t __riscv_vluxei16_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          const uint32_t *rs1,
                                          vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei16_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m2_t __riscv_vluxei16_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        const uint32_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint32m4_t __riscv_vluxei16_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        const uint32_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint32m8_t __riscv_vluxei16_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        const uint32_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vuint32mf2_t __riscv_vluxei32_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          const uint32_t *rs1,
                                          vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei32_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        const uint32_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint32m2_t __riscv_vluxei32_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        const uint32_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint32m4_t __riscv_vluxei32_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        const uint32_t *rs1, vuint32m4_t rs2,
```

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                                        size_t vl);
vuint32m8_t __riscv_vluxei32_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        const uint32_t *rs1, vuint32m8_t rs2,
                                        size_t vl);
vuint32mf2_t __riscv_vluxei64_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          const uint32_t *rs1,
                                          vuint64m1_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei64_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        const uint32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint32m2_t __riscv_vluxei64_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        const uint32_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint32m4_t __riscv_vluxei64_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        const uint32_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint64m1_t __riscv_vluxei8_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       const uint64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint64m2_t __riscv_vluxei8_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       const uint64_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint64m4_t __riscv_vluxei8_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       const uint64_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint64m8_t __riscv_vluxei8_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       const uint64_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vuint64m1_t __riscv_vluxei16_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m2_t __riscv_vluxei16_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        const uint64_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint64m4_t __riscv_vluxei16_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        const uint64_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint64m8_t __riscv_vluxei16_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        const uint64_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint64m1_t __riscv_vluxei32_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m2_t __riscv_vluxei32_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        const uint64_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint64m4_t __riscv_vluxei32_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        const uint64_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint64m8_t __riscv_vluxei32_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        const uint64_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vuint64m1_t __riscv_vluxei64_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        const uint64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint64m2_t __riscv_vluxei64_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        const uint64_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint64m4_t __riscv_vluxei64_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        const uint64_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint64m8_t __riscv_vluxei64_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        const uint64_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vloxei8_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
```

```
                                        size_t vl);
vfloat16mf2_t __riscv_vloxei8_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16m1_t __riscv_vloxei8_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m2_t __riscv_vloxei8_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       const _Float16 *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat16m4_t __riscv_vloxei8_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       const _Float16 *rs1, vuint8m2_t rs2,
                                       size_t vl);
vfloat16m8_t __riscv_vloxei8_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       const _Float16 *rs1, vuint8m4_t rs2,
                                       size_t vl);
vfloat16mf4_t __riscv_vloxei16_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei16_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei16_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m2_t __riscv_vloxei16_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       const _Float16 *rs1, vuint16m2_t rs2,
                                       size_t vl);
vfloat16m4_t __riscv_vloxei16_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       const _Float16 *rs1, vuint16m4_t rs2,
                                       size_t vl);
vfloat16m8_t __riscv_vloxei16_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       const _Float16 *rs1, vuint16m8_t rs2,
                                       size_t vl);
vfloat16mf4_t __riscv_vloxei32_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei32_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        const _Float16 *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat16m1_t __riscv_vloxei32_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m2_t __riscv_vloxei32_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       const _Float16 *rs1, vuint32m4_t rs2,
                                       size_t vl);
vfloat16m4_t __riscv_vloxei32_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       const _Float16 *rs1, vuint32m8_t rs2,
                                       size_t vl);
vfloat16mf4_t __riscv_vloxei64_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vloxei64_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16m1_t __riscv_vloxei64_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       const _Float16 *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat16m2_t __riscv_vloxei64_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       const _Float16 *rs1, vuint64m8_t rs2,
                                       size_t vl);
vfloat32mf2_t __riscv_vloxei8_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32m1_t __riscv_vloxei8_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
```

```
vfloat32m2_t __riscv_vloxei8_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        const float *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat32m4_t __riscv_vloxei8_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        const float *rs1, vuint8m1_t rs2,
                                        size_t vl);
vfloat32m8_t __riscv_vloxei8_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        const float *rs1, vuint8m2_t rs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vloxei16_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           const float *rs1, vuint16mf4_t rs2,
                                           size_t vl);
vfloat32m1_t __riscv_vloxei16_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m2_t __riscv_vloxei16_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         const float *rs1, vuint16m1_t rs2,
                                         size_t vl);
vfloat32m4_t __riscv_vloxei16_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         const float *rs1, vuint16m2_t rs2,
                                         size_t vl);
vfloat32m8_t __riscv_vloxei16_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         const float *rs1, vuint16m4_t rs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vloxei32_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           const float *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vfloat32m1_t __riscv_vloxei32_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         const float *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat32m2_t __riscv_vloxei32_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         const float *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat32m4_t __riscv_vloxei32_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         const float *rs1, vuint32m4_t rs2,
                                         size_t vl);
vfloat32m8_t __riscv_vloxei32_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         const float *rs1, vuint32m8_t rs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vloxei64_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           const float *rs1, vuint64m1_t rs2,
                                           size_t vl);
vfloat32m1_t __riscv_vloxei64_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         const float *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat32m2_t __riscv_vloxei64_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         const float *rs1, vuint64m4_t rs2,
                                         size_t vl);
vfloat32m4_t __riscv_vloxei64_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         const float *rs1, vuint64m8_t rs2,
                                         size_t vl);
vfloat64m1_t __riscv_vloxei8_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat64m2_t __riscv_vloxei8_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vloxei8_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vloxei8_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, vuint8m1_t rs2,
                                        size_t vl);
vfloat64m1_t __riscv_vloxei16_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         const double *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat64m2_t __riscv_vloxei16_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
```

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                                        const double *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vloxei16_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vloxei16_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat64m1_t __riscv_vloxei32_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m2_t __riscv_vloxei32_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vloxei32_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vloxei32_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, vuint32m4_t rs2,
                                        size_t vl);
vfloat64m1_t __riscv_vloxei64_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m2_t __riscv_vloxei64_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vloxei64_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vloxei64_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vluxei8_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vluxei8_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         const _Float16 *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat16m1_t __riscv_vluxei8_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m2_t __riscv_vluxei8_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       const _Float16 *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat16m4_t __riscv_vluxei8_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       const _Float16 *rs1, vuint8m2_t rs2,
                                       size_t vl);
vfloat16m8_t __riscv_vluxei8_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       const _Float16 *rs1, vuint8m4_t rs2,
                                       size_t vl);
vfloat16mf4_t __riscv_vluxei16_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          const _Float16 *rs1,
                                          vuint16mf4_t rs2, size_t vl);
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                                          const _Float16 *rs1,
                                          vuint16mf2_t rs2, size_t vl);
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                                        const _Float16 *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat16m2_t __riscv_vluxei16_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                        const _Float16 *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat16m4_t __riscv_vluxei16_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                        const _Float16 *rs1, vuint16m4_t rs2,
                                        size_t vl);
vfloat16m8_t __riscv_vluxei16_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                        const _Float16 *rs1, vuint16m8_t rs2,
```

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                                        size_t vl);
vfloat16mf4_t __riscv_vluxei32_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           const _Float16 *rs1,
                                           vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei32_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           const _Float16 *rs1, vuint32m1_t rs2,
                                           size_t vl);
vfloat16m1_t __riscv_vluxei32_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                         const _Float16 *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat16m2_t __riscv_vluxei32_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                         const _Float16 *rs1, vuint32m4_t rs2,
                                         size_t vl);
vfloat16m4_t __riscv_vluxei32_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                         const _Float16 *rs1, vuint32m8_t rs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vluxei64_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           const _Float16 *rs1, vuint64m1_t rs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vluxei64_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           const _Float16 *rs1, vuint64m2_t rs2,
                                           size_t vl);
vfloat16m1_t __riscv_vluxei64_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                         const _Float16 *rs1, vuint64m4_t rs2,
                                         size_t vl);
vfloat16m2_t __riscv_vluxei64_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                         const _Float16 *rs1, vuint64m8_t rs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vluxei8_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          const float *rs1, vuint8mf8_t rs2,
                                          size_t vl);
vfloat32m1_t __riscv_vluxei8_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        const float *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat32m2_t __riscv_vluxei8_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        const float *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat32m4_t __riscv_vluxei8_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        const float *rs1, vuint8m1_t rs2,
                                        size_t vl);
vfloat32m8_t __riscv_vluxei8_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        const float *rs1, vuint8m2_t rs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vluxei16_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           const float *rs1, vuint16mf4_t rs2,
                                           size_t vl);
vfloat32m1_t __riscv_vluxei16_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
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                                         const float *rs1, vuint16m1_t rs2,
                                         size_t vl);
vfloat32m4_t __riscv_vluxei16_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         const float *rs1, vuint16m2_t rs2,
                                         size_t vl);
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                                         const float *rs1, vuint16m4_t rs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vluxei32_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           const float *rs1, vuint32mf2_t rs2,
                                           size_t vl);
vfloat32m1_t __riscv_vluxei32_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         const float *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat32m2_t __riscv_vluxei32_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         const float *rs1, vuint32m2_t rs2,
                                         size_t vl);
```

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vfloat32m4_t __riscv_vluxei32_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         const float *rs1, vuint32m4_t rs2,
                                         size_t vl);
vfloat32m8_t __riscv_vluxei32_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         const float *rs1, vuint32m8_t rs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vluxei64_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           const float *rs1, vuint64m1_t rs2,
                                           size_t vl);
vfloat32m1_t __riscv_vluxei64_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         const float *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat32m2_t __riscv_vluxei64_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         const float *rs1, vuint64m4_t rs2,
                                         size_t vl);
vfloat32m4_t __riscv_vluxei64_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         const float *rs1, vuint64m8_t rs2,
                                         size_t vl);
vfloat64m1_t __riscv_vluxei8_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat64m2_t __riscv_vluxei8_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat64m4_t __riscv_vluxei8_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat64m8_t __riscv_vluxei8_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, vuint8m1_t rs2,
                                        size_t vl);
vfloat64m1_t __riscv_vluxei16_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         const double *rs1, vuint16mf4_t rs2,
                                         size_t vl);
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                                         const double *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat64m4_t __riscv_vluxei16_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         const double *rs1, vuint16m1_t rs2,
                                         size_t vl);
vfloat64m8_t __riscv_vluxei16_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         const double *rs1, vuint16m2_t rs2,
                                         size_t vl);
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                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m2_t __riscv_vluxei32_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         const double *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat64m4_t __riscv_vluxei32_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         const double *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat64m8_t __riscv_vluxei32_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         const double *rs1, vuint32m4_t rs2,
                                         size_t vl);
vfloat64m1_t __riscv_vluxei64_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m2_t __riscv_vluxei64_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         const double *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat64m4_t __riscv_vluxei64_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         const double *rs1, vuint64m4_t rs2,
                                         size_t vl);
vfloat64m8_t __riscv_vluxei64_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         const double *rs1, vuint64m8_t rs2,
                                         size_t vl);
vint8mf8_t __riscv_vloxei8_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
```

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                                    const int8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint8mf4_t __riscv_vloxei8_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf2_t __riscv_vloxei8_v_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8m1_t __riscv_vloxei8_v_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m2_t __riscv_vloxei8_v_i8m2_mu(vbool4_t vm, vint8m2_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m4_t __riscv_vloxei8_v_i8m4_mu(vbool2_t vm, vint8m4_t vd,
                                   const int8_t *rs1, vuint8m4_t rs2,
                                   size_t vl);
vint8m8_t __riscv_vloxei8_v_i8m8_mu(vbool1_t vm, vint8m8_t vd,
                                   const int8_t *rs1, vuint8m8_t rs2,
                                   size_t vl);
vint8mf8_t __riscv_vloxei16_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf4_t __riscv_vloxei16_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     const int8_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint8mf2_t __riscv_vloxei16_v_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     const int8_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint8m1_t __riscv_vloxei16_v_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                    const int8_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint8m2_t __riscv_vloxei16_v_i8m2_mu(vbool4_t vm, vint8m2_t vd,
                                    const int8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vint8m4_t __riscv_vloxei16_v_i8m4_mu(vbool2_t vm, vint8m4_t vd,
                                    const int8_t *rs1, vuint16m8_t rs2,
                                    size_t vl);
vint8mf8_t __riscv_vloxei32_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf4_t __riscv_vloxei32_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
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                                     const int8_t *rs1, vuint32m2_t rs2,
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                                    const int8_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint8mf8_t __riscv_vloxei64_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf4_t __riscv_vloxei64_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
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                                     const int8_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint8m1_t __riscv_vloxei64_v_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                    const int8_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
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                                      const int16_t *rs1, vuint8mf8_t rs2,
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                                      size_t vl);
vint16mf2_t __riscv_vloxei8_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       const int16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
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                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
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                                     const int16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
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                                     const int16_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vint16m8_t __riscv_vloxei8_v_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                     const int16_t *rs1, vuint8m4_t rs2,
                                     size_t vl);
vint16mf4_t __riscv_vloxei16_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
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                                        const int16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
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                                      const int16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
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                                      const int16_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
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                                      const int16_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
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                                      const int16_t *rs1, vuint16m8_t rs2,
                                      size_t vl);
vint16mf4_t __riscv_vloxei32_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf2_t __riscv_vloxei32_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
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                                      const int16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint16m2_t __riscv_vloxei32_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                      const int16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint16m4_t __riscv_vloxei32_v_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                      const int16_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint16mf4_t __riscv_vloxei64_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        const int16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint16mf2_t __riscv_vloxei64_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        const int16_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vint16m1_t __riscv_vloxei64_v_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m2_t __riscv_vloxei64_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                      const int16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint32mf2_t __riscv_vloxei8_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32m1_t __riscv_vloxei8_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     const int32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
```

```
vint32m2_t __riscv_vloxei8_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      const int32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint32m4_t __riscv_vloxei8_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      const int32_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vint32m8_t __riscv_vloxei8_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                      const int32_t *rs1, vuint8m2_t rs2,
                                      size_t vl);
vint32mf2_t __riscv_vloxei16_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                         const int32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vint32m1_t __riscv_vloxei16_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m2_t __riscv_vloxei16_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                       const int32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint32m4_t __riscv_vloxei16_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                       const int32_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vint32m8_t __riscv_vloxei16_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                       const int32_t *rs1, vuint16m4_t rs2,
                                       size_t vl);
vint32mf2_t __riscv_vloxei32_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                         const int32_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vint32m1_t __riscv_vloxei32_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                       const int32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vint32m2_t __riscv_vloxei32_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                       const int32_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint32m4_t __riscv_vloxei32_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                       const int32_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vint32m8_t __riscv_vloxei32_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                       const int32_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vint32mf2_t __riscv_vloxei64_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                         const int32_t *rs1, vuint64m1_t rs2,
                                         size_t vl);
vint32m1_t __riscv_vloxei64_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m2_t __riscv_vloxei64_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                       const int32_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint32m4_t __riscv_vloxei64_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                       const int32_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vint64m1_t __riscv_vloxei8_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m2_t __riscv_vloxei8_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint64m4_t __riscv_vloxei8_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint64m8_t __riscv_vloxei8_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vint64m1_t __riscv_vloxei16_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m2_t __riscv_vloxei16_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
```

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                                    const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m4_t __riscv_vloxei16_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    const int64_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint64m8_t __riscv_vloxei16_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                    const int64_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint64m1_t __riscv_vloxei32_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m2_t __riscv_vloxei32_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m4_t __riscv_vloxei32_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    const int64_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint64m8_t __riscv_vloxei32_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                    const int64_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint64m1_t __riscv_vloxei64_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m2_t __riscv_vloxei64_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m4_t __riscv_vloxei64_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    const int64_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint64m8_t __riscv_vloxei64_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                    const int64_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint8mf8_t __riscv_vluxei8_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                   const int8_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint8mf4_t __riscv_vluxei8_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                   const int8_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint8mf2_t __riscv_vluxei8_v_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                   const int8_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint8m1_t __riscv_vluxei8_v_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                  const int8_t *rs1, vuint8m1_t rs2,
                                  size_t vl);
vint8m2_t __riscv_vluxei8_v_i8m2_mu(vbool4_t vm, vint8m2_t vd,
                                  const int8_t *rs1, vuint8m2_t rs2,
                                  size_t vl);
vint8m4_t __riscv_vluxei8_v_i8m4_mu(vbool2_t vm, vint8m4_t vd,
                                  const int8_t *rs1, vuint8m4_t rs2,
                                  size_t vl);
vint8m8_t __riscv_vluxei8_v_i8m8_mu(vbool1_t vm, vint8m8_t vd,
                                  const int8_t *rs1, vuint8m8_t rs2,
                                  size_t vl);
vint8mf8_t __riscv_vluxei16_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                    const int8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint8mf4_t __riscv_vluxei16_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf2_t __riscv_vluxei16_v_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8m1_t __riscv_vluxei16_v_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m2_t __riscv_vluxei16_v_i8m2_mu(vbool4_t vm, vint8m2_t vd,
                                   const int8_t *rs1, vuint16m4_t rs2,
```

```
                                    size_t vl);
vint8m4_t __riscv_vluxei16_v_i8m4_mu(vbool2_t vm, vint8m4_t vd,
                                    const int8_t *rs1, vuint16m8_t rs2,
                                    size_t vl);
vint8mf8_t __riscv_vluxei32_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf4_t __riscv_vluxei32_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf2_t __riscv_vluxei32_v_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                      const int8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint8m1_t __riscv_vluxei32_v_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                    const int8_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint8m2_t __riscv_vluxei32_v_i8m2_mu(vbool4_t vm, vint8m2_t vd,
                                    const int8_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint8mf8_t __riscv_vluxei64_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                      const int8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint8mf4_t __riscv_vluxei64_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf2_t __riscv_vluxei64_v_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8m1_t __riscv_vluxei64_v_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                    const int8_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint16mf4_t __riscv_vluxei8_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       const int16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint16mf2_t __riscv_vluxei8_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       const int16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vint16m1_t __riscv_vluxei8_v_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m2_t __riscv_vluxei8_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                     const int16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint16m4_t __riscv_vluxei8_v_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                     const int16_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vint16m8_t __riscv_vluxei8_v_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                     const int16_t *rs1, vuint8m4_t rs2,
                                     size_t vl);
vint16mf4_t __riscv_vluxei16_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        const int16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint16mf2_t __riscv_vluxei16_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        const int16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint16m1_t __riscv_vluxei16_v_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                      const int16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint16m2_t __riscv_vluxei16_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                      const int16_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint16m4_t __riscv_vluxei16_v_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                      const int16_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vint16m8_t __riscv_vluxei16_v_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                      const int16_t *rs1, vuint16m8_t rs2,
                                      size_t vl);
```

```
vint16mf4_t __riscv_vluxei32_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                         const int16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vint16mf2_t __riscv_vluxei32_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                         const int16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vint16m1_t __riscv_vluxei32_v_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m2_t __riscv_vluxei32_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                       const int16_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vint16m4_t __riscv_vluxei32_v_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                       const int16_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vint16mf4_t __riscv_vluxei64_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                         const int16_t *rs1, vuint64m1_t rs2,
                                         size_t vl);
vint16mf2_t __riscv_vluxei64_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                         const int16_t *rs1, vuint64m2_t rs2,
                                         size_t vl);
vint16m1_t __riscv_vluxei64_v_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                       const int16_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint16m2_t __riscv_vluxei64_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                       const int16_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vint32mf2_t __riscv_vluxei8_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        const int32_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vint32m1_t __riscv_vluxei8_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m2_t __riscv_vluxei8_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      const int32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint32m4_t __riscv_vluxei8_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      const int32_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vint32m8_t __riscv_vluxei8_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                      const int32_t *rs1, vuint8m2_t rs2,
                                      size_t vl);
vint32mf2_t __riscv_vluxei16_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                         const int32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vint32m1_t __riscv_vluxei16_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m2_t __riscv_vluxei16_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                       const int32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint32m4_t __riscv_vluxei16_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                       const int32_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vint32m8_t __riscv_vluxei16_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                       const int32_t *rs1, vuint16m4_t rs2,
                                       size_t vl);
vint32mf2_t __riscv_vluxei32_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                         const int32_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vint32m1_t __riscv_vluxei32_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                       const int32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vint32m2_t __riscv_vluxei32_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                       const int32_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint32m4_t __riscv_vluxei32_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
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                                      const int32_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint32m8_t __riscv_vluxei32_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                      const int32_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint32mf2_t __riscv_vluxei64_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        const int32_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint32m1_t __riscv_vluxei64_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                      const int32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint32m2_t __riscv_vluxei64_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      const int32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint32m4_t __riscv_vluxei64_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      const int32_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint64m1_t __riscv_vluxei8_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                     const int64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint64m2_t __riscv_vluxei8_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     const int64_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint64m4_t __riscv_vluxei8_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     const int64_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint64m8_t __riscv_vluxei8_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                     const int64_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint64m1_t __riscv_vluxei16_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint64m2_t __riscv_vluxei16_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint64m4_t __riscv_vluxei16_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint64m8_t __riscv_vluxei16_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint64m1_t __riscv_vluxei32_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint64m2_t __riscv_vluxei32_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint64m4_t __riscv_vluxei32_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint64m8_t __riscv_vluxei32_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint64m1_t __riscv_vluxei64_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m2_t __riscv_vluxei64_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m4_t __riscv_vluxei64_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint64m8_t __riscv_vluxei64_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vloxei8_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
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                                      size_t vl);
vuint8mf4_t __riscv_vloxei8_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                       const uint8_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint8mf2_t __riscv_vloxei8_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                       const uint8_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint8m1_t __riscv_vloxei8_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                     const uint8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint8m2_t __riscv_vloxei8_v_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                     const uint8_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vuint8m4_t __riscv_vloxei8_v_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                     const uint8_t *rs1, vuint8m4_t rs2,
                                     size_t vl);
vuint8m8_t __riscv_vloxei8_v_u8m8_mu(vbool1_t vm, vuint8m8_t vd,
                                     const uint8_t *rs1, vuint8m8_t rs2,
                                     size_t vl);
vuint8mf8_t __riscv_vloxei16_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf4_t __riscv_vloxei16_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf2_t __riscv_vloxei16_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8m1_t __riscv_vloxei16_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m2_t __riscv_vloxei16_v_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint8m4_t __riscv_vloxei16_v_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                      const uint8_t *rs1, vuint16m8_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vloxei32_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                        const uint8_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint8mf4_t __riscv_vloxei32_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                        const uint8_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint8mf2_t __riscv_vloxei32_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8m1_t __riscv_vloxei32_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                      const uint8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint8m2_t __riscv_vloxei32_v_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                      const uint8_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vloxei64_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf4_t __riscv_vloxei64_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf2_t __riscv_vloxei64_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8m1_t __riscv_vloxei64_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint16mf4_t __riscv_vloxei8_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         const uint16_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
```

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vuint16mf2_t __riscv_vloxei8_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         const uint16_t *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vuint16m1_t __riscv_vloxei8_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       const uint16_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint16m2_t __riscv_vloxei8_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       const uint16_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vuint16m4_t __riscv_vloxei8_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       const uint16_t *rs1, vuint8m2_t rs2,
                                       size_t vl);
vuint16m8_t __riscv_vloxei8_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       const uint16_t *rs1, vuint8m4_t rs2,
                                       size_t vl);
vuint16mf4_t __riscv_vloxei16_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                          const uint16_t *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vuint16mf2_t __riscv_vloxei16_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                          const uint16_t *rs1, vuint16mf2_t rs2,
                                          size_t vl);
vuint16m1_t __riscv_vloxei16_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                        const uint16_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint16m2_t __riscv_vloxei16_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                        const uint16_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint16m4_t __riscv_vloxei16_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                        const uint16_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vuint16m8_t __riscv_vloxei16_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                        const uint16_t *rs1, vuint16m8_t rs2,
                                        size_t vl);
vuint16mf4_t __riscv_vloxei32_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                          const uint16_t *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vuint16mf2_t __riscv_vloxei32_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                          const uint16_t *rs1, vuint32m1_t rs2,
                                          size_t vl);
vuint16m1_t __riscv_vloxei32_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                        const uint16_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint16m2_t __riscv_vloxei32_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                        const uint16_t *rs1, vuint32m4_t rs2,
                                        size_t vl);
vuint16m4_t __riscv_vloxei32_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                        const uint16_t *rs1, vuint32m8_t rs2,
                                        size_t vl);
vuint16mf4_t __riscv_vloxei64_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                          const uint16_t *rs1, vuint64m1_t rs2,
                                          size_t vl);
vuint16mf2_t __riscv_vloxei64_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                          const uint16_t *rs1, vuint64m2_t rs2,
                                          size_t vl);
vuint16m1_t __riscv_vloxei64_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                        const uint16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint16m2_t __riscv_vloxei64_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                        const uint16_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint32mf2_t __riscv_vloxei8_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         const uint32_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vuint32m1_t __riscv_vloxei8_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       const uint32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint32m2_t __riscv_vloxei8_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
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                                    const uint32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint32m4_t __riscv_vloxei8_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    const uint32_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint32m8_t __riscv_vloxei8_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    const uint32_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint32mf2_t __riscv_vloxei16_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      const uint32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint32m1_t __riscv_vloxei16_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     const uint32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint32m2_t __riscv_vloxei16_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     const uint32_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint32m4_t __riscv_vloxei16_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                     const uint32_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vuint32m8_t __riscv_vloxei16_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                     const uint32_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vuint32mf2_t __riscv_vloxei32_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      const uint32_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vuint32m1_t __riscv_vloxei32_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     const uint32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint32m2_t __riscv_vloxei32_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     const uint32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint32m4_t __riscv_vloxei32_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                     const uint32_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint32m8_t __riscv_vloxei32_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                     const uint32_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint32mf2_t __riscv_vloxei64_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      const uint32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint32m1_t __riscv_vloxei64_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     const uint32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint32m2_t __riscv_vloxei64_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     const uint32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint32m4_t __riscv_vloxei64_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                     const uint32_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint64m1_t __riscv_vloxei8_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m2_t __riscv_vloxei8_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    const uint64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint64m4_t __riscv_vloxei8_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    const uint64_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint64m8_t __riscv_vloxei8_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    const uint64_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint64m1_t __riscv_vloxei16_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m2_t __riscv_vloxei16_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                     const uint64_t *rs1, vuint16mf2_t rs2,
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                                      size_t vl);
vuint64m4_t __riscv_vloxei16_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      const uint64_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint64m8_t __riscv_vloxei16_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      const uint64_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint64m1_t __riscv_vloxei32_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      const uint64_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vuint64m2_t __riscv_vloxei32_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      const uint64_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint64m4_t __riscv_vloxei32_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      const uint64_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint64m8_t __riscv_vloxei32_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      const uint64_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint64m1_t __riscv_vloxei64_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m2_t __riscv_vloxei64_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      const uint64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint64m4_t __riscv_vloxei64_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      const uint64_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint64m8_t __riscv_vloxei64_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      const uint64_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vluxei8_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf4_t __riscv_vluxei8_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     const uint8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint8mf2_t __riscv_vluxei8_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8m1_t __riscv_vluxei8_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m2_t __riscv_vluxei8_v_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                    const uint8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint8m4_t __riscv_vluxei8_v_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                    const uint8_t *rs1, vuint8m4_t rs2,
                                    size_t vl);
vuint8m8_t __riscv_vluxei8_v_u8m8_mu(vbool1_t vm, vuint8m8_t vd,
                                    const uint8_t *rs1, vuint8m8_t rs2,
                                    size_t vl);
vuint8mf8_t __riscv_vluxei16_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf4_t __riscv_vluxei16_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf2_t __riscv_vluxei16_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      const uint8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint8m1_t __riscv_vluxei16_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                     const uint8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vuint8m2_t __riscv_vluxei16_v_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                     const uint8_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
```

```
vuint8m4_t __riscv_vluxei16_v_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                      const uint8_t *rs1, vuint16m8_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vluxei32_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                        const uint8_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint8mf4_t __riscv_vluxei32_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                        const uint8_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint8mf2_t __riscv_vluxei32_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8m1_t __riscv_vluxei32_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                      const uint8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint8m2_t __riscv_vluxei32_v_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                      const uint8_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vuint8mf8_t __riscv_vluxei64_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf4_t __riscv_vluxei64_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf2_t __riscv_vluxei64_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8m1_t __riscv_vluxei64_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint16mf4_t __riscv_vluxei8_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         const uint16_t *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vuint16mf2_t __riscv_vluxei8_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         const uint16_t *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vuint16m1_t __riscv_vluxei8_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       const uint16_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint16m2_t __riscv_vluxei8_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       const uint16_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vuint16m4_t __riscv_vluxei8_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       const uint16_t *rs1, vuint8m2_t rs2,
                                       size_t vl);
vuint16m8_t __riscv_vluxei8_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       const uint16_t *rs1, vuint8m4_t rs2,
                                       size_t vl);
vuint16mf4_t __riscv_vluxei16_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                          const uint16_t *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vuint16mf2_t __riscv_vluxei16_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                          const uint16_t *rs1, vuint16mf2_t rs2,
                                          size_t vl);
vuint16m1_t __riscv_vluxei16_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                        const uint16_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint16m2_t __riscv_vluxei16_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                        const uint16_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint16m4_t __riscv_vluxei16_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                        const uint16_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vuint16m8_t __riscv_vluxei16_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                        const uint16_t *rs1, vuint16m8_t rs2,
                                        size_t vl);
vuint16mf4_t __riscv_vluxei32_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
```

```
                                        const uint16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint16mf2_t __riscv_vluxei32_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        const uint16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint16m1_t __riscv_vluxei32_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m2_t __riscv_vluxei32_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      const uint16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint16m4_t __riscv_vluxei32_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      const uint16_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vuint16mf4_t __riscv_vluxei64_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf2_t __riscv_vluxei64_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        const uint16_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint16m1_t __riscv_vluxei64_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m2_t __riscv_vluxei64_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      const uint16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint32mf2_t __riscv_vluxei8_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       const uint32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint32m1_t __riscv_vluxei8_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m2_t __riscv_vluxei8_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     const uint32_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint32m4_t __riscv_vluxei8_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                     const uint32_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint32m8_t __riscv_vluxei8_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                     const uint32_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vuint32mf2_t __riscv_vluxei16_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint32m1_t __riscv_vluxei16_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      const uint32_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint32m2_t __riscv_vluxei16_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      const uint32_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint32m4_t __riscv_vluxei16_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      const uint32_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint32m8_t __riscv_vluxei16_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                      const uint32_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint32mf2_t __riscv_vluxei32_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32m1_t __riscv_vluxei32_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m2_t __riscv_vluxei32_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m4_t __riscv_vluxei32_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      const uint32_t *rs1, vuint32m4_t rs2,
```

```
                                      size_t vl);
vuint32m8_t __riscv_vluxei32_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                      const uint32_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vuint32mf2_t __riscv_vluxei64_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint32m1_t __riscv_vluxei64_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m2_t __riscv_vluxei64_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      const uint32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint32m4_t __riscv_vluxei64_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      const uint32_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint64m1_t __riscv_vluxei8_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m2_t __riscv_vluxei8_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                     const uint64_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint64m4_t __riscv_vluxei8_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                     const uint64_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint64m8_t __riscv_vluxei8_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                     const uint64_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint64m1_t __riscv_vluxei16_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      const uint64_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint64m2_t __riscv_vluxei16_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      const uint64_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint64m4_t __riscv_vluxei16_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      const uint64_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint64m8_t __riscv_vluxei16_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      const uint64_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint64m1_t __riscv_vluxei32_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      const uint64_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vuint64m2_t __riscv_vluxei32_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      const uint64_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint64m4_t __riscv_vluxei32_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      const uint64_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint64m8_t __riscv_vluxei32_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      const uint64_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint64m1_t __riscv_vluxei64_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m2_t __riscv_vluxei64_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      const uint64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint64m4_t __riscv_vluxei64_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      const uint64_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint64m8_t __riscv_vluxei64_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      const uint64_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
```

B.1.7. Vector Indexed Store Intrinsics

Intrinsics here don't have a policy variant.

B.1.8. Unit-stride Fault-Only-First Loads Intrinsics

```
vfloat16mf4_t __riscv_vle16ff_v_f16mf4_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                          size_t *new_vl, size_t vl);
vfloat16mf2_t __riscv_vle16ff_v_f16mf2_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                          size_t *new_vl, size_t vl);
vfloat16m1_t __riscv_vle16ff_v_f16m1_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16m2_t __riscv_vle16ff_v_f16m2_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16m4_t __riscv_vle16ff_v_f16m4_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16m8_t __riscv_vle16ff_v_f16m8_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat32mf2_t __riscv_vle32ff_v_f32mf2_tu(vfloat32mf2_t vd, const float *rs1,
                                          size_t *new_vl, size_t vl);
vfloat32m1_t __riscv_vle32ff_v_f32m1_tu(vfloat32m1_t vd, const float *rs1,
                                        size_t *new_vl, size_t vl);
vfloat32m2_t __riscv_vle32ff_v_f32m2_tu(vfloat32m2_t vd, const float *rs1,
                                        size_t *new_vl, size_t vl);
vfloat32m4_t __riscv_vle32ff_v_f32m4_tu(vfloat32m4_t vd, const float *rs1,
                                        size_t *new_vl, size_t vl);
vfloat32m8_t __riscv_vle32ff_v_f32m8_tu(vfloat32m8_t vd, const float *rs1,
                                        size_t *new_vl, size_t vl);
vfloat64m1_t __riscv_vle64ff_v_f64m1_tu(vfloat64m1_t vd, const double *rs1,
                                        size_t *new_vl, size_t vl);
vfloat64m2_t __riscv_vle64ff_v_f64m2_tu(vfloat64m2_t vd, const double *rs1,
                                        size_t *new_vl, size_t vl);
vfloat64m4_t __riscv_vle64ff_v_f64m4_tu(vfloat64m4_t vd, const double *rs1,
                                        size_t *new_vl, size_t vl);
vfloat64m8_t __riscv_vle64ff_v_f64m8_tu(vfloat64m8_t vd, const double *rs1,
                                        size_t *new_vl, size_t vl);
vint8mf8_t __riscv_vle8ff_v_i8mf8_tu(vint8mf8_t vd, const int8_t *rs1,
                                     size_t *new_vl, size_t vl);
vint8mf4_t __riscv_vle8ff_v_i8mf4_tu(vint8mf4_t vd, const int8_t *rs1,
                                     size_t *new_vl, size_t vl);
vint8mf2_t __riscv_vle8ff_v_i8mf2_tu(vint8mf2_t vd, const int8_t *rs1,
                                     size_t *new_vl, size_t vl);
vint8m1_t __riscv_vle8ff_v_i8m1_tu(vint8m1_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m2_t __riscv_vle8ff_v_i8m2_tu(vint8m2_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m4_t __riscv_vle8ff_v_i8m4_tu(vint8m4_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m8_t __riscv_vle8ff_v_i8m8_tu(vint8m8_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint16mf4_t __riscv_vle16ff_v_i16mf4_tu(vint16mf4_t vd, const int16_t *rs1,
                                        size_t *new_vl, size_t vl);
vint16mf2_t __riscv_vle16ff_v_i16mf2_tu(vint16mf2_t vd, const int16_t *rs1,
                                        size_t *new_vl, size_t vl);
vint16m1_t __riscv_vle16ff_v_i16m1_tu(vint16m1_t vd, const int16_t *rs1,
                                      size_t *new_vl, size_t vl);
vint16m2_t __riscv_vle16ff_v_i16m2_tu(vint16m2_t vd, const int16_t *rs1,
                                      size_t *new_vl, size_t vl);
vint16m4_t __riscv_vle16ff_v_i16m4_tu(vint16m4_t vd, const int16_t *rs1,
                                      size_t *new_vl, size_t vl);
vint16m8_t __riscv_vle16ff_v_i16m8_tu(vint16m8_t vd, const int16_t *rs1,
                                      size_t *new_vl, size_t vl);
vint32mf2_t __riscv_vle32ff_v_i32mf2_tu(vint32mf2_t vd, const int32_t *rs1,
                                        size_t *new_vl, size_t vl);
vint32m1_t __riscv_vle32ff_v_i32m1_tu(vint32m1_t vd, const int32_t *rs1,
```

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                                      size_t *new_vl, size_t vl);
vint32m2_t __riscv_vle32ff_v_i32m2_tu(vint32m2_t vd, const int32_t *rs1,
                                      size_t *new_vl, size_t vl);
vint32m4_t __riscv_vle32ff_v_i32m4_tu(vint32m4_t vd, const int32_t *rs1,
                                      size_t *new_vl, size_t vl);
vint32m8_t __riscv_vle32ff_v_i32m8_tu(vint32m8_t vd, const int32_t *rs1,
                                      size_t *new_vl, size_t vl);
vint64m1_t __riscv_vle64ff_v_i64m1_tu(vint64m1_t vd, const int64_t *rs1,
                                      size_t *new_vl, size_t vl);
vint64m2_t __riscv_vle64ff_v_i64m2_tu(vint64m2_t vd, const int64_t *rs1,
                                      size_t *new_vl, size_t vl);
vint64m4_t __riscv_vle64ff_v_i64m4_tu(vint64m4_t vd, const int64_t *rs1,
                                      size_t *new_vl, size_t vl);
vint64m8_t __riscv_vle64ff_v_i64m8_tu(vint64m8_t vd, const int64_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint8mf8_t __riscv_vle8ff_v_u8mf8_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint8mf4_t __riscv_vle8ff_v_u8mf4_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint8mf2_t __riscv_vle8ff_v_u8mf2_tu(vuint8mf2_t vd, const uint8_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint8m1_t __riscv_vle8ff_v_u8m1_tu(vuint8m1_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8m2_t __riscv_vle8ff_v_u8m2_tu(vuint8m2_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8m4_t __riscv_vle8ff_v_u8m4_tu(vuint8m4_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8m8_t __riscv_vle8ff_v_u8m8_tu(vuint8m8_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint16mf4_t __riscv_vle16ff_v_u16mf4_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                         size_t *new_vl, size_t vl);
vuint16mf2_t __riscv_vle16ff_v_u16mf2_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                         size_t *new_vl, size_t vl);
vuint16m1_t __riscv_vle16ff_v_u16m1_tu(vuint16m1_t vd, const uint16_t *rs1,
                                       size_t *new_vl, size_t vl);
vuint16m2_t __riscv_vle16ff_v_u16m2_tu(vuint16m2_t vd, const uint16_t *rs1,
                                       size_t *new_vl, size_t vl);
vuint16m4_t __riscv_vle16ff_v_u16m4_tu(vuint16m4_t vd, const uint16_t *rs1,
                                       size_t *new_vl, size_t vl);
vuint16m8_t __riscv_vle16ff_v_u16m8_tu(vuint16m8_t vd, const uint16_t *rs1,
                                       size_t *new_vl, size_t vl);
vuint32mf2_t __riscv_vle32ff_v_u32mf2_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                         size_t *new_vl, size_t vl);
vuint32m1_t __riscv_vle32ff_v_u32m1_tu(vuint32m1_t vd, const uint32_t *rs1,
                                       size_t *new_vl, size_t vl);
vuint32m2_t __riscv_vle32ff_v_u32m2_tu(vuint32m2_t vd, const uint32_t *rs1,
                                       size_t *new_vl, size_t vl);
vuint32m4_t __riscv_vle32ff_v_u32m4_tu(vuint32m4_t vd, const uint32_t *rs1,
                                       size_t *new_vl, size_t vl);
vuint32m8_t __riscv_vle32ff_v_u32m8_tu(vuint32m8_t vd, const uint32_t *rs1,
                                       size_t *new_vl, size_t vl);
vuint64m1_t __riscv_vle64ff_v_u64m1_tu(vuint64m1_t vd, const uint64_t *rs1,
                                       size_t *new_vl, size_t vl);
vuint64m2_t __riscv_vle64ff_v_u64m2_tu(vuint64m2_t vd, const uint64_t *rs1,
                                       size_t *new_vl, size_t vl);
vuint64m4_t __riscv_vle64ff_v_u64m4_tu(vuint64m4_t vd, const uint64_t *rs1,
                                       size_t *new_vl, size_t vl);
vuint64m8_t __riscv_vle64ff_v_u64m8_tu(vuint64m8_t vd, const uint64_t *rs1,
                                       size_t *new_vl, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16ff_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                           const _Float16 *rs1, size_t *new_vl,
                                           size_t vl);
vfloat16mf2_t __riscv_vle16ff_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                           const _Float16 *rs1, size_t *new_vl,
                                           size_t vl);
vfloat16m1_t __riscv_vle16ff_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
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                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16m2_t __riscv_vle16ff_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16m4_t __riscv_vle16ff_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16m8_t __riscv_vle16ff_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2_t __riscv_vle32ff_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          const float *rs1, size_t *new_vl,
                                          size_t vl);
vfloat32m1_t __riscv_vle32ff_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32m2_t __riscv_vle32ff_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32m4_t __riscv_vle32ff_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32m8_t __riscv_vle32ff_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m1_t __riscv_vle64ff_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m2_t __riscv_vle64ff_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m4_t __riscv_vle64ff_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m8_t __riscv_vle64ff_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vint8mf8_t __riscv_vle8ff_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      const int8_t *rs1, size_t *new_vl,
                                      size_t vl);
vint8mf4_t __riscv_vle8ff_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      const int8_t *rs1, size_t *new_vl,
                                      size_t vl);
vint8mf2_t __riscv_vle8ff_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      const int8_t *rs1, size_t *new_vl,
                                      size_t vl);
vint8m1_t __riscv_vle8ff_v_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m2_t __riscv_vle8ff_v_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m4_t __riscv_vle8ff_v_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m8_t __riscv_vle8ff_v_i8m8_tum(vbool1_t vm, vint8m8_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf4_t __riscv_vle16ff_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        const int16_t *rs1, size_t *new_vl,
                                        size_t vl);
vint16mf2_t __riscv_vle16ff_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        const int16_t *rs1, size_t *new_vl,
                                        size_t vl);
vint16m1_t __riscv_vle16ff_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                       const int16_t *rs1, size_t *new_vl,
```

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                                      size_t vl);
vint16m2_t __riscv_vle16ff_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      const int16_t *rs1, size_t *new_vl,
                                      size_t vl);
vint16m4_t __riscv_vle16ff_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      const int16_t *rs1, size_t *new_vl,
                                      size_t vl);
vint16m8_t __riscv_vle16ff_v_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      const int16_t *rs1, size_t *new_vl,
                                      size_t vl);
vint32mf2_t __riscv_vle32ff_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        const int32_t *rs1, size_t *new_vl,
                                        size_t vl);
vint32m1_t __riscv_vle32ff_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      const int32_t *rs1, size_t *new_vl,
                                      size_t vl);
vint32m2_t __riscv_vle32ff_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      const int32_t *rs1, size_t *new_vl,
                                      size_t vl);
vint32m4_t __riscv_vle32ff_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      const int32_t *rs1, size_t *new_vl,
                                      size_t vl);
vint32m8_t __riscv_vle32ff_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      const int32_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m1_t __riscv_vle64ff_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m2_t __riscv_vle64ff_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m4_t __riscv_vle64ff_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m8_t __riscv_vle64ff_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf8_t __riscv_vle8ff_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf4_t __riscv_vle8ff_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf2_t __riscv_vle8ff_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8m1_t __riscv_vle8ff_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m2_t __riscv_vle8ff_v_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m4_t __riscv_vle8ff_v_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m8_t __riscv_vle8ff_v_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16mf4_t __riscv_vle16ff_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         const uint16_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint16mf2_t __riscv_vle16ff_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         const uint16_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint16m1_t __riscv_vle16ff_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
```

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vuint16m2_t __riscv_vle16ff_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        const uint16_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint16m4_t __riscv_vle16ff_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        const uint16_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint16m8_t __riscv_vle16ff_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        const uint16_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint32mf2_t __riscv_vle32ff_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          const uint32_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint32m1_t __riscv_vle32ff_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        const uint32_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint32m2_t __riscv_vle32ff_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        const uint32_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint32m4_t __riscv_vle32ff_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        const uint32_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint32m8_t __riscv_vle32ff_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        const uint32_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint64m1_t __riscv_vle64ff_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        const uint64_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint64m2_t __riscv_vle64ff_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        const uint64_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint64m4_t __riscv_vle64ff_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        const uint64_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint64m8_t __riscv_vle64ff_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        const uint64_t *rs1, size_t *new_vl,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16ff_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            const _Float16 *rs1, size_t *new_vl,
                                            size_t vl);
vfloat16mf2_t __riscv_vle16ff_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            const _Float16 *rs1, size_t *new_vl,
                                            size_t vl);
vfloat16m1_t __riscv_vle16ff_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          const _Float16 *rs1, size_t *new_vl,
                                          size_t vl);
vfloat16m2_t __riscv_vle16ff_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          const _Float16 *rs1, size_t *new_vl,
                                          size_t vl);
vfloat16m4_t __riscv_vle16ff_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          const _Float16 *rs1, size_t *new_vl,
                                          size_t vl);
vfloat16m8_t __riscv_vle16ff_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          const _Float16 *rs1, size_t *new_vl,
                                          size_t vl);
vfloat32mf2_t __riscv_vle32ff_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            const float *rs1, size_t *new_vl,
                                            size_t vl);
vfloat32m1_t __riscv_vle32ff_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          const float *rs1, size_t *new_vl,
                                          size_t vl);
vfloat32m2_t __riscv_vle32ff_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          const float *rs1, size_t *new_vl,
                                          size_t vl);
vfloat32m4_t __riscv_vle32ff_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          const float *rs1, size_t *new_vl,
                                          size_t vl);
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vfloat32m8_t __riscv_vle32ff_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          const float *rs1, size_t *new_vl,
                                          size_t vl);
vfloat64m1_t __riscv_vle64ff_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          const double *rs1, size_t *new_vl,
                                          size_t vl);
vfloat64m2_t __riscv_vle64ff_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          const double *rs1, size_t *new_vl,
                                          size_t vl);
vfloat64m4_t __riscv_vle64ff_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          const double *rs1, size_t *new_vl,
                                          size_t vl);
vfloat64m8_t __riscv_vle64ff_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          const double *rs1, size_t *new_vl,
                                          size_t vl);
vint8mf8_t __riscv_vle8ff_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       const int8_t *rs1, size_t *new_vl,
                                       size_t vl);
vint8mf4_t __riscv_vle8ff_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       const int8_t *rs1, size_t *new_vl,
                                       size_t vl);
vint8mf2_t __riscv_vle8ff_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       const int8_t *rs1, size_t *new_vl,
                                       size_t vl);
vint8m1_t __riscv_vle8ff_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8m2_t __riscv_vle8ff_v_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8m4_t __riscv_vle8ff_v_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8m8_t __riscv_vle8ff_v_i8m8_tumu(vbool1_t vm, vint8m8_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf4_t __riscv_vle16ff_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          const int16_t *rs1, size_t *new_vl,
                                          size_t vl);
vint16mf2_t __riscv_vle16ff_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          const int16_t *rs1, size_t *new_vl,
                                          size_t vl);
vint16m1_t __riscv_vle16ff_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                        const int16_t *rs1, size_t *new_vl,
                                        size_t vl);
vint16m2_t __riscv_vle16ff_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                        const int16_t *rs1, size_t *new_vl,
                                        size_t vl);
vint16m4_t __riscv_vle16ff_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                        const int16_t *rs1, size_t *new_vl,
                                        size_t vl);
vint16m8_t __riscv_vle16ff_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                        const int16_t *rs1, size_t *new_vl,
                                        size_t vl);
vint32mf2_t __riscv_vle32ff_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          const int32_t *rs1, size_t *new_vl,
                                          size_t vl);
vint32m1_t __riscv_vle32ff_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        const int32_t *rs1, size_t *new_vl,
                                        size_t vl);
vint32m2_t __riscv_vle32ff_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        const int32_t *rs1, size_t *new_vl,
                                        size_t vl);
vint32m4_t __riscv_vle32ff_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        const int32_t *rs1, size_t *new_vl,
                                        size_t vl);
vint32m8_t __riscv_vle32ff_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
```

```
                                      const int32_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m1_t __riscv_vle64ff_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m2_t __riscv_vle64ff_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m4_t __riscv_vle64ff_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m8_t __riscv_vle64ff_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf8_t __riscv_vle8ff_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf4_t __riscv_vle8ff_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf2_t __riscv_vle8ff_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8m1_t __riscv_vle8ff_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8m2_t __riscv_vle8ff_v_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8m4_t __riscv_vle8ff_v_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8m8_t __riscv_vle8ff_v_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint16mf4_t __riscv_vle16ff_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                        const uint16_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint16mf2_t __riscv_vle16ff_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                        const uint16_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint16m1_t __riscv_vle16ff_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m2_t __riscv_vle16ff_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m4_t __riscv_vle16ff_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m8_t __riscv_vle16ff_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint32mf2_t __riscv_vle32ff_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                        const uint32_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint32m1_t __riscv_vle32ff_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       const uint32_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint32m2_t __riscv_vle32ff_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       const uint32_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint32m4_t __riscv_vle32ff_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       const uint32_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint32m8_t __riscv_vle32ff_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       const uint32_t *rs1, size_t *new_vl,
```

```
                                        size_t vl);
vuint64m1_t __riscv_vle64ff_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         const uint64_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint64m2_t __riscv_vle64ff_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         const uint64_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint64m4_t __riscv_vle64ff_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         const uint64_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint64m8_t __riscv_vle64ff_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                         const uint64_t *rs1, size_t *new_vl,
                                         size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16ff_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          const _Float16 *rs1, size_t *new_vl,
                                          size_t vl);
vfloat16mf2_t __riscv_vle16ff_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          const _Float16 *rs1, size_t *new_vl,
                                          size_t vl);
vfloat16m1_t __riscv_vle16ff_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16m2_t __riscv_vle16ff_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16m4_t __riscv_vle16ff_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16m8_t __riscv_vle16ff_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2_t __riscv_vle32ff_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          const float *rs1, size_t *new_vl,
                                          size_t vl);
vfloat32m1_t __riscv_vle32ff_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32m2_t __riscv_vle32ff_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32m4_t __riscv_vle32ff_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32m8_t __riscv_vle32ff_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m1_t __riscv_vle64ff_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m2_t __riscv_vle64ff_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m4_t __riscv_vle64ff_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m8_t __riscv_vle64ff_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vint8mf8_t __riscv_vle8ff_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf4_t __riscv_vle8ff_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf2_t __riscv_vle8ff_v_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     const int8_t *rs1, size_t *new_vl,
```

```
                                    size_t vl);
vint8m1_t __riscv_vle8ff_v_i8m1_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m2_t __riscv_vle8ff_v_i8m2_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m4_t __riscv_vle8ff_v_i8m4_mu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m8_t __riscv_vle8ff_v_i8m8_mu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint16mf4_t __riscv_vle16ff_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        const int16_t *rs1, size_t *new_vl,
                                        size_t vl);
vint16mf2_t __riscv_vle16ff_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        const int16_t *rs1, size_t *new_vl,
                                        size_t vl);
vint16m1_t __riscv_vle16ff_v_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                      const int16_t *rs1, size_t *new_vl,
                                      size_t vl);
vint16m2_t __riscv_vle16ff_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                      const int16_t *rs1, size_t *new_vl,
                                      size_t vl);
vint16m4_t __riscv_vle16ff_v_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                      const int16_t *rs1, size_t *new_vl,
                                      size_t vl);
vint16m8_t __riscv_vle16ff_v_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                      const int16_t *rs1, size_t *new_vl,
                                      size_t vl);
vint32mf2_t __riscv_vle32ff_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        const int32_t *rs1, size_t *new_vl,
                                        size_t vl);
vint32m1_t __riscv_vle32ff_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                      const int32_t *rs1, size_t *new_vl,
                                      size_t vl);
vint32m2_t __riscv_vle32ff_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      const int32_t *rs1, size_t *new_vl,
                                      size_t vl);
vint32m4_t __riscv_vle32ff_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      const int32_t *rs1, size_t *new_vl,
                                      size_t vl);
vint32m8_t __riscv_vle32ff_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                      const int32_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m1_t __riscv_vle64ff_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m2_t __riscv_vle64ff_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m4_t __riscv_vle64ff_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vint64m8_t __riscv_vle64ff_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      const int64_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf8_t __riscv_vle8ff_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf4_t __riscv_vle8ff_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf2_t __riscv_vle8ff_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8m1_t __riscv_vle8ff_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m2_t __riscv_vle8ff_v_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
```

```
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m4_t __riscv_vle8ff_v_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m8_t __riscv_vle8ff_v_u8m8_mu(vbool1_t vm, vuint8m8_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16mf4_t __riscv_vle16ff_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         const uint16_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint16mf2_t __riscv_vle16ff_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         const uint16_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint16m1_t __riscv_vle16ff_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m2_t __riscv_vle16ff_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m4_t __riscv_vle16ff_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m8_t __riscv_vle16ff_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint32mf2_t __riscv_vle32ff_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         const uint32_t *rs1, size_t *new_vl,
                                         size_t vl);
vuint32m1_t __riscv_vle32ff_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       const uint32_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint32m2_t __riscv_vle32ff_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       const uint32_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint32m4_t __riscv_vle32ff_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                       const uint32_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint32m8_t __riscv_vle32ff_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       const uint32_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint64m1_t __riscv_vle64ff_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       const uint64_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint64m2_t __riscv_vle64ff_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       const uint64_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint64m4_t __riscv_vle64ff_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       const uint64_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint64m8_t __riscv_vle64ff_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       const uint64_t *rs1, size_t *new_vl,
                                       size_t vl);
```

B.2. Vector Loads and Stores Segment Intrinsics

B.2.1. Vector Unit-Stride Segment Load Intrinsics

```
vfloat16mf4x2_t __riscv_vlseg2e16_v_f16mf4x2_tu(vfloat16mf4x2_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16_v_f16mf4x3_tu(vfloat16mf4x3_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16_v_f16mf4x4_tu(vfloat16mf4x4_t vd,
```

```
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16_v_f16mf4x5_tu(vfloat16mf4x5_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16_v_f16mf4x6_tu(vfloat16mf4x6_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16_v_f16mf4x7_tu(vfloat16mf4x7_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16_v_f16mf4x8_tu(vfloat16mf4x8_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16_v_f16mf2x2_tu(vfloat16mf2x2_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16_v_f16mf2x3_tu(vfloat16mf2x3_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16_v_f16mf2x4_tu(vfloat16mf2x4_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16_v_f16mf2x5_tu(vfloat16mf2x5_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16_v_f16mf2x6_tu(vfloat16mf2x6_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16_v_f16mf2x7_tu(vfloat16mf2x7_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16_v_f16mf2x8_tu(vfloat16mf2x8_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16_v_f16m1x2_tu(vfloat16m1x2_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16_v_f16m1x3_tu(vfloat16m1x3_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16_v_f16m1x4_tu(vfloat16m1x4_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16_v_f16m1x5_tu(vfloat16m1x5_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16_v_f16m1x6_tu(vfloat16m1x6_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16_v_f16m1x7_tu(vfloat16m1x7_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16_v_f16m1x8_tu(vfloat16m1x8_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16_v_f16m2x2_tu(vfloat16m2x2_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16_v_f16m2x3_tu(vfloat16m2x3_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16_v_f16m2x4_tu(vfloat16m2x4_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16_v_f16m4x2_tu(vfloat16m4x2_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32_v_f32mf2x2_tu(vfloat32mf2x2_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32_v_f32mf2x3_tu(vfloat32mf2x3_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32_v_f32mf2x4_tu(vfloat32mf2x4_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32_v_f32mf2x5_tu(vfloat32mf2x5_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32_v_f32mf2x6_tu(vfloat32mf2x6_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32_v_f32mf2x7_tu(vfloat32mf2x7_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32_v_f32mf2x8_tu(vfloat32mf2x8_t vd,
                                                const float *rs1, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32_v_f32m1x2_tu(vfloat32m1x2_t vd,
                                              const float *rs1, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32_v_f32m1x3_tu(vfloat32m1x3_t vd,
                                              const float *rs1, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32_v_f32m1x4_tu(vfloat32m1x4_t vd,
                                              const float *rs1, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32_v_f32m1x5_tu(vfloat32m1x5_t vd,
                                              const float *rs1, size_t vl);
```

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vfloat32m1x6_t __riscv_vlseg6e32_v_f32m1x6_tu(vfloat32m1x6_t vd,
                                              const float *rs1, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32_v_f32m1x7_tu(vfloat32m1x7_t vd,
                                              const float *rs1, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32_v_f32m1x8_tu(vfloat32m1x8_t vd,
                                              const float *rs1, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32_v_f32m2x2_tu(vfloat32m2x2_t vd,
                                              const float *rs1, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32_v_f32m2x3_tu(vfloat32m2x3_t vd,
                                              const float *rs1, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32_v_f32m2x4_tu(vfloat32m2x4_t vd,
                                              const float *rs1, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32_v_f32m4x2_tu(vfloat32m4x2_t vd,
                                              const float *rs1, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64_v_f64m1x2_tu(vfloat64m1x2_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64_v_f64m1x3_tu(vfloat64m1x3_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64_v_f64m1x4_tu(vfloat64m1x4_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64_v_f64m1x5_tu(vfloat64m1x5_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64_v_f64m1x6_tu(vfloat64m1x6_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64_v_f64m1x7_tu(vfloat64m1x7_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64_v_f64m1x8_tu(vfloat64m1x8_t vd,
                                              const double *rs1, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64_v_f64m2x2_tu(vfloat64m2x2_t vd,
                                              const double *rs1, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64_v_f64m2x3_tu(vfloat64m2x3_t vd,
                                              const double *rs1, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64_v_f64m2x4_tu(vfloat64m2x4_t vd,
                                              const double *rs1, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64_v_f64m4x2_tu(vfloat64m4x2_t vd,
                                              const double *rs1, size_t vl);
vfloat16mf4x2_t __riscv_vlseg2e16ff_v_f16mf4x2_tu(vfloat16mf4x2_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16ff_v_f16mf4x3_tu(vfloat16mf4x3_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16ff_v_f16mf4x4_tu(vfloat16mf4x4_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16ff_v_f16mf4x5_tu(vfloat16mf4x5_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16ff_v_f16mf4x6_tu(vfloat16mf4x6_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16ff_v_f16mf4x7_tu(vfloat16mf4x7_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16ff_v_f16mf4x8_tu(vfloat16mf4x8_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16ff_v_f16mf2x2_tu(vfloat16mf2x2_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16ff_v_f16mf2x3_tu(vfloat16mf2x3_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16ff_v_f16mf2x4_tu(vfloat16mf2x4_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16ff_v_f16mf2x5_tu(vfloat16mf2x5_t vd,
```

```
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16ff_v_f16mf2x6_tu(vfloat16mf2x6_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16ff_v_f16mf2x7_tu(vfloat16mf2x7_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16ff_v_f16mf2x8_tu(vfloat16mf2x8_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16ff_v_f16m1x2_tu(vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16ff_v_f16m1x3_tu(vfloat16m1x3_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16ff_v_f16m1x4_tu(vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16ff_v_f16m1x5_tu(vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16ff_v_f16m1x6_tu(vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16ff_v_f16m1x7_tu(vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16ff_v_f16m1x8_tu(vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16ff_v_f16m2x2_tu(vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16ff_v_f16m2x3_tu(vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16ff_v_f16m2x4_tu(vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16ff_v_f16m4x2_tu(vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32ff_v_f32mf2x2_tu(vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32ff_v_f32mf2x3_tu(vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32ff_v_f32mf2x4_tu(vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32ff_v_f32mf2x5_tu(vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32ff_v_f32mf2x6_tu(vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32ff_v_f32mf2x7_tu(vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32ff_v_f32mf2x8_tu(vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32ff_v_f32m1x2_tu(vfloat32m1x2_t vd,
                                                const float *rs1,
```

```
                                                size_t *new_vl, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32ff_v_f32m1x3_tu(vfloat32m1x3_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32ff_v_f32m1x4_tu(vfloat32m1x4_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32ff_v_f32m1x5_tu(vfloat32m1x5_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32ff_v_f32m1x6_tu(vfloat32m1x6_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32ff_v_f32m1x7_tu(vfloat32m1x7_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32ff_v_f32m1x8_tu(vfloat32m1x8_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32ff_v_f32m2x2_tu(vfloat32m2x2_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32ff_v_f32m2x3_tu(vfloat32m2x3_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32ff_v_f32m2x4_tu(vfloat32m2x4_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32ff_v_f32m4x2_tu(vfloat32m4x2_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64ff_v_f64m1x2_tu(vfloat64m1x2_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64ff_v_f64m1x3_tu(vfloat64m1x3_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64ff_v_f64m1x4_tu(vfloat64m1x4_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64ff_v_f64m1x5_tu(vfloat64m1x5_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64ff_v_f64m1x6_tu(vfloat64m1x6_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64ff_v_f64m1x7_tu(vfloat64m1x7_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64ff_v_f64m1x8_tu(vfloat64m1x8_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64ff_v_f64m2x2_tu(vfloat64m2x2_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64ff_v_f64m2x3_tu(vfloat64m2x3_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64ff_v_f64m2x4_tu(vfloat64m2x4_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64ff_v_f64m4x2_tu(vfloat64m4x2_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8_v_i8mf8x2_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                           size_t vl);
vint8mf8x3_t __riscv_vlseg3e8_v_i8mf8x3_tu(vint8mf8x3_t vd, const int8_t *rs1,
```

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                                          size_t vl);
vint8mf8x4_t __riscv_vlseg4e8_v_i8mf8x4_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf8x5_t __riscv_vlseg5e8_v_i8mf8x5_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf8x6_t __riscv_vlseg6e8_v_i8mf8x6_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf8x7_t __riscv_vlseg7e8_v_i8mf8x7_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf8x8_t __riscv_vlseg8e8_v_i8mf8x8_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf4x2_t __riscv_vlseg2e8_v_i8mf4x2_tu(vint8mf4x2_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf4x3_t __riscv_vlseg3e8_v_i8mf4x3_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf4x4_t __riscv_vlseg4e8_v_i8mf4x4_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf4x5_t __riscv_vlseg5e8_v_i8mf4x5_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf4x6_t __riscv_vlseg6e8_v_i8mf4x6_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf4x7_t __riscv_vlseg7e8_v_i8mf4x7_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf4x8_t __riscv_vlseg8e8_v_i8mf4x8_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf2x2_t __riscv_vlseg2e8_v_i8mf2x2_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf2x3_t __riscv_vlseg3e8_v_i8mf2x3_tu(vint8mf2x3_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf2x4_t __riscv_vlseg4e8_v_i8mf2x4_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf2x5_t __riscv_vlseg5e8_v_i8mf2x5_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf2x6_t __riscv_vlseg6e8_v_i8mf2x6_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf2x7_t __riscv_vlseg7e8_v_i8mf2x7_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                          size_t vl);
vint8mf2x8_t __riscv_vlseg8e8_v_i8mf2x8_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                          size_t vl);
vint8m1x2_t __riscv_vlseg2e8_v_i8m1x2_tu(vint8m1x2_t vd, const int8_t *rs1,
                                         size_t vl);
vint8m1x3_t __riscv_vlseg3e8_v_i8m1x3_tu(vint8m1x3_t vd, const int8_t *rs1,
                                         size_t vl);
vint8m1x4_t __riscv_vlseg4e8_v_i8m1x4_tu(vint8m1x4_t vd, const int8_t *rs1,
                                         size_t vl);
vint8m1x5_t __riscv_vlseg5e8_v_i8m1x5_tu(vint8m1x5_t vd, const int8_t *rs1,
                                         size_t vl);
vint8m1x6_t __riscv_vlseg6e8_v_i8m1x6_tu(vint8m1x6_t vd, const int8_t *rs1,
                                         size_t vl);
vint8m1x7_t __riscv_vlseg7e8_v_i8m1x7_tu(vint8m1x7_t vd, const int8_t *rs1,
                                         size_t vl);
vint8m1x8_t __riscv_vlseg8e8_v_i8m1x8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                         size_t vl);
vint8m2x2_t __riscv_vlseg2e8_v_i8m2x2_tu(vint8m2x2_t vd, const int8_t *rs1,
                                         size_t vl);
vint8m2x3_t __riscv_vlseg3e8_v_i8m2x3_tu(vint8m2x3_t vd, const int8_t *rs1,
                                         size_t vl);
vint8m2x4_t __riscv_vlseg4e8_v_i8m2x4_tu(vint8m2x4_t vd, const int8_t *rs1,
                                         size_t vl);
vint8m4x2_t __riscv_vlseg2e8_v_i8m4x2_tu(vint8m4x2_t vd, const int8_t *rs1,
                                         size_t vl);
vint16mf4x2_t __riscv_vlseg2e16_v_i16mf4x2_tu(vint16mf4x2_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16_v_i16mf4x3_tu(vint16mf4x3_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16_v_i16mf4x4_tu(vint16mf4x4_t vd,
                                              const int16_t *rs1, size_t vl);
```

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vint16mf4x5_t __riscv_vlseg5e16_v_i16mf4x5_tu(vint16mf4x5_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16_v_i16mf4x6_tu(vint16mf4x6_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16_v_i16mf4x7_tu(vint16mf4x7_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16_v_i16mf4x8_tu(vint16mf4x8_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16_v_i16mf2x2_tu(vint16mf2x2_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16_v_i16mf2x3_tu(vint16mf2x3_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16_v_i16mf2x4_tu(vint16mf2x4_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16_v_i16mf2x5_tu(vint16mf2x5_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16_v_i16mf2x6_tu(vint16mf2x6_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16_v_i16mf2x7_tu(vint16mf2x7_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16_v_i16mf2x8_tu(vint16mf2x8_t vd,
                                              const int16_t *rs1, size_t vl);
vint16m1x2_t __riscv_vlseg2e16_v_i16m1x2_tu(vint16m1x2_t vd, const int16_t *rs1,
                                            size_t vl);
vint16m1x3_t __riscv_vlseg3e16_v_i16m1x3_tu(vint16m1x3_t vd, const int16_t *rs1,
                                            size_t vl);
vint16m1x4_t __riscv_vlseg4e16_v_i16m1x4_tu(vint16m1x4_t vd, const int16_t *rs1,
                                            size_t vl);
vint16m1x5_t __riscv_vlseg5e16_v_i16m1x5_tu(vint16m1x5_t vd, const int16_t *rs1,
                                            size_t vl);
vint16m1x6_t __riscv_vlseg6e16_v_i16m1x6_tu(vint16m1x6_t vd, const int16_t *rs1,
                                            size_t vl);
vint16m1x7_t __riscv_vlseg7e16_v_i16m1x7_tu(vint16m1x7_t vd, const int16_t *rs1,
                                            size_t vl);
vint16m1x8_t __riscv_vlseg8e16_v_i16m1x8_tu(vint16m1x8_t vd, const int16_t *rs1,
                                            size_t vl);
vint16m2x2_t __riscv_vlseg2e16_v_i16m2x2_tu(vint16m2x2_t vd, const int16_t *rs1,
                                            size_t vl);
vint16m2x3_t __riscv_vlseg3e16_v_i16m2x3_tu(vint16m2x3_t vd, const int16_t *rs1,
                                            size_t vl);
vint16m2x4_t __riscv_vlseg4e16_v_i16m2x4_tu(vint16m2x4_t vd, const int16_t *rs1,
                                            size_t vl);
vint16m4x2_t __riscv_vlseg2e16_v_i16m4x2_tu(vint16m4x2_t vd, const int16_t *rs1,
                                            size_t vl);
vint32mf2x2_t __riscv_vlseg2e32_v_i32mf2x2_tu(vint32mf2x2_t vd,
                                              const int32_t *rs1, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32_v_i32mf2x3_tu(vint32mf2x3_t vd,
                                              const int32_t *rs1, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32_v_i32mf2x4_tu(vint32mf2x4_t vd,
                                              const int32_t *rs1, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32_v_i32mf2x5_tu(vint32mf2x5_t vd,
                                              const int32_t *rs1, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32_v_i32mf2x6_tu(vint32mf2x6_t vd,
                                              const int32_t *rs1, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32_v_i32mf2x7_tu(vint32mf2x7_t vd,
                                              const int32_t *rs1, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32_v_i32mf2x8_tu(vint32mf2x8_t vd,
                                              const int32_t *rs1, size_t vl);
vint32m1x2_t __riscv_vlseg2e32_v_i32m1x2_tu(vint32m1x2_t vd, const int32_t *rs1,
                                            size_t vl);
vint32m1x3_t __riscv_vlseg3e32_v_i32m1x3_tu(vint32m1x3_t vd, const int32_t *rs1,
                                            size_t vl);
vint32m1x4_t __riscv_vlseg4e32_v_i32m1x4_tu(vint32m1x4_t vd, const int32_t *rs1,
                                            size_t vl);
vint32m1x5_t __riscv_vlseg5e32_v_i32m1x5_tu(vint32m1x5_t vd, const int32_t *rs1,
                                            size_t vl);
vint32m1x6_t __riscv_vlseg6e32_v_i32m1x6_tu(vint32m1x6_t vd, const int32_t *rs1,
```

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                                          size_t vl);
vint32m1x7_t __riscv_vlseg7e32_v_i32m1x7_tu(vint32m1x7_t vd, const int32_t *rs1,
                                          size_t vl);
vint32m1x8_t __riscv_vlseg8e32_v_i32m1x8_tu(vint32m1x8_t vd, const int32_t *rs1,
                                          size_t vl);
vint32m2x2_t __riscv_vlseg2e32_v_i32m2x2_tu(vint32m2x2_t vd, const int32_t *rs1,
                                          size_t vl);
vint32m2x3_t __riscv_vlseg3e32_v_i32m2x3_tu(vint32m2x3_t vd, const int32_t *rs1,
                                          size_t vl);
vint32m2x4_t __riscv_vlseg4e32_v_i32m2x4_tu(vint32m2x4_t vd, const int32_t *rs1,
                                          size_t vl);
vint32m4x2_t __riscv_vlseg2e32_v_i32m4x2_tu(vint32m4x2_t vd, const int32_t *rs1,
                                          size_t vl);
vint64m1x2_t __riscv_vlseg2e64_v_i64m1x2_tu(vint64m1x2_t vd, const int64_t *rs1,
                                          size_t vl);
vint64m1x3_t __riscv_vlseg3e64_v_i64m1x3_tu(vint64m1x3_t vd, const int64_t *rs1,
                                          size_t vl);
vint64m1x4_t __riscv_vlseg4e64_v_i64m1x4_tu(vint64m1x4_t vd, const int64_t *rs1,
                                          size_t vl);
vint64m1x5_t __riscv_vlseg5e64_v_i64m1x5_tu(vint64m1x5_t vd, const int64_t *rs1,
                                          size_t vl);
vint64m1x6_t __riscv_vlseg6e64_v_i64m1x6_tu(vint64m1x6_t vd, const int64_t *rs1,
                                          size_t vl);
vint64m1x7_t __riscv_vlseg7e64_v_i64m1x7_tu(vint64m1x7_t vd, const int64_t *rs1,
                                          size_t vl);
vint64m1x8_t __riscv_vlseg8e64_v_i64m1x8_tu(vint64m1x8_t vd, const int64_t *rs1,
                                          size_t vl);
vint64m2x2_t __riscv_vlseg2e64_v_i64m2x2_tu(vint64m2x2_t vd, const int64_t *rs1,
                                          size_t vl);
vint64m2x3_t __riscv_vlseg3e64_v_i64m2x3_tu(vint64m2x3_t vd, const int64_t *rs1,
                                          size_t vl);
vint64m2x4_t __riscv_vlseg4e64_v_i64m2x4_tu(vint64m2x4_t vd, const int64_t *rs1,
                                          size_t vl);
vint64m4x2_t __riscv_vlseg2e64_v_i64m4x2_tu(vint64m4x2_t vd, const int64_t *rs1,
                                          size_t vl);
vint8mf8x2_t __riscv_vlseg2e8ff_v_i8mf8x2_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8ff_v_i8mf8x3_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8ff_v_i8mf8x4_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8ff_v_i8mf8x5_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8ff_v_i8mf8x6_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8ff_v_i8mf8x7_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8ff_v_i8mf8x8_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8ff_v_i8mf4x2_tu(vint8mf4x2_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8ff_v_i8mf4x3_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8ff_v_i8mf4x4_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8ff_v_i8mf4x5_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8ff_v_i8mf4x6_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8ff_v_i8mf4x7_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8ff_v_i8mf4x8_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8ff_v_i8mf2x2_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8ff_v_i8mf2x3_tu(vint8mf2x3_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
```

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vint8mf2x4_t __riscv_vlseg4e8ff_v_i8mf2x4_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                             size_t *new_vl, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8ff_v_i8mf2x5_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                             size_t *new_vl, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8ff_v_i8mf2x6_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                             size_t *new_vl, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8ff_v_i8mf2x7_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                             size_t *new_vl, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8ff_v_i8mf2x8_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                             size_t *new_vl, size_t vl);
vint8m1x2_t __riscv_vlseg2e8ff_v_i8m1x2_tu(vint8m1x2_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8m1x3_t __riscv_vlseg3e8ff_v_i8m1x3_tu(vint8m1x3_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8m1x4_t __riscv_vlseg4e8ff_v_i8m1x4_tu(vint8m1x4_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8m1x5_t __riscv_vlseg5e8ff_v_i8m1x5_tu(vint8m1x5_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8m1x6_t __riscv_vlseg6e8ff_v_i8m1x6_tu(vint8m1x6_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8m1x7_t __riscv_vlseg7e8ff_v_i8m1x7_tu(vint8m1x7_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8m1x8_t __riscv_vlseg8e8ff_v_i8m1x8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8m2x2_t __riscv_vlseg2e8ff_v_i8m2x2_tu(vint8m2x2_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8m2x3_t __riscv_vlseg3e8ff_v_i8m2x3_tu(vint8m2x3_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8m2x4_t __riscv_vlseg4e8ff_v_i8m2x4_tu(vint8m2x4_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint8m4x2_t __riscv_vlseg2e8ff_v_i8m4x2_tu(vint8m4x2_t vd, const int8_t *rs1,
                                           size_t *new_vl, size_t vl);
vint16mf4x2_t __riscv_vlseg2e16ff_v_i16mf4x2_tu(vint16mf4x2_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16ff_v_i16mf4x3_tu(vint16mf4x3_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16ff_v_i16mf4x4_tu(vint16mf4x4_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16ff_v_i16mf4x5_tu(vint16mf4x5_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16ff_v_i16mf4x6_tu(vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16ff_v_i16mf4x7_tu(vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16ff_v_i16mf4x8_tu(vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16ff_v_i16mf2x2_tu(vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16ff_v_i16mf2x3_tu(vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16ff_v_i16mf2x4_tu(vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16ff_v_i16mf2x5_tu(vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16ff_v_i16mf2x6_tu(vint16mf2x6_t vd,
                                                const int16_t *rs1,
```

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                                                size_t *new_vl, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16ff_v_i16mf2x7_tu(vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16ff_v_i16mf2x8_tu(vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x2_t __riscv_vlseg2e16ff_v_i16m1x2_tu(vint16m1x2_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x3_t __riscv_vlseg3e16ff_v_i16m1x3_tu(vint16m1x3_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x4_t __riscv_vlseg4e16ff_v_i16m1x4_tu(vint16m1x4_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x5_t __riscv_vlseg5e16ff_v_i16m1x5_tu(vint16m1x5_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x6_t __riscv_vlseg6e16ff_v_i16m1x6_tu(vint16m1x6_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x7_t __riscv_vlseg7e16ff_v_i16m1x7_tu(vint16m1x7_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x8_t __riscv_vlseg8e16ff_v_i16m1x8_tu(vint16m1x8_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m2x2_t __riscv_vlseg2e16ff_v_i16m2x2_tu(vint16m2x2_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m2x3_t __riscv_vlseg3e16ff_v_i16m2x3_tu(vint16m2x3_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m2x4_t __riscv_vlseg4e16ff_v_i16m2x4_tu(vint16m2x4_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m4x2_t __riscv_vlseg2e16ff_v_i16m4x2_tu(vint16m4x2_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32ff_v_i32mf2x2_tu(vint32mf2x2_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32ff_v_i32mf2x3_tu(vint32mf2x3_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32ff_v_i32mf2x4_tu(vint32mf2x4_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32ff_v_i32mf2x5_tu(vint32mf2x5_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32ff_v_i32mf2x6_tu(vint32mf2x6_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32ff_v_i32mf2x7_tu(vint32mf2x7_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32ff_v_i32mf2x8_tu(vint32mf2x8_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x2_t __riscv_vlseg2e32ff_v_i32m1x2_tu(vint32m1x2_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m1x3_t __riscv_vlseg3e32ff_v_i32m1x3_tu(vint32m1x3_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
```

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vint32m1x4_t __riscv_vlseg4e32ff_v_i32m1x4_tu(vint32m1x4_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m1x5_t __riscv_vlseg5e32ff_v_i32m1x5_tu(vint32m1x5_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m1x6_t __riscv_vlseg6e32ff_v_i32m1x6_tu(vint32m1x6_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m1x7_t __riscv_vlseg7e32ff_v_i32m1x7_tu(vint32m1x7_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m1x8_t __riscv_vlseg8e32ff_v_i32m1x8_tu(vint32m1x8_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m2x2_t __riscv_vlseg2e32ff_v_i32m2x2_tu(vint32m2x2_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m2x3_t __riscv_vlseg3e32ff_v_i32m2x3_tu(vint32m2x3_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m2x4_t __riscv_vlseg4e32ff_v_i32m2x4_tu(vint32m2x4_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m4x2_t __riscv_vlseg2e32ff_v_i32m4x2_tu(vint32m4x2_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x2_t __riscv_vlseg2e64ff_v_i64m1x2_tu(vint64m1x2_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x3_t __riscv_vlseg3e64ff_v_i64m1x3_tu(vint64m1x3_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x4_t __riscv_vlseg4e64ff_v_i64m1x4_tu(vint64m1x4_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x5_t __riscv_vlseg5e64ff_v_i64m1x5_tu(vint64m1x5_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x6_t __riscv_vlseg6e64ff_v_i64m1x6_tu(vint64m1x6_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x7_t __riscv_vlseg7e64ff_v_i64m1x7_tu(vint64m1x7_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x8_t __riscv_vlseg8e64ff_v_i64m1x8_tu(vint64m1x8_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m2x2_t __riscv_vlseg2e64ff_v_i64m2x2_tu(vint64m2x2_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m2x3_t __riscv_vlseg3e64ff_v_i64m2x3_tu(vint64m2x3_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m2x4_t __riscv_vlseg4e64ff_v_i64m2x4_tu(vint64m2x4_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m4x2_t __riscv_vlseg2e64ff_v_i64m4x2_tu(vint64m4x2_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8_v_u8mf8x2_tu(vuint8mf8x2_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8_v_u8mf8x3_tu(vuint8mf8x3_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8_v_u8mf8x4_tu(vuint8mf8x4_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8_v_u8mf8x5_tu(vuint8mf8x5_t vd,
```

```
                                          const uint8_t *rs1, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8_v_u8mf8x6_tu(vuint8mf8x6_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8_v_u8mf8x7_tu(vuint8mf8x7_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8_v_u8mf8x8_tu(vuint8mf8x8_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8_v_u8mf4x2_tu(vuint8mf4x2_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8_v_u8mf4x3_tu(vuint8mf4x3_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8_v_u8mf4x4_tu(vuint8mf4x4_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8_v_u8mf4x5_tu(vuint8mf4x5_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8_v_u8mf4x6_tu(vuint8mf4x6_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8_v_u8mf4x7_tu(vuint8mf4x7_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8_v_u8mf4x8_tu(vuint8mf4x8_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8_v_u8mf2x2_tu(vuint8mf2x2_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8_v_u8mf2x3_tu(vuint8mf2x3_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8_v_u8mf2x4_tu(vuint8mf2x4_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8_v_u8mf2x5_tu(vuint8mf2x5_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8_v_u8mf2x6_tu(vuint8mf2x6_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8_v_u8mf2x7_tu(vuint8mf2x7_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8_v_u8mf2x8_tu(vuint8mf2x8_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8_v_u8m1x2_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                        size_t vl);
vuint8m1x3_t __riscv_vlseg3e8_v_u8m1x3_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                        size_t vl);
vuint8m1x4_t __riscv_vlseg4e8_v_u8m1x4_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                        size_t vl);
vuint8m1x5_t __riscv_vlseg5e8_v_u8m1x5_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                        size_t vl);
vuint8m1x6_t __riscv_vlseg6e8_v_u8m1x6_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                        size_t vl);
vuint8m1x7_t __riscv_vlseg7e8_v_u8m1x7_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                        size_t vl);
vuint8m1x8_t __riscv_vlseg8e8_v_u8m1x8_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                        size_t vl);
vuint8m2x2_t __riscv_vlseg2e8_v_u8m2x2_tu(vuint8m2x2_t vd, const uint8_t *rs1,
                                        size_t vl);
vuint8m2x3_t __riscv_vlseg3e8_v_u8m2x3_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                        size_t vl);
vuint8m2x4_t __riscv_vlseg4e8_v_u8m2x4_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                        size_t vl);
vuint8m4x2_t __riscv_vlseg2e8_v_u8m4x2_tu(vuint8m4x2_t vd, const uint8_t *rs1,
                                        size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16_v_u16mf4x2_tu(vuint16mf4x2_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16_v_u16mf4x3_tu(vuint16mf4x3_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16_v_u16mf4x4_tu(vuint16mf4x4_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16_v_u16mf4x5_tu(vuint16mf4x5_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16_v_u16mf4x6_tu(vuint16mf4x6_t vd,
                                             const uint16_t *rs1, size_t vl);
```

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vuint16mf4x7_t __riscv_vlseg7e16_v_u16mf4x7_tu(vuint16mf4x7_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16_v_u16mf4x8_tu(vuint16mf4x8_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16_v_u16mf2x2_tu(vuint16mf2x2_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16_v_u16mf2x3_tu(vuint16mf2x3_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16_v_u16mf2x4_tu(vuint16mf2x4_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16_v_u16mf2x5_tu(vuint16mf2x5_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16_v_u16mf2x6_tu(vuint16mf2x6_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16_v_u16mf2x7_tu(vuint16mf2x7_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16_v_u16mf2x8_tu(vuint16mf2x8_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16_v_u16m1x2_tu(vuint16m1x2_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16_v_u16m1x3_tu(vuint16m1x3_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16_v_u16m1x4_tu(vuint16m1x4_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16_v_u16m1x5_tu(vuint16m1x5_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16_v_u16m1x6_tu(vuint16m1x6_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16_v_u16m1x7_tu(vuint16m1x7_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16_v_u16m1x8_tu(vuint16m1x8_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16_v_u16m2x2_tu(vuint16m2x2_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16_v_u16m2x3_tu(vuint16m2x3_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16_v_u16m2x4_tu(vuint16m2x4_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16_v_u16m4x2_tu(vuint16m4x2_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32_v_u32mf2x2_tu(vuint32mf2x2_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32_v_u32mf2x3_tu(vuint32mf2x3_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32_v_u32mf2x4_tu(vuint32mf2x4_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32_v_u32mf2x5_tu(vuint32mf2x5_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32_v_u32mf2x6_tu(vuint32mf2x6_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32_v_u32mf2x7_tu(vuint32mf2x7_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32_v_u32mf2x8_tu(vuint32mf2x8_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32_v_u32m1x2_tu(vuint32m1x2_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32_v_u32m1x3_tu(vuint32m1x3_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32_v_u32m1x4_tu(vuint32m1x4_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32_v_u32m1x5_tu(vuint32m1x5_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32_v_u32m1x6_tu(vuint32m1x6_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32_v_u32m1x7_tu(vuint32m1x7_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32_v_u32m1x8_tu(vuint32m1x8_t vd,
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                                            const uint32_t *rs1, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32_v_u32m2x2_tu(vuint32m2x2_t vd,
                                            const uint32_t *rs1, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32_v_u32m2x3_tu(vuint32m2x3_t vd,
                                            const uint32_t *rs1, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32_v_u32m2x4_tu(vuint32m2x4_t vd,
                                            const uint32_t *rs1, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32_v_u32m4x2_tu(vuint32m4x2_t vd,
                                            const uint32_t *rs1, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64_v_u64m1x2_tu(vuint64m1x2_t vd,
                                            const uint64_t *rs1, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64_v_u64m1x3_tu(vuint64m1x3_t vd,
                                            const uint64_t *rs1, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64_v_u64m1x4_tu(vuint64m1x4_t vd,
                                            const uint64_t *rs1, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64_v_u64m1x5_tu(vuint64m1x5_t vd,
                                            const uint64_t *rs1, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64_v_u64m1x6_tu(vuint64m1x6_t vd,
                                            const uint64_t *rs1, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64_v_u64m1x7_tu(vuint64m1x7_t vd,
                                            const uint64_t *rs1, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64_v_u64m1x8_tu(vuint64m1x8_t vd,
                                            const uint64_t *rs1, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64_v_u64m2x2_tu(vuint64m2x2_t vd,
                                            const uint64_t *rs1, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64_v_u64m2x3_tu(vuint64m2x3_t vd,
                                            const uint64_t *rs1, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64_v_u64m2x4_tu(vuint64m2x4_t vd,
                                            const uint64_t *rs1, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64_v_u64m4x2_tu(vuint64m4x2_t vd,
                                            const uint64_t *rs1, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8ff_v_u8mf8x2_tu(vuint8mf8x2_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8ff_v_u8mf8x3_tu(vuint8mf8x3_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8ff_v_u8mf8x4_tu(vuint8mf8x4_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8ff_v_u8mf8x5_tu(vuint8mf8x5_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8ff_v_u8mf8x6_tu(vuint8mf8x6_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8ff_v_u8mf8x7_tu(vuint8mf8x7_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8ff_v_u8mf8x8_tu(vuint8mf8x8_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8ff_v_u8mf4x2_tu(vuint8mf4x2_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8ff_v_u8mf4x3_tu(vuint8mf4x3_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8ff_v_u8mf4x4_tu(vuint8mf4x4_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8ff_v_u8mf4x5_tu(vuint8mf4x5_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8ff_v_u8mf4x6_tu(vuint8mf4x6_t vd,
                                             const uint8_t *rs1,
                                             size_t *new_vl, size_t vl);
```

```
vuint8mf4x7_t __riscv_vlseg7e8ff_v_u8mf4x7_tu(vuint8mf4x7_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8ff_v_u8mf4x8_tu(vuint8mf4x8_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8ff_v_u8mf2x2_tu(vuint8mf2x2_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8ff_v_u8mf2x3_tu(vuint8mf2x3_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8ff_v_u8mf2x4_tu(vuint8mf2x4_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8ff_v_u8mf2x5_tu(vuint8mf2x5_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8ff_v_u8mf2x6_tu(vuint8mf2x6_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8ff_v_u8mf2x7_tu(vuint8mf2x7_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8ff_v_u8mf2x8_tu(vuint8mf2x8_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8ff_v_u8m1x2_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8ff_v_u8m1x3_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8ff_v_u8m1x4_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8ff_v_u8m1x5_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8ff_v_u8m1x6_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m1x7_t __riscv_vlseg7e8ff_v_u8m1x7_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8ff_v_u8m1x8_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8ff_v_u8m2x2_tu(vuint8m2x2_t vd, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8ff_v_u8m2x3_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8ff_v_u8m2x4_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8ff_v_u8m4x2_tu(vuint8m4x2_t vd, const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16ff_v_u16mf4x2_tu(vuint16mf4x2_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16ff_v_u16mf4x3_tu(vuint16mf4x3_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16ff_v_u16mf4x4_tu(vuint16mf4x4_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16ff_v_u16mf4x5_tu(vuint16mf4x5_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16ff_v_u16mf4x6_tu(vuint16mf4x6_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16ff_v_u16mf4x7_tu(vuint16mf4x7_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
```

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vuint16mf4x8_t __riscv_vlseg8e16ff_v_u16mf4x8_tu(vuint16mf4x8_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16ff_v_u16mf2x2_tu(vuint16mf2x2_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16ff_v_u16mf2x3_tu(vuint16mf2x3_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16ff_v_u16mf2x4_tu(vuint16mf2x4_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16ff_v_u16mf2x5_tu(vuint16mf2x5_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16ff_v_u16mf2x6_tu(vuint16mf2x6_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16ff_v_u16mf2x7_tu(vuint16mf2x7_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16ff_v_u16mf2x8_tu(vuint16mf2x8_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16ff_v_u16m1x2_tu(vuint16m1x2_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16ff_v_u16m1x3_tu(vuint16m1x3_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16ff_v_u16m1x4_tu(vuint16m1x4_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16ff_v_u16m1x5_tu(vuint16m1x5_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16ff_v_u16m1x6_tu(vuint16m1x6_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16ff_v_u16m1x7_tu(vuint16m1x7_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16ff_v_u16m1x8_tu(vuint16m1x8_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16ff_v_u16m2x2_tu(vuint16m2x2_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16ff_v_u16m2x3_tu(vuint16m2x3_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16ff_v_u16m2x4_tu(vuint16m2x4_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16ff_v_u16m4x2_tu(vuint16m4x2_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32ff_v_u32mf2x2_tu(vuint32mf2x2_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32ff_v_u32mf2x3_tu(vuint32mf2x3_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32ff_v_u32mf2x4_tu(vuint32mf2x4_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32ff_v_u32mf2x5_tu(vuint32mf2x5_t vd,
```

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                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32ff_v_u32mf2x6_tu(vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32ff_v_u32mf2x7_tu(vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32ff_v_u32mf2x8_tu(vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32ff_v_u32m1x2_tu(vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32ff_v_u32m1x3_tu(vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32ff_v_u32m1x4_tu(vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32ff_v_u32m1x5_tu(vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32ff_v_u32m1x6_tu(vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32ff_v_u32m1x7_tu(vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32ff_v_u32m1x8_tu(vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32ff_v_u32m2x2_tu(vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32ff_v_u32m2x3_tu(vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32ff_v_u32m2x4_tu(vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32ff_v_u32m4x2_tu(vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64ff_v_u64m1x2_tu(vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64ff_v_u64m1x3_tu(vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64ff_v_u64m1x4_tu(vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64ff_v_u64m1x5_tu(vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64ff_v_u64m1x6_tu(vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64ff_v_u64m1x7_tu(vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64ff_v_u64m1x8_tu(vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64ff_v_u64m2x2_tu(vuint64m2x2_t vd,
                                                const uint64_t *rs1,
```

```
                                                size_t *new_vl, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64ff_v_u64m2x3_tu(vuint64m2x3_t vd,
                                               const uint64_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64ff_v_u64m2x4_tu(vuint64m2x4_t vd,
                                               const uint64_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64ff_v_u64m4x2_tu(vuint64m4x2_t vd,
                                               const uint64_t *rs1,
                                               size_t *new_vl, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlseg2e16_v_f16mf4x2_tum(vbool64_t vm,
                                                 vfloat16mf4x2_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16_v_f16mf4x3_tum(vbool64_t vm,
                                                 vfloat16mf4x3_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16_v_f16mf4x4_tum(vbool64_t vm,
                                                 vfloat16mf4x4_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16_v_f16mf4x5_tum(vbool64_t vm,
                                                 vfloat16mf4x5_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16_v_f16mf4x6_tum(vbool64_t vm,
                                                 vfloat16mf4x6_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16_v_f16mf4x7_tum(vbool64_t vm,
                                                 vfloat16mf4x7_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16_v_f16mf4x8_tum(vbool64_t vm,
                                                 vfloat16mf4x8_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16_v_f16mf2x2_tum(vbool32_t vm,
                                                 vfloat16mf2x2_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16_v_f16mf2x3_tum(vbool32_t vm,
                                                 vfloat16mf2x3_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16_v_f16mf2x4_tum(vbool32_t vm,
                                                 vfloat16mf2x4_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16_v_f16mf2x5_tum(vbool32_t vm,
                                                 vfloat16mf2x5_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16_v_f16mf2x6_tum(vbool32_t vm,
                                                 vfloat16mf2x6_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16_v_f16mf2x7_tum(vbool32_t vm,
                                                 vfloat16mf2x7_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16_v_f16mf2x8_tum(vbool32_t vm,
                                                 vfloat16mf2x8_t vd,
                                                 const _Float16 *rs1,
                                                 size_t vl);
```

```
vfloat16m1x2_t __riscv_vlseg2e16_v_f16m1x2_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                               const _Float16 *rs1, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16_v_f16m1x3_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                               const _Float16 *rs1, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16_v_f16m1x4_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                               const _Float16 *rs1, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16_v_f16m1x5_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                               const _Float16 *rs1, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16_v_f16m1x6_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                               const _Float16 *rs1, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16_v_f16m1x7_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                               const _Float16 *rs1, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16_v_f16m1x8_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                               const _Float16 *rs1, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16_v_f16m2x2_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                               const _Float16 *rs1, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16_v_f16m2x3_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                               const _Float16 *rs1, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16_v_f16m2x4_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                               const _Float16 *rs1, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16_v_f16m4x2_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                               const _Float16 *rs1, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32_v_f32mf2x2_tum(vbool64_t vm,
                                                 vfloat32mf2x2_t vd,
                                                 const float *rs1, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32_v_f32mf2x3_tum(vbool64_t vm,
                                                 vfloat32mf2x3_t vd,
                                                 const float *rs1, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32_v_f32mf2x4_tum(vbool64_t vm,
                                                 vfloat32mf2x4_t vd,
                                                 const float *rs1, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32_v_f32mf2x5_tum(vbool64_t vm,
                                                 vfloat32mf2x5_t vd,
                                                 const float *rs1, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32_v_f32mf2x6_tum(vbool64_t vm,
                                                 vfloat32mf2x6_t vd,
                                                 const float *rs1, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32_v_f32mf2x7_tum(vbool64_t vm,
                                                 vfloat32mf2x7_t vd,
                                                 const float *rs1, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32_v_f32mf2x8_tum(vbool64_t vm,
                                                 vfloat32mf2x8_t vd,
                                                 const float *rs1, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32_v_f32m1x2_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                               const float *rs1, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32_v_f32m1x3_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                               const float *rs1, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32_v_f32m1x4_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                               const float *rs1, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32_v_f32m1x5_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                               const float *rs1, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32_v_f32m1x6_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                               const float *rs1, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32_v_f32m1x7_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                               const float *rs1, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32_v_f32m1x8_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                               const float *rs1, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32_v_f32m2x2_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                               const float *rs1, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32_v_f32m2x3_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                               const float *rs1, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32_v_f32m2x4_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                               const float *rs1, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32_v_f32m4x2_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                               const float *rs1, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64_v_f64m1x2_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                               const double *rs1, size_t vl);
```

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vfloat64m1x3_t __riscv_vlseg3e64_v_f64m1x3_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                               const double *rs1, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64_v_f64m1x4_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                               const double *rs1, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64_v_f64m1x5_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                               const double *rs1, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64_v_f64m1x6_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                               const double *rs1, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64_v_f64m1x7_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                               const double *rs1, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64_v_f64m1x8_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                               const double *rs1, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64_v_f64m2x2_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                               const double *rs1, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64_v_f64m2x3_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                               const double *rs1, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64_v_f64m2x4_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                               const double *rs1, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64_v_f64m4x2_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                               const double *rs1, size_t vl);
vfloat16mf4x2_t __riscv_vlseg2e16ff_v_f16mf4x2_tum(vbool64_t vm,
                                                   vfloat16mf4x2_t vd,
                                                   const _Float16 *rs1,
                                                   size_t *new_vl, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16ff_v_f16mf4x3_tum(vbool64_t vm,
                                                   vfloat16mf4x3_t vd,
                                                   const _Float16 *rs1,
                                                   size_t *new_vl, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16ff_v_f16mf4x4_tum(vbool64_t vm,
                                                   vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   size_t *new_vl, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16ff_v_f16mf4x5_tum(vbool64_t vm,
                                                   vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   size_t *new_vl, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16ff_v_f16mf4x6_tum(vbool64_t vm,
                                                   vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   size_t *new_vl, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16ff_v_f16mf4x7_tum(vbool64_t vm,
                                                   vfloat16mf4x7_t vd,
                                                   const _Float16 *rs1,
                                                   size_t *new_vl, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16ff_v_f16mf4x8_tum(vbool64_t vm,
                                                   vfloat16mf4x8_t vd,
                                                   const _Float16 *rs1,
                                                   size_t *new_vl, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16ff_v_f16mf2x2_tum(vbool32_t vm,
                                                   vfloat16mf2x2_t vd,
                                                   const _Float16 *rs1,
                                                   size_t *new_vl, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16ff_v_f16mf2x3_tum(vbool32_t vm,
                                                   vfloat16mf2x3_t vd,
                                                   const _Float16 *rs1,
                                                   size_t *new_vl, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16ff_v_f16mf2x4_tum(vbool32_t vm,
                                                   vfloat16mf2x4_t vd,
                                                   const _Float16 *rs1,
                                                   size_t *new_vl, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16ff_v_f16mf2x5_tum(vbool32_t vm,
                                                   vfloat16mf2x5_t vd,
                                                   const _Float16 *rs1,
                                                   size_t *new_vl, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16ff_v_f16mf2x6_tum(vbool32_t vm,
                                                   vfloat16mf2x6_t vd,
                                                   const _Float16 *rs1,
```

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                                                    size_t *new_vl, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16ff_v_f16mf2x7_tum(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16ff_v_f16mf2x8_tum(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16ff_v_f16m1x2_tum(vbool16_t vm,
                                                  vfloat16m1x2_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16ff_v_f16m1x3_tum(vbool16_t vm,
                                                  vfloat16m1x3_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16ff_v_f16m1x4_tum(vbool16_t vm,
                                                  vfloat16m1x4_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16ff_v_f16m1x5_tum(vbool16_t vm,
                                                  vfloat16m1x5_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16ff_v_f16m1x6_tum(vbool16_t vm,
                                                  vfloat16m1x6_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16ff_v_f16m1x7_tum(vbool16_t vm,
                                                  vfloat16m1x7_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16ff_v_f16m1x8_tum(vbool16_t vm,
                                                  vfloat16m1x8_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16ff_v_f16m2x2_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16ff_v_f16m2x3_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16ff_v_f16m2x4_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16ff_v_f16m4x2_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32ff_v_f32mf2x2_tum(vbool64_t vm,
                                                    vfloat32mf2x2_t vd,
                                                    const float *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32ff_v_f32mf2x3_tum(vbool64_t vm,
                                                    vfloat32mf2x3_t vd,
                                                    const float *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32ff_v_f32mf2x4_tum(vbool64_t vm,
                                                    vfloat32mf2x4_t vd,
                                                    const float *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32ff_v_f32mf2x5_tum(vbool64_t vm,
                                                    vfloat32mf2x5_t vd,
                                                    const float *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32ff_v_f32mf2x6_tum(vbool64_t vm,
                                                    vfloat32mf2x6_t vd,
```

```
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32ff_v_f32mf2x7_tum(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32ff_v_f32mf2x8_tum(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32ff_v_f32m1x2_tum(vbool32_t vm,
                                                 vfloat32m1x2_t vd,
                                                 const float *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32ff_v_f32m1x3_tum(vbool32_t vm,
                                                 vfloat32m1x3_t vd,
                                                 const float *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32ff_v_f32m1x4_tum(vbool32_t vm,
                                                 vfloat32m1x4_t vd,
                                                 const float *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32ff_v_f32m1x5_tum(vbool32_t vm,
                                                 vfloat32m1x5_t vd,
                                                 const float *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32ff_v_f32m1x6_tum(vbool32_t vm,
                                                 vfloat32m1x6_t vd,
                                                 const float *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32ff_v_f32m1x7_tum(vbool32_t vm,
                                                 vfloat32m1x7_t vd,
                                                 const float *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32ff_v_f32m1x8_tum(vbool32_t vm,
                                                 vfloat32m1x8_t vd,
                                                 const float *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32ff_v_f32m2x2_tum(vbool16_t vm,
                                                 vfloat32m2x2_t vd,
                                                 const float *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32ff_v_f32m2x3_tum(vbool16_t vm,
                                                 vfloat32m2x3_t vd,
                                                 const float *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32ff_v_f32m2x4_tum(vbool16_t vm,
                                                 vfloat32m2x4_t vd,
                                                 const float *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32ff_v_f32m4x2_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                                 const float *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64ff_v_f64m1x2_tum(vbool64_t vm,
                                                 vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64ff_v_f64m1x3_tum(vbool64_t vm,
                                                 vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64ff_v_f64m1x4_tum(vbool64_t vm,
                                                 vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 size_t *new_vl, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64ff_v_f64m1x5_tum(vbool64_t vm,
                                                 vfloat64m1x5_t vd,
```

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                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64ff_v_f64m1x6_tum(vbool64_t vm,
                                                vfloat64m1x6_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64ff_v_f64m1x7_tum(vbool64_t vm,
                                                vfloat64m1x7_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64ff_v_f64m1x8_tum(vbool64_t vm,
                                                vfloat64m1x8_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64ff_v_f64m2x2_tum(vbool32_t vm,
                                                vfloat64m2x2_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64ff_v_f64m2x3_tum(vbool32_t vm,
                                                vfloat64m2x3_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64ff_v_f64m2x4_tum(vbool32_t vm,
                                                vfloat64m2x4_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64ff_v_f64m4x2_tum(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8_v_i8mf8x2_tum(vbool64_t vm, vint8mf8x2_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8_v_i8mf8x3_tum(vbool64_t vm, vint8mf8x3_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8_v_i8mf8x4_tum(vbool64_t vm, vint8mf8x4_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8_v_i8mf8x5_tum(vbool64_t vm, vint8mf8x5_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8_v_i8mf8x6_tum(vbool64_t vm, vint8mf8x6_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8_v_i8mf8x7_tum(vbool64_t vm, vint8mf8x7_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8_v_i8mf8x8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8_v_i8mf4x2_tum(vbool32_t vm, vint8mf4x2_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8_v_i8mf4x3_tum(vbool32_t vm, vint8mf4x3_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8_v_i8mf4x4_tum(vbool32_t vm, vint8mf4x4_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8_v_i8mf4x5_tum(vbool32_t vm, vint8mf4x5_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8_v_i8mf4x6_tum(vbool32_t vm, vint8mf4x6_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8_v_i8mf4x7_tum(vbool32_t vm, vint8mf4x7_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8_v_i8mf4x8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8_v_i8mf2x2_tum(vbool16_t vm, vint8mf2x2_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8_v_i8mf2x3_tum(vbool16_t vm, vint8mf2x3_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf2x4_t __riscv_vlseg4e8_v_i8mf2x4_tum(vbool16_t vm, vint8mf2x4_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8_v_i8mf2x5_tum(vbool16_t vm, vint8mf2x5_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8_v_i8mf2x6_tum(vbool16_t vm, vint8mf2x6_t vd,
```

```
                                            const int8_t *rs1, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8_v_i8mf2x7_tum(vbool16_t vm, vint8mf2x7_t vd,
                                            const int8_t *rs1, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8_v_i8mf2x8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                            const int8_t *rs1, size_t vl);
vint8m1x2_t __riscv_vlseg2e8_v_i8m1x2_tum(vbool8_t vm, vint8m1x2_t vd,
                                          const int8_t *rs1, size_t vl);
vint8m1x3_t __riscv_vlseg3e8_v_i8m1x3_tum(vbool8_t vm, vint8m1x3_t vd,
                                          const int8_t *rs1, size_t vl);
vint8m1x4_t __riscv_vlseg4e8_v_i8m1x4_tum(vbool8_t vm, vint8m1x4_t vd,
                                          const int8_t *rs1, size_t vl);
vint8m1x5_t __riscv_vlseg5e8_v_i8m1x5_tum(vbool8_t vm, vint8m1x5_t vd,
                                          const int8_t *rs1, size_t vl);
vint8m1x6_t __riscv_vlseg6e8_v_i8m1x6_tum(vbool8_t vm, vint8m1x6_t vd,
                                          const int8_t *rs1, size_t vl);
vint8m1x7_t __riscv_vlseg7e8_v_i8m1x7_tum(vbool8_t vm, vint8m1x7_t vd,
                                          const int8_t *rs1, size_t vl);
vint8m1x8_t __riscv_vlseg8e8_v_i8m1x8_tum(vbool8_t vm, vint8m1x8_t vd,
                                          const int8_t *rs1, size_t vl);
vint8m2x2_t __riscv_vlseg2e8_v_i8m2x2_tum(vbool4_t vm, vint8m2x2_t vd,
                                          const int8_t *rs1, size_t vl);
vint8m2x3_t __riscv_vlseg3e8_v_i8m2x3_tum(vbool4_t vm, vint8m2x3_t vd,
                                          const int8_t *rs1, size_t vl);
vint8m2x4_t __riscv_vlseg4e8_v_i8m2x4_tum(vbool4_t vm, vint8m2x4_t vd,
                                          const int8_t *rs1, size_t vl);
vint8m4x2_t __riscv_vlseg2e8_v_i8m4x2_tum(vbool2_t vm, vint8m4x2_t vd,
                                          const int8_t *rs1, size_t vl);
vint16mf4x2_t __riscv_vlseg2e16_v_i16mf4x2_tum(vbool64_t vm, vint16mf4x2_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16_v_i16mf4x3_tum(vbool64_t vm, vint16mf4x3_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16_v_i16mf4x4_tum(vbool64_t vm, vint16mf4x4_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16_v_i16mf4x5_tum(vbool64_t vm, vint16mf4x5_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16_v_i16mf4x6_tum(vbool64_t vm, vint16mf4x6_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16_v_i16mf4x7_tum(vbool64_t vm, vint16mf4x7_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16_v_i16mf4x8_tum(vbool64_t vm, vint16mf4x8_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16_v_i16mf2x2_tum(vbool32_t vm, vint16mf2x2_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16_v_i16mf2x3_tum(vbool32_t vm, vint16mf2x3_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16_v_i16mf2x4_tum(vbool32_t vm, vint16mf2x4_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16_v_i16mf2x5_tum(vbool32_t vm, vint16mf2x5_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16_v_i16mf2x6_tum(vbool32_t vm, vint16mf2x6_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16_v_i16mf2x7_tum(vbool32_t vm, vint16mf2x7_t vd,
                                               const int16_t *rs1, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16_v_i16mf2x8_tum(vbool32_t vm, vint16mf2x8_t vd,
                                               const int16_t *rs1, size_t vl);
vint16m1x2_t __riscv_vlseg2e16_v_i16m1x2_tum(vbool16_t vm, vint16m1x2_t vd,
                                             const int16_t *rs1, size_t vl);
vint16m1x3_t __riscv_vlseg3e16_v_i16m1x3_tum(vbool16_t vm, vint16m1x3_t vd,
                                             const int16_t *rs1, size_t vl);
vint16m1x4_t __riscv_vlseg4e16_v_i16m1x4_tum(vbool16_t vm, vint16m1x4_t vd,
                                             const int16_t *rs1, size_t vl);
vint16m1x5_t __riscv_vlseg5e16_v_i16m1x5_tum(vbool16_t vm, vint16m1x5_t vd,
                                             const int16_t *rs1, size_t vl);
vint16m1x6_t __riscv_vlseg6e16_v_i16m1x6_tum(vbool16_t vm, vint16m1x6_t vd,
                                             const int16_t *rs1, size_t vl);
vint16m1x7_t __riscv_vlseg7e16_v_i16m1x7_tum(vbool16_t vm, vint16m1x7_t vd,
                                             const int16_t *rs1, size_t vl);
```

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vint16m1x8_t __riscv_vlseg8e16_v_i16m1x8_tum(vbool16_t vm, vint16m1x8_t vd,
                                             const int16_t *rs1, size_t vl);
vint16m2x2_t __riscv_vlseg2e16_v_i16m2x2_tum(vbool8_t vm, vint16m2x2_t vd,
                                             const int16_t *rs1, size_t vl);
vint16m2x3_t __riscv_vlseg3e16_v_i16m2x3_tum(vbool8_t vm, vint16m2x3_t vd,
                                             const int16_t *rs1, size_t vl);
vint16m2x4_t __riscv_vlseg4e16_v_i16m2x4_tum(vbool8_t vm, vint16m2x4_t vd,
                                             const int16_t *rs1, size_t vl);
vint16m4x2_t __riscv_vlseg2e16_v_i16m4x2_tum(vbool4_t vm, vint16m4x2_t vd,
                                             const int16_t *rs1, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32_v_i32mf2x2_tum(vbool64_t vm, vint32mf2x2_t vd,
                                               const int32_t *rs1, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32_v_i32mf2x3_tum(vbool64_t vm, vint32mf2x3_t vd,
                                               const int32_t *rs1, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32_v_i32mf2x4_tum(vbool64_t vm, vint32mf2x4_t vd,
                                               const int32_t *rs1, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32_v_i32mf2x5_tum(vbool64_t vm, vint32mf2x5_t vd,
                                               const int32_t *rs1, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32_v_i32mf2x6_tum(vbool64_t vm, vint32mf2x6_t vd,
                                               const int32_t *rs1, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32_v_i32mf2x7_tum(vbool64_t vm, vint32mf2x7_t vd,
                                               const int32_t *rs1, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32_v_i32mf2x8_tum(vbool64_t vm, vint32mf2x8_t vd,
                                               const int32_t *rs1, size_t vl);
vint32m1x2_t __riscv_vlseg2e32_v_i32m1x2_tum(vbool32_t vm, vint32m1x2_t vd,
                                             const int32_t *rs1, size_t vl);
vint32m1x3_t __riscv_vlseg3e32_v_i32m1x3_tum(vbool32_t vm, vint32m1x3_t vd,
                                             const int32_t *rs1, size_t vl);
vint32m1x4_t __riscv_vlseg4e32_v_i32m1x4_tum(vbool32_t vm, vint32m1x4_t vd,
                                             const int32_t *rs1, size_t vl);
vint32m1x5_t __riscv_vlseg5e32_v_i32m1x5_tum(vbool32_t vm, vint32m1x5_t vd,
                                             const int32_t *rs1, size_t vl);
vint32m1x6_t __riscv_vlseg6e32_v_i32m1x6_tum(vbool32_t vm, vint32m1x6_t vd,
                                             const int32_t *rs1, size_t vl);
vint32m1x7_t __riscv_vlseg7e32_v_i32m1x7_tum(vbool32_t vm, vint32m1x7_t vd,
                                             const int32_t *rs1, size_t vl);
vint32m1x8_t __riscv_vlseg8e32_v_i32m1x8_tum(vbool32_t vm, vint32m1x8_t vd,
                                             const int32_t *rs1, size_t vl);
vint32m2x2_t __riscv_vlseg2e32_v_i32m2x2_tum(vbool16_t vm, vint32m2x2_t vd,
                                             const int32_t *rs1, size_t vl);
vint32m2x3_t __riscv_vlseg3e32_v_i32m2x3_tum(vbool16_t vm, vint32m2x3_t vd,
                                             const int32_t *rs1, size_t vl);
vint32m2x4_t __riscv_vlseg4e32_v_i32m2x4_tum(vbool16_t vm, vint32m2x4_t vd,
                                             const int32_t *rs1, size_t vl);
vint32m4x2_t __riscv_vlseg2e32_v_i32m4x2_tum(vbool8_t vm, vint32m4x2_t vd,
                                             const int32_t *rs1, size_t vl);
vint64m1x2_t __riscv_vlseg2e64_v_i64m1x2_tum(vbool64_t vm, vint64m1x2_t vd,
                                             const int64_t *rs1, size_t vl);
vint64m1x3_t __riscv_vlseg3e64_v_i64m1x3_tum(vbool64_t vm, vint64m1x3_t vd,
                                             const int64_t *rs1, size_t vl);
vint64m1x4_t __riscv_vlseg4e64_v_i64m1x4_tum(vbool64_t vm, vint64m1x4_t vd,
                                             const int64_t *rs1, size_t vl);
vint64m1x5_t __riscv_vlseg5e64_v_i64m1x5_tum(vbool64_t vm, vint64m1x5_t vd,
                                             const int64_t *rs1, size_t vl);
vint64m1x6_t __riscv_vlseg6e64_v_i64m1x6_tum(vbool64_t vm, vint64m1x6_t vd,
                                             const int64_t *rs1, size_t vl);
vint64m1x7_t __riscv_vlseg7e64_v_i64m1x7_tum(vbool64_t vm, vint64m1x7_t vd,
                                             const int64_t *rs1, size_t vl);
vint64m1x8_t __riscv_vlseg8e64_v_i64m1x8_tum(vbool64_t vm, vint64m1x8_t vd,
                                             const int64_t *rs1, size_t vl);
vint64m2x2_t __riscv_vlseg2e64_v_i64m2x2_tum(vbool32_t vm, vint64m2x2_t vd,
                                             const int64_t *rs1, size_t vl);
vint64m2x3_t __riscv_vlseg3e64_v_i64m2x3_tum(vbool32_t vm, vint64m2x3_t vd,
                                             const int64_t *rs1, size_t vl);
vint64m2x4_t __riscv_vlseg4e64_v_i64m2x4_tum(vbool32_t vm, vint64m2x4_t vd,
                                             const int64_t *rs1, size_t vl);
vint64m4x2_t __riscv_vlseg2e64_v_i64m4x2_tum(vbool16_t vm, vint64m4x2_t vd,
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                                            const int64_t *rs1, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8ff_v_i8mf8x2_tum(vbool64_t vm, vint8mf8x2_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf8x3_t __riscv_vlseg3e8ff_v_i8mf8x3_tum(vbool64_t vm, vint8mf8x3_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf8x4_t __riscv_vlseg4e8ff_v_i8mf8x4_tum(vbool64_t vm, vint8mf8x4_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf8x5_t __riscv_vlseg5e8ff_v_i8mf8x5_tum(vbool64_t vm, vint8mf8x5_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf8x6_t __riscv_vlseg6e8ff_v_i8mf8x6_tum(vbool64_t vm, vint8mf8x6_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf8x7_t __riscv_vlseg7e8ff_v_i8mf8x7_tum(vbool64_t vm, vint8mf8x7_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf8x8_t __riscv_vlseg8e8ff_v_i8mf8x8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf4x2_t __riscv_vlseg2e8ff_v_i8mf4x2_tum(vbool32_t vm, vint8mf4x2_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf4x3_t __riscv_vlseg3e8ff_v_i8mf4x3_tum(vbool32_t vm, vint8mf4x3_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf4x4_t __riscv_vlseg4e8ff_v_i8mf4x4_tum(vbool32_t vm, vint8mf4x4_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf4x5_t __riscv_vlseg5e8ff_v_i8mf4x5_tum(vbool32_t vm, vint8mf4x5_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf4x6_t __riscv_vlseg6e8ff_v_i8mf4x6_tum(vbool32_t vm, vint8mf4x6_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf4x7_t __riscv_vlseg7e8ff_v_i8mf4x7_tum(vbool32_t vm, vint8mf4x7_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf4x8_t __riscv_vlseg8e8ff_v_i8mf4x8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf2x2_t __riscv_vlseg2e8ff_v_i8mf2x2_tum(vbool16_t vm, vint8mf2x2_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf2x3_t __riscv_vlseg3e8ff_v_i8mf2x3_tum(vbool16_t vm, vint8mf2x3_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf2x4_t __riscv_vlseg4e8ff_v_i8mf2x4_tum(vbool16_t vm, vint8mf2x4_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf2x5_t __riscv_vlseg5e8ff_v_i8mf2x5_tum(vbool16_t vm, vint8mf2x5_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf2x6_t __riscv_vlseg6e8ff_v_i8mf2x6_tum(vbool16_t vm, vint8mf2x6_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf2x7_t __riscv_vlseg7e8ff_v_i8mf2x7_tum(vbool16_t vm, vint8mf2x7_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8mf2x8_t __riscv_vlseg8e8ff_v_i8mf2x8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                              const int8_t *rs1, size_t *new_vl,
                                              size_t vl);
vint8m1x2_t __riscv_vlseg2e8ff_v_i8m1x2_tum(vbool8_t vm, vint8m1x2_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
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vint8m1x3_t __riscv_vlseg3e8ff_v_i8m1x3_tum(vbool8_t vm, vint8m1x3_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8m1x4_t __riscv_vlseg4e8ff_v_i8m1x4_tum(vbool8_t vm, vint8m1x4_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8m1x5_t __riscv_vlseg5e8ff_v_i8m1x5_tum(vbool8_t vm, vint8m1x5_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8m1x6_t __riscv_vlseg6e8ff_v_i8m1x6_tum(vbool8_t vm, vint8m1x6_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8m1x7_t __riscv_vlseg7e8ff_v_i8m1x7_tum(vbool8_t vm, vint8m1x7_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8m1x8_t __riscv_vlseg8e8ff_v_i8m1x8_tum(vbool8_t vm, vint8m1x8_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8m2x2_t __riscv_vlseg2e8ff_v_i8m2x2_tum(vbool4_t vm, vint8m2x2_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8m2x3_t __riscv_vlseg3e8ff_v_i8m2x3_tum(vbool4_t vm, vint8m2x3_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8m2x4_t __riscv_vlseg4e8ff_v_i8m2x4_tum(vbool4_t vm, vint8m2x4_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8m4x2_t __riscv_vlseg2e8ff_v_i8m4x2_tum(vbool2_t vm, vint8m4x2_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint16mf4x2_t __riscv_vlseg2e16ff_v_i16mf4x2_tum(vbool64_t vm, vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16ff_v_i16mf4x3_tum(vbool64_t vm, vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16ff_v_i16mf4x4_tum(vbool64_t vm, vint16mf4x4_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16ff_v_i16mf4x5_tum(vbool64_t vm, vint16mf4x5_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16ff_v_i16mf4x6_tum(vbool64_t vm, vint16mf4x6_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16ff_v_i16mf4x7_tum(vbool64_t vm, vint16mf4x7_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16ff_v_i16mf4x8_tum(vbool64_t vm, vint16mf4x8_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16ff_v_i16mf2x2_tum(vbool32_t vm, vint16mf2x2_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16ff_v_i16mf2x3_tum(vbool32_t vm, vint16mf2x3_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16ff_v_i16mf2x4_tum(vbool32_t vm, vint16mf2x4_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16ff_v_i16mf2x5_tum(vbool32_t vm, vint16mf2x5_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16ff_v_i16mf2x6_tum(vbool32_t vm, vint16mf2x6_t vd,
                                                 const int16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16ff_v_i16mf2x7_tum(vbool32_t vm, vint16mf2x7_t vd,
```

```
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16ff_v_i16mf2x8_tum(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x2_t __riscv_vlseg2e16ff_v_i16m1x2_tum(vbool16_t vm, vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16m1x3_t __riscv_vlseg3e16ff_v_i16m1x3_tum(vbool16_t vm, vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16m1x4_t __riscv_vlseg4e16ff_v_i16m1x4_tum(vbool16_t vm, vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16m1x5_t __riscv_vlseg5e16ff_v_i16m1x5_tum(vbool16_t vm, vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16m1x6_t __riscv_vlseg6e16ff_v_i16m1x6_tum(vbool16_t vm, vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16m1x7_t __riscv_vlseg7e16ff_v_i16m1x7_tum(vbool16_t vm, vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16m1x8_t __riscv_vlseg8e16ff_v_i16m1x8_tum(vbool16_t vm, vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16m2x2_t __riscv_vlseg2e16ff_v_i16m2x2_tum(vbool8_t vm, vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16m2x3_t __riscv_vlseg3e16ff_v_i16m2x3_tum(vbool8_t vm, vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16m2x4_t __riscv_vlseg4e16ff_v_i16m2x4_tum(vbool8_t vm, vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16m4x2_t __riscv_vlseg2e16ff_v_i16m4x2_tum(vbool4_t vm, vint16m4x2_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32ff_v_i32mf2x2_tum(vbool64_t vm, vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32ff_v_i32mf2x3_tum(vbool64_t vm, vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32ff_v_i32mf2x4_tum(vbool64_t vm, vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32ff_v_i32mf2x5_tum(vbool64_t vm, vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32ff_v_i32mf2x6_tum(vbool64_t vm, vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32ff_v_i32mf2x7_tum(vbool64_t vm, vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32ff_v_i32mf2x8_tum(vbool64_t vm, vint32mf2x8_t vd,
                                                 const int32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vint32m1x2_t __riscv_vlseg2e32ff_v_i32m1x2_tum(vbool32_t vm, vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               size_t *new_vl, size_t vl);
vint32m1x3_t __riscv_vlseg3e32ff_v_i32m1x3_tum(vbool32_t vm, vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               size_t *new_vl, size_t vl);
vint32m1x4_t __riscv_vlseg4e32ff_v_i32m1x4_tum(vbool32_t vm, vint32m1x4_t vd,
                                               const int32_t *rs1,
```

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                                                size_t *new_vl, size_t vl);
vint32m1x5_t __riscv_vlseg5e32ff_v_i32m1x5_tum(vbool32_t vm, vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x6_t __riscv_vlseg6e32ff_v_i32m1x6_tum(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x7_t __riscv_vlseg7e32ff_v_i32m1x7_tum(vbool32_t vm, vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x8_t __riscv_vlseg8e32ff_v_i32m1x8_tum(vbool32_t vm, vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m2x2_t __riscv_vlseg2e32ff_v_i32m2x2_tum(vbool16_t vm, vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m2x3_t __riscv_vlseg3e32ff_v_i32m2x3_tum(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m2x4_t __riscv_vlseg4e32ff_v_i32m2x4_tum(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m4x2_t __riscv_vlseg2e32ff_v_i32m4x2_tum(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x2_t __riscv_vlseg2e64ff_v_i64m1x2_tum(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x3_t __riscv_vlseg3e64ff_v_i64m1x3_tum(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x4_t __riscv_vlseg4e64ff_v_i64m1x4_tum(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x5_t __riscv_vlseg5e64ff_v_i64m1x5_tum(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x6_t __riscv_vlseg6e64ff_v_i64m1x6_tum(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x7_t __riscv_vlseg7e64ff_v_i64m1x7_tum(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x8_t __riscv_vlseg8e64ff_v_i64m1x8_tum(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m2x2_t __riscv_vlseg2e64ff_v_i64m2x2_tum(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m2x3_t __riscv_vlseg3e64ff_v_i64m2x3_tum(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m2x4_t __riscv_vlseg4e64ff_v_i64m2x4_tum(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m4x2_t __riscv_vlseg2e64ff_v_i64m4x2_tum(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8_v_u8mf8x2_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                             const uint8_t *rs1, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8_v_u8mf8x3_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                             const uint8_t *rs1, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8_v_u8mf8x4_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                             const uint8_t *rs1, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8_v_u8mf8x5_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                             const uint8_t *rs1, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8_v_u8mf8x6_tum(vbool64_t vm, vuint8mf8x6_t vd,
```

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                                            const uint8_t *rs1, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8_v_u8mf8x7_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8_v_u8mf8x8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8_v_u8mf4x2_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8_v_u8mf4x3_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8_v_u8mf4x4_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8_v_u8mf4x5_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8_v_u8mf4x6_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8_v_u8mf4x7_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8_v_u8mf4x8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8_v_u8mf2x2_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8_v_u8mf2x3_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8_v_u8mf2x4_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8_v_u8mf2x5_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8_v_u8mf2x6_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8_v_u8mf2x7_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8_v_u8mf2x8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8_v_u8m1x2_tum(vbool8_t vm, vuint8m1x2_t vd,
                                           const uint8_t *rs1, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8_v_u8m1x3_tum(vbool8_t vm, vuint8m1x3_t vd,
                                           const uint8_t *rs1, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8_v_u8m1x4_tum(vbool8_t vm, vuint8m1x4_t vd,
                                           const uint8_t *rs1, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8_v_u8m1x5_tum(vbool8_t vm, vuint8m1x5_t vd,
                                           const uint8_t *rs1, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8_v_u8m1x6_tum(vbool8_t vm, vuint8m1x6_t vd,
                                           const uint8_t *rs1, size_t vl);
vuint8m1x7_t __riscv_vlseg7e8_v_u8m1x7_tum(vbool8_t vm, vuint8m1x7_t vd,
                                           const uint8_t *rs1, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8_v_u8m1x8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                           const uint8_t *rs1, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8_v_u8m2x2_tum(vbool4_t vm, vuint8m2x2_t vd,
                                           const uint8_t *rs1, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8_v_u8m2x3_tum(vbool4_t vm, vuint8m2x3_t vd,
                                           const uint8_t *rs1, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8_v_u8m2x4_tum(vbool4_t vm, vuint8m2x4_t vd,
                                           const uint8_t *rs1, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8_v_u8m4x2_tum(vbool2_t vm, vuint8m4x2_t vd,
                                           const uint8_t *rs1, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16_v_u16mf4x2_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16_v_u16mf4x3_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16_v_u16mf4x4_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16_v_u16mf4x5_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16_v_u16mf4x6_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16_v_u16mf4x7_tum(vbool64_t vm, vuint16mf4x7_t vd,
                                                const uint16_t *rs1, size_t vl);
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vuint16mf4x8_t __riscv_vlseg8e16_v_u16mf4x8_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16_v_u16mf2x2_tum(vbool32_t vm, vuint16mf2x2_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16_v_u16mf2x3_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16_v_u16mf2x4_tum(vbool32_t vm, vuint16mf2x4_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16_v_u16mf2x5_tum(vbool32_t vm, vuint16mf2x5_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16_v_u16mf2x6_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16_v_u16mf2x7_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16_v_u16mf2x8_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                                const uint16_t *rs1, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16_v_u16m1x2_tum(vbool16_t vm, vuint16m1x2_t vd,
                                              const uint16_t *rs1, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16_v_u16m1x3_tum(vbool16_t vm, vuint16m1x3_t vd,
                                              const uint16_t *rs1, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16_v_u16m1x4_tum(vbool16_t vm, vuint16m1x4_t vd,
                                              const uint16_t *rs1, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16_v_u16m1x5_tum(vbool16_t vm, vuint16m1x5_t vd,
                                              const uint16_t *rs1, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16_v_u16m1x6_tum(vbool16_t vm, vuint16m1x6_t vd,
                                              const uint16_t *rs1, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16_v_u16m1x7_tum(vbool16_t vm, vuint16m1x7_t vd,
                                              const uint16_t *rs1, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16_v_u16m1x8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                              const uint16_t *rs1, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16_v_u16m2x2_tum(vbool8_t vm, vuint16m2x2_t vd,
                                              const uint16_t *rs1, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16_v_u16m2x3_tum(vbool8_t vm, vuint16m2x3_t vd,
                                              const uint16_t *rs1, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16_v_u16m2x4_tum(vbool8_t vm, vuint16m2x4_t vd,
                                              const uint16_t *rs1, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16_v_u16m4x2_tum(vbool4_t vm, vuint16m4x2_t vd,
                                              const uint16_t *rs1, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32_v_u32mf2x2_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                                const uint32_t *rs1, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32_v_u32mf2x3_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                                const uint32_t *rs1, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32_v_u32mf2x4_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                                const uint32_t *rs1, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32_v_u32mf2x5_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                                const uint32_t *rs1, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32_v_u32mf2x6_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                                const uint32_t *rs1, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32_v_u32mf2x7_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                                const uint32_t *rs1, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32_v_u32mf2x8_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                                const uint32_t *rs1, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32_v_u32m1x2_tum(vbool32_t vm, vuint32m1x2_t vd,
                                              const uint32_t *rs1, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32_v_u32m1x3_tum(vbool32_t vm, vuint32m1x3_t vd,
                                              const uint32_t *rs1, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32_v_u32m1x4_tum(vbool32_t vm, vuint32m1x4_t vd,
                                              const uint32_t *rs1, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32_v_u32m1x5_tum(vbool32_t vm, vuint32m1x5_t vd,
                                              const uint32_t *rs1, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32_v_u32m1x6_tum(vbool32_t vm, vuint32m1x6_t vd,
                                              const uint32_t *rs1, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32_v_u32m1x7_tum(vbool32_t vm, vuint32m1x7_t vd,
                                              const uint32_t *rs1, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32_v_u32m1x8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                              const uint32_t *rs1, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32_v_u32m2x2_tum(vbool16_t vm, vuint32m2x2_t vd,
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```
                                                const uint32_t *rs1, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32_v_u32m2x3_tum(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32_v_u32m2x4_tum(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32_v_u32m4x2_tum(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64_v_u64m1x2_tum(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64_v_u64m1x3_tum(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64_v_u64m1x4_tum(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64_v_u64m1x5_tum(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64_v_u64m1x6_tum(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64_v_u64m1x7_tum(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64_v_u64m1x8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64_v_u64m2x2_tum(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64_v_u64m2x3_tum(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64_v_u64m2x4_tum(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64_v_u64m4x2_tum(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8ff_v_u8mf8x2_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8ff_v_u8mf8x3_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8ff_v_u8mf8x4_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8ff_v_u8mf8x5_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8ff_v_u8mf8x6_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8ff_v_u8mf8x7_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8ff_v_u8mf8x8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8ff_v_u8mf4x2_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8ff_v_u8mf4x3_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8ff_v_u8mf4x4_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8ff_v_u8mf4x5_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8ff_v_u8mf4x6_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                                 const uint8_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8ff_v_u8mf4x7_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                                 const uint8_t *rs1,
```

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                                            size_t *new_vl, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8ff_v_u8mf4x8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8ff_v_u8mf2x2_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8ff_v_u8mf2x3_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8ff_v_u8mf2x4_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8ff_v_u8mf2x5_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8ff_v_u8mf2x6_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8ff_v_u8mf2x7_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8ff_v_u8mf2x8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8ff_v_u8m1x2_tum(vbool8_t vm, vuint8m1x2_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m1x3_t __riscv_vlseg3e8ff_v_u8m1x3_tum(vbool8_t vm, vuint8m1x3_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m1x4_t __riscv_vlseg4e8ff_v_u8m1x4_tum(vbool8_t vm, vuint8m1x4_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m1x5_t __riscv_vlseg5e8ff_v_u8m1x5_tum(vbool8_t vm, vuint8m1x5_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m1x6_t __riscv_vlseg6e8ff_v_u8m1x6_tum(vbool8_t vm, vuint8m1x6_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m1x7_t __riscv_vlseg7e8ff_v_u8m1x7_tum(vbool8_t vm, vuint8m1x7_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m1x8_t __riscv_vlseg8e8ff_v_u8m1x8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m2x2_t __riscv_vlseg2e8ff_v_u8m2x2_tum(vbool4_t vm, vuint8m2x2_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m2x3_t __riscv_vlseg3e8ff_v_u8m2x3_tum(vbool4_t vm, vuint8m2x3_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m2x4_t __riscv_vlseg4e8ff_v_u8m2x4_tum(vbool4_t vm, vuint8m2x4_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m4x2_t __riscv_vlseg2e8ff_v_u8m4x2_tum(vbool2_t vm, vuint8m4x2_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16ff_v_u16mf4x2_tum(vbool64_t vm,
                                               vuint16mf4x2_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16ff_v_u16mf4x3_tum(vbool64_t vm,
                                               vuint16mf4x3_t vd,
                                               const uint16_t *rs1,
                                               size_t *new_vl, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16ff_v_u16mf4x4_tum(vbool64_t vm,
```

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                                                vuint16mf4x4_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16ff_v_u16mf4x5_tum(vbool64_t vm,
                                                vuint16mf4x5_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16ff_v_u16mf4x6_tum(vbool64_t vm,
                                                vuint16mf4x6_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16ff_v_u16mf4x7_tum(vbool64_t vm,
                                                vuint16mf4x7_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16ff_v_u16mf4x8_tum(vbool64_t vm,
                                                vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16ff_v_u16mf2x2_tum(vbool32_t vm,
                                                vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16ff_v_u16mf2x3_tum(vbool32_t vm,
                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16ff_v_u16mf2x4_tum(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16ff_v_u16mf2x5_tum(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16ff_v_u16mf2x6_tum(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16ff_v_u16mf2x7_tum(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16ff_v_u16mf2x8_tum(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16ff_v_u16m1x2_tum(vbool16_t vm, vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16ff_v_u16m1x3_tum(vbool16_t vm, vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16ff_v_u16m1x4_tum(vbool16_t vm, vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16ff_v_u16m1x5_tum(vbool16_t vm, vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16ff_v_u16m1x6_tum(vbool16_t vm, vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16ff_v_u16m1x7_tum(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16ff_v_u16m1x8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
```

```
                                                size_t *new_vl, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16ff_v_u16m2x2_tum(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16ff_v_u16m2x3_tum(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16ff_v_u16m2x4_tum(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16ff_v_u16m4x2_tum(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32ff_v_u32mf2x2_tum(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32ff_v_u32mf2x3_tum(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32ff_v_u32mf2x4_tum(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32ff_v_u32mf2x5_tum(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32ff_v_u32mf2x6_tum(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32ff_v_u32mf2x7_tum(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32ff_v_u32mf2x8_tum(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32ff_v_u32m1x2_tum(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32ff_v_u32m1x3_tum(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32ff_v_u32m1x4_tum(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32ff_v_u32m1x5_tum(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32ff_v_u32m1x6_tum(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32ff_v_u32m1x7_tum(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32ff_v_u32m1x8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32ff_v_u32m2x2_tum(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32ff_v_u32m2x3_tum(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
```

```
                                                size_t *new_vl, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32ff_v_u32m2x4_tum(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32ff_v_u32m4x2_tum(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64ff_v_u64m1x2_tum(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64ff_v_u64m1x3_tum(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64ff_v_u64m1x4_tum(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64ff_v_u64m1x5_tum(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64ff_v_u64m1x6_tum(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64ff_v_u64m1x7_tum(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64ff_v_u64m1x8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64ff_v_u64m2x2_tum(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64ff_v_u64m2x3_tum(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64ff_v_u64m2x4_tum(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64ff_v_u64m4x2_tum(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlseg2e16_v_f16mf4x2_tumu(vbool64_t vm,
                                                  vfloat16mf4x2_t vd,
                                                  const _Float16 *rs1,
                                                  size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16_v_f16mf4x3_tumu(vbool64_t vm,
                                                  vfloat16mf4x3_t vd,
                                                  const _Float16 *rs1,
                                                  size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16_v_f16mf4x4_tumu(vbool64_t vm,
                                                  vfloat16mf4x4_t vd,
                                                  const _Float16 *rs1,
                                                  size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16_v_f16mf4x5_tumu(vbool64_t vm,
                                                  vfloat16mf4x5_t vd,
                                                  const _Float16 *rs1,
                                                  size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16_v_f16mf4x6_tumu(vbool64_t vm,
                                                  vfloat16mf4x6_t vd,
                                                  const _Float16 *rs1,
                                                  size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16_v_f16mf4x7_tumu(vbool64_t vm,
                                                  vfloat16mf4x7_t vd,
                                                  const _Float16 *rs1,
                                                  size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16_v_f16mf4x8_tumu(vbool64_t vm,
                                                  vfloat16mf4x8_t vd,
```

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                                                const _Float16 *rs1,
                                                size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16_v_f16mf2x2_tumu(vbool32_t vm,
                                                vfloat16mf2x2_t vd,
                                                const _Float16 *rs1,
                                                size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16_v_f16mf2x3_tumu(vbool32_t vm,
                                                vfloat16mf2x3_t vd,
                                                const _Float16 *rs1,
                                                size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16_v_f16mf2x4_tumu(vbool32_t vm,
                                                vfloat16mf2x4_t vd,
                                                const _Float16 *rs1,
                                                size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16_v_f16mf2x5_tumu(vbool32_t vm,
                                                vfloat16mf2x5_t vd,
                                                const _Float16 *rs1,
                                                size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16_v_f16mf2x6_tumu(vbool32_t vm,
                                                vfloat16mf2x6_t vd,
                                                const _Float16 *rs1,
                                                size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16_v_f16mf2x7_tumu(vbool32_t vm,
                                                vfloat16mf2x7_t vd,
                                                const _Float16 *rs1,
                                                size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16_v_f16mf2x8_tumu(vbool32_t vm,
                                                vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16_v_f16m1x2_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16_v_f16m1x3_tumu(vbool16_t vm, vfloat16m1x3_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16_v_f16m1x4_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16_v_f16m1x5_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16_v_f16m1x6_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16_v_f16m1x7_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16_v_f16m1x8_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16_v_f16m2x2_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16_v_f16m2x3_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16_v_f16m2x4_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16_v_f16m4x2_tumu(vbool4_t vm, vfloat16m4x2_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32_v_f32mf2x2_tumu(vbool64_t vm,
                                                vfloat32mf2x2_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32_v_f32mf2x3_tumu(vbool64_t vm,
                                                vfloat32mf2x3_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32_v_f32mf2x4_tumu(vbool64_t vm,
                                                vfloat32mf2x4_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32_v_f32mf2x5_tumu(vbool64_t vm,
                                                vfloat32mf2x5_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32_v_f32mf2x6_tumu(vbool64_t vm,
                                                vfloat32mf2x6_t vd,
                                                const float *rs1, size_t vl);
```

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vfloat32mf2x7_t __riscv_vlseg7e32_v_f32mf2x7_tumu(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32_v_f32mf2x8_tumu(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32_v_f32m1x2_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                                const float *rs1, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32_v_f32m1x3_tumu(vbool32_t vm, vfloat32m1x3_t vd,
                                                const float *rs1, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32_v_f32m1x4_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                                const float *rs1, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32_v_f32m1x5_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                                const float *rs1, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32_v_f32m1x6_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                                const float *rs1, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32_v_f32m1x7_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                                const float *rs1, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32_v_f32m1x8_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                                const float *rs1, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32_v_f32m2x2_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                                const float *rs1, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32_v_f32m2x3_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                                const float *rs1, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32_v_f32m2x4_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                                const float *rs1, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32_v_f32m4x2_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64_v_f64m1x2_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                                const double *rs1, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64_v_f64m1x3_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                                const double *rs1, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64_v_f64m1x4_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                                const double *rs1, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64_v_f64m1x5_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                                const double *rs1, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64_v_f64m1x6_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                                const double *rs1, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64_v_f64m1x7_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                                const double *rs1, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64_v_f64m1x8_tumu(vbool64_t vm, vfloat64m1x8_t vd,
                                                const double *rs1, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64_v_f64m2x2_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                                const double *rs1, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64_v_f64m2x3_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                                const double *rs1, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64_v_f64m2x4_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                                const double *rs1, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64_v_f64m4x2_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                                const double *rs1, size_t vl);
vfloat16mf4x2_t __riscv_vlseg2e16ff_v_f16mf4x2_tumu(vbool64_t vm,
                                                    vfloat16mf4x2_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16ff_v_f16mf4x3_tumu(vbool64_t vm,
                                                    vfloat16mf4x3_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16ff_v_f16mf4x4_tumu(vbool64_t vm,
                                                    vfloat16mf4x4_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16ff_v_f16mf4x5_tumu(vbool64_t vm,
                                                    vfloat16mf4x5_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16ff_v_f16mf4x6_tumu(vbool64_t vm,
```

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                                                    vfloat16mf4x6_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16ff_v_f16mf4x7_tumu(vbool64_t vm,
                                                    vfloat16mf4x7_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16ff_v_f16mf4x8_tumu(vbool64_t vm,
                                                    vfloat16mf4x8_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16ff_v_f16mf2x2_tumu(vbool32_t vm,
                                                    vfloat16mf2x2_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16ff_v_f16mf2x3_tumu(vbool32_t vm,
                                                    vfloat16mf2x3_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16ff_v_f16mf2x4_tumu(vbool32_t vm,
                                                    vfloat16mf2x4_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16ff_v_f16mf2x5_tumu(vbool32_t vm,
                                                    vfloat16mf2x5_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16ff_v_f16mf2x6_tumu(vbool32_t vm,
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16ff_v_f16mf2x7_tumu(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16ff_v_f16mf2x8_tumu(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16ff_v_f16m1x2_tumu(vbool16_t vm,
                                                  vfloat16m1x2_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16ff_v_f16m1x3_tumu(vbool16_t vm,
                                                  vfloat16m1x3_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16ff_v_f16m1x4_tumu(vbool16_t vm,
                                                  vfloat16m1x4_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16ff_v_f16m1x5_tumu(vbool16_t vm,
                                                  vfloat16m1x5_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16ff_v_f16m1x6_tumu(vbool16_t vm,
                                                  vfloat16m1x6_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16ff_v_f16m1x7_tumu(vbool16_t vm,
                                                  vfloat16m1x7_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16ff_v_f16m1x8_tumu(vbool16_t vm,
                                                  vfloat16m1x8_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
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vfloat16m2x2_t __riscv_vlseg2e16ff_v_f16m2x2_tumu(vbool8_t vm,
                                                  vfloat16m2x2_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16ff_v_f16m2x3_tumu(vbool8_t vm,
                                                  vfloat16m2x3_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16ff_v_f16m2x4_tumu(vbool8_t vm,
                                                  vfloat16m2x4_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16ff_v_f16m4x2_tumu(vbool4_t vm,
                                                  vfloat16m4x2_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32ff_v_f32mf2x2_tumu(vbool64_t vm,
                                                    vfloat32mf2x2_t vd,
                                                    const float *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32ff_v_f32mf2x3_tumu(vbool64_t vm,
                                                    vfloat32mf2x3_t vd,
                                                    const float *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32ff_v_f32mf2x4_tumu(vbool64_t vm,
                                                    vfloat32mf2x4_t vd,
                                                    const float *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32ff_v_f32mf2x5_tumu(vbool64_t vm,
                                                    vfloat32mf2x5_t vd,
                                                    const float *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32ff_v_f32mf2x6_tumu(vbool64_t vm,
                                                    vfloat32mf2x6_t vd,
                                                    const float *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32ff_v_f32mf2x7_tumu(vbool64_t vm,
                                                    vfloat32mf2x7_t vd,
                                                    const float *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32ff_v_f32mf2x8_tumu(vbool64_t vm,
                                                    vfloat32mf2x8_t vd,
                                                    const float *rs1,
                                                    size_t *new_vl, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32ff_v_f32m1x2_tumu(vbool32_t vm,
                                                  vfloat32m1x2_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32ff_v_f32m1x3_tumu(vbool32_t vm,
                                                  vfloat32m1x3_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32ff_v_f32m1x4_tumu(vbool32_t vm,
                                                  vfloat32m1x4_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32ff_v_f32m1x5_tumu(vbool32_t vm,
                                                  vfloat32m1x5_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32ff_v_f32m1x6_tumu(vbool32_t vm,
                                                  vfloat32m1x6_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32ff_v_f32m1x7_tumu(vbool32_t vm,
                                                  vfloat32m1x7_t vd,
                                                  const float *rs1,
```

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                                                size_t *new_vl, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32ff_v_f32m1x8_tumu(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32ff_v_f32m2x2_tumu(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32ff_v_f32m2x3_tumu(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32ff_v_f32m2x4_tumu(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32ff_v_f32m4x2_tumu(vbool8_t vm,
                                                vfloat32m4x2_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64ff_v_f64m1x2_tumu(vbool64_t vm,
                                                vfloat64m1x2_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64ff_v_f64m1x3_tumu(vbool64_t vm,
                                                vfloat64m1x3_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64ff_v_f64m1x4_tumu(vbool64_t vm,
                                                vfloat64m1x4_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64ff_v_f64m1x5_tumu(vbool64_t vm,
                                                vfloat64m1x5_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64ff_v_f64m1x6_tumu(vbool64_t vm,
                                                vfloat64m1x6_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64ff_v_f64m1x7_tumu(vbool64_t vm,
                                                vfloat64m1x7_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64ff_v_f64m1x8_tumu(vbool64_t vm,
                                                vfloat64m1x8_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64ff_v_f64m2x2_tumu(vbool32_t vm,
                                                vfloat64m2x2_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64ff_v_f64m2x3_tumu(vbool32_t vm,
                                                vfloat64m2x3_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64ff_v_f64m2x4_tumu(vbool32_t vm,
                                                vfloat64m2x4_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64ff_v_f64m4x2_tumu(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8_v_i8mf8x2_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                             const int8_t *rs1, size_t vl);
```

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vint8mf8x3_t __riscv_vlseg3e8_v_i8mf8x3_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8_v_i8mf8x4_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8_v_i8mf8x5_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8_v_i8mf8x6_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8_v_i8mf8x7_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8_v_i8mf8x8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8_v_i8mf4x2_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8_v_i8mf4x3_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8_v_i8mf4x4_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8_v_i8mf4x5_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8_v_i8mf4x6_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8_v_i8mf4x7_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8_v_i8mf4x8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8_v_i8mf2x2_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8_v_i8mf2x3_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf2x4_t __riscv_vlseg4e8_v_i8mf2x4_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8_v_i8mf2x5_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8_v_i8mf2x6_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8_v_i8mf2x7_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                             const int8_t *rs1, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8_v_i8mf2x8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                             const int8_t *rs1, size_t vl);
vint8m1x2_t __riscv_vlseg2e8_v_i8m1x2_tumu(vbool8_t vm, vint8m1x2_t vd,
                                           const int8_t *rs1, size_t vl);
vint8m1x3_t __riscv_vlseg3e8_v_i8m1x3_tumu(vbool8_t vm, vint8m1x3_t vd,
                                           const int8_t *rs1, size_t vl);
vint8m1x4_t __riscv_vlseg4e8_v_i8m1x4_tumu(vbool8_t vm, vint8m1x4_t vd,
                                           const int8_t *rs1, size_t vl);
vint8m1x5_t __riscv_vlseg5e8_v_i8m1x5_tumu(vbool8_t vm, vint8m1x5_t vd,
                                           const int8_t *rs1, size_t vl);
vint8m1x6_t __riscv_vlseg6e8_v_i8m1x6_tumu(vbool8_t vm, vint8m1x6_t vd,
                                           const int8_t *rs1, size_t vl);
vint8m1x7_t __riscv_vlseg7e8_v_i8m1x7_tumu(vbool8_t vm, vint8m1x7_t vd,
                                           const int8_t *rs1, size_t vl);
vint8m1x8_t __riscv_vlseg8e8_v_i8m1x8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                           const int8_t *rs1, size_t vl);
vint8m2x2_t __riscv_vlseg2e8_v_i8m2x2_tumu(vbool4_t vm, vint8m2x2_t vd,
                                           const int8_t *rs1, size_t vl);
vint8m2x3_t __riscv_vlseg3e8_v_i8m2x3_tumu(vbool4_t vm, vint8m2x3_t vd,
                                           const int8_t *rs1, size_t vl);
vint8m2x4_t __riscv_vlseg4e8_v_i8m2x4_tumu(vbool4_t vm, vint8m2x4_t vd,
                                           const int8_t *rs1, size_t vl);
vint8m4x2_t __riscv_vlseg2e8_v_i8m4x2_tumu(vbool2_t vm, vint8m4x2_t vd,
                                           const int8_t *rs1, size_t vl);
vint16mf4x2_t __riscv_vlseg2e16_v_i16mf4x2_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16_v_i16mf4x3_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16_v_i16mf4x4_tumu(vbool64_t vm, vint16mf4x4_t vd,
```

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                                                const int16_t *rs1, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16_v_i16mf4x5_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16_v_i16mf4x6_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16_v_i16mf4x7_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16_v_i16mf4x8_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16_v_i16mf2x2_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16_v_i16mf2x3_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16_v_i16mf2x4_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16_v_i16mf2x5_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16_v_i16mf2x6_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16_v_i16mf2x7_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16_v_i16mf2x8_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1, size_t vl);
vint16m1x2_t __riscv_vlseg2e16_v_i16m1x2_tumu(vbool16_t vm, vint16m1x2_t vd,
                                              const int16_t *rs1, size_t vl);
vint16m1x3_t __riscv_vlseg3e16_v_i16m1x3_tumu(vbool16_t vm, vint16m1x3_t vd,
                                              const int16_t *rs1, size_t vl);
vint16m1x4_t __riscv_vlseg4e16_v_i16m1x4_tumu(vbool16_t vm, vint16m1x4_t vd,
                                              const int16_t *rs1, size_t vl);
vint16m1x5_t __riscv_vlseg5e16_v_i16m1x5_tumu(vbool16_t vm, vint16m1x5_t vd,
                                              const int16_t *rs1, size_t vl);
vint16m1x6_t __riscv_vlseg6e16_v_i16m1x6_tumu(vbool16_t vm, vint16m1x6_t vd,
                                              const int16_t *rs1, size_t vl);
vint16m1x7_t __riscv_vlseg7e16_v_i16m1x7_tumu(vbool16_t vm, vint16m1x7_t vd,
                                              const int16_t *rs1, size_t vl);
vint16m1x8_t __riscv_vlseg8e16_v_i16m1x8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                              const int16_t *rs1, size_t vl);
vint16m2x2_t __riscv_vlseg2e16_v_i16m2x2_tumu(vbool8_t vm, vint16m2x2_t vd,
                                              const int16_t *rs1, size_t vl);
vint16m2x3_t __riscv_vlseg3e16_v_i16m2x3_tumu(vbool8_t vm, vint16m2x3_t vd,
                                              const int16_t *rs1, size_t vl);
vint16m2x4_t __riscv_vlseg4e16_v_i16m2x4_tumu(vbool8_t vm, vint16m2x4_t vd,
                                              const int16_t *rs1, size_t vl);
vint16m4x2_t __riscv_vlseg2e16_v_i16m4x2_tumu(vbool4_t vm, vint16m4x2_t vd,
                                              const int16_t *rs1, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32_v_i32mf2x2_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32_v_i32mf2x3_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32_v_i32mf2x4_tumu(vbool64_t vm, vint32mf2x4_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32_v_i32mf2x5_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32_v_i32mf2x6_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32_v_i32mf2x7_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32_v_i32mf2x8_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                                const int32_t *rs1, size_t vl);
vint32m1x2_t __riscv_vlseg2e32_v_i32m1x2_tumu(vbool32_t vm, vint32m1x2_t vd,
                                              const int32_t *rs1, size_t vl);
vint32m1x3_t __riscv_vlseg3e32_v_i32m1x3_tumu(vbool32_t vm, vint32m1x3_t vd,
                                              const int32_t *rs1, size_t vl);
vint32m1x4_t __riscv_vlseg4e32_v_i32m1x4_tumu(vbool32_t vm, vint32m1x4_t vd,
                                              const int32_t *rs1, size_t vl);
vint32m1x5_t __riscv_vlseg5e32_v_i32m1x5_tumu(vbool32_t vm, vint32m1x5_t vd,
                                              const int32_t *rs1, size_t vl);
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vint32m1x6_t __riscv_vlseg6e32_v_i32m1x6_tumu(vbool32_t vm, vint32m1x6_t vd,
                                              const int32_t *rs1, size_t vl);
vint32m1x7_t __riscv_vlseg7e32_v_i32m1x7_tumu(vbool32_t vm, vint32m1x7_t vd,
                                              const int32_t *rs1, size_t vl);
vint32m1x8_t __riscv_vlseg8e32_v_i32m1x8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                              const int32_t *rs1, size_t vl);
vint32m2x2_t __riscv_vlseg2e32_v_i32m2x2_tumu(vbool16_t vm, vint32m2x2_t vd,
                                              const int32_t *rs1, size_t vl);
vint32m2x3_t __riscv_vlseg3e32_v_i32m2x3_tumu(vbool16_t vm, vint32m2x3_t vd,
                                              const int32_t *rs1, size_t vl);
vint32m2x4_t __riscv_vlseg4e32_v_i32m2x4_tumu(vbool16_t vm, vint32m2x4_t vd,
                                              const int32_t *rs1, size_t vl);
vint32m4x2_t __riscv_vlseg2e32_v_i32m4x2_tumu(vbool8_t vm, vint32m4x2_t vd,
                                              const int32_t *rs1, size_t vl);
vint64m1x2_t __riscv_vlseg2e64_v_i64m1x2_tumu(vbool64_t vm, vint64m1x2_t vd,
                                              const int64_t *rs1, size_t vl);
vint64m1x3_t __riscv_vlseg3e64_v_i64m1x3_tumu(vbool64_t vm, vint64m1x3_t vd,
                                              const int64_t *rs1, size_t vl);
vint64m1x4_t __riscv_vlseg4e64_v_i64m1x4_tumu(vbool64_t vm, vint64m1x4_t vd,
                                              const int64_t *rs1, size_t vl);
vint64m1x5_t __riscv_vlseg5e64_v_i64m1x5_tumu(vbool64_t vm, vint64m1x5_t vd,
                                              const int64_t *rs1, size_t vl);
vint64m1x6_t __riscv_vlseg6e64_v_i64m1x6_tumu(vbool64_t vm, vint64m1x6_t vd,
                                              const int64_t *rs1, size_t vl);
vint64m1x7_t __riscv_vlseg7e64_v_i64m1x7_tumu(vbool64_t vm, vint64m1x7_t vd,
                                              const int64_t *rs1, size_t vl);
vint64m1x8_t __riscv_vlseg8e64_v_i64m1x8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                              const int64_t *rs1, size_t vl);
vint64m2x2_t __riscv_vlseg2e64_v_i64m2x2_tumu(vbool32_t vm, vint64m2x2_t vd,
                                              const int64_t *rs1, size_t vl);
vint64m2x3_t __riscv_vlseg3e64_v_i64m2x3_tumu(vbool32_t vm, vint64m2x3_t vd,
                                              const int64_t *rs1, size_t vl);
vint64m2x4_t __riscv_vlseg4e64_v_i64m2x4_tumu(vbool32_t vm, vint64m2x4_t vd,
                                              const int64_t *rs1, size_t vl);
vint64m4x2_t __riscv_vlseg2e64_v_i64m4x2_tumu(vbool16_t vm, vint64m4x2_t vd,
                                              const int64_t *rs1, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8ff_v_i8mf8x2_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                               const int8_t *rs1,
                                               size_t *new_vl, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8ff_v_i8mf8x3_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                               const int8_t *rs1,
                                               size_t *new_vl, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8ff_v_i8mf8x4_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                               const int8_t *rs1,
                                               size_t *new_vl, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8ff_v_i8mf8x5_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                               const int8_t *rs1,
                                               size_t *new_vl, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8ff_v_i8mf8x6_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                               const int8_t *rs1,
                                               size_t *new_vl, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8ff_v_i8mf8x7_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                               const int8_t *rs1,
                                               size_t *new_vl, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8ff_v_i8mf8x8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                               const int8_t *rs1,
                                               size_t *new_vl, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8ff_v_i8mf4x2_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                               const int8_t *rs1,
                                               size_t *new_vl, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8ff_v_i8mf4x3_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                               const int8_t *rs1,
                                               size_t *new_vl, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8ff_v_i8mf4x4_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                               const int8_t *rs1,
                                               size_t *new_vl, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8ff_v_i8mf4x5_tumu(vbool32_t vm, vint8mf4x5_t vd,
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                                            const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8ff_v_i8mf4x6_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                            const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8ff_v_i8mf4x7_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                            const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8ff_v_i8mf4x8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                            const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8ff_v_i8mf2x2_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                            const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8ff_v_i8mf2x3_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                            const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x4_t __riscv_vlseg4e8ff_v_i8mf2x4_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                            const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8ff_v_i8mf2x5_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                            const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8ff_v_i8mf2x6_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                            const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8ff_v_i8mf2x7_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                            const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8ff_v_i8mf2x8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                            const int8_t *rs1,
                                            size_t *new_vl, size_t vl);
vint8m1x2_t __riscv_vlseg2e8ff_v_i8m1x2_tumu(vbool8_t vm, vint8m1x2_t vd,
                                          const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8m1x3_t __riscv_vlseg3e8ff_v_i8m1x3_tumu(vbool8_t vm, vint8m1x3_t vd,
                                          const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8m1x4_t __riscv_vlseg4e8ff_v_i8m1x4_tumu(vbool8_t vm, vint8m1x4_t vd,
                                          const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8m1x5_t __riscv_vlseg5e8ff_v_i8m1x5_tumu(vbool8_t vm, vint8m1x5_t vd,
                                          const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8m1x6_t __riscv_vlseg6e8ff_v_i8m1x6_tumu(vbool8_t vm, vint8m1x6_t vd,
                                          const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8m1x7_t __riscv_vlseg7e8ff_v_i8m1x7_tumu(vbool8_t vm, vint8m1x7_t vd,
                                          const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8m1x8_t __riscv_vlseg8e8ff_v_i8m1x8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                          const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8m2x2_t __riscv_vlseg2e8ff_v_i8m2x2_tumu(vbool4_t vm, vint8m2x2_t vd,
                                          const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8m2x3_t __riscv_vlseg3e8ff_v_i8m2x3_tumu(vbool4_t vm, vint8m2x3_t vd,
                                          const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8m2x4_t __riscv_vlseg4e8ff_v_i8m2x4_tumu(vbool4_t vm, vint8m2x4_t vd,
                                          const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint8m4x2_t __riscv_vlseg2e8ff_v_i8m4x2_tumu(vbool2_t vm, vint8m4x2_t vd,
                                          const int8_t *rs1, size_t *new_vl,
                                          size_t vl);
vint16mf4x2_t __riscv_vlseg2e16ff_v_i16mf4x2_tumu(vbool64_t vm,
                                              vint16mf4x2_t vd,
```

```
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16ff_v_i16mf4x3_tumu(vbool64_t vm,
                                                vint16mf4x3_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16ff_v_i16mf4x4_tumu(vbool64_t vm,
                                                vint16mf4x4_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16ff_v_i16mf4x5_tumu(vbool64_t vm,
                                                vint16mf4x5_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16ff_v_i16mf4x6_tumu(vbool64_t vm,
                                                vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16ff_v_i16mf4x7_tumu(vbool64_t vm,
                                                vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16ff_v_i16mf4x8_tumu(vbool64_t vm,
                                                vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16ff_v_i16mf2x2_tumu(vbool32_t vm,
                                                vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16ff_v_i16mf2x3_tumu(vbool32_t vm,
                                                vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16ff_v_i16mf2x4_tumu(vbool32_t vm,
                                                vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16ff_v_i16mf2x5_tumu(vbool32_t vm,
                                                vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16ff_v_i16mf2x6_tumu(vbool32_t vm,
                                                vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16ff_v_i16mf2x7_tumu(vbool32_t vm,
                                                vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16ff_v_i16mf2x8_tumu(vbool32_t vm,
                                                vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x2_t __riscv_vlseg2e16ff_v_i16m1x2_tumu(vbool16_t vm, vint16m1x2_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x3_t __riscv_vlseg3e16ff_v_i16m1x3_tumu(vbool16_t vm, vint16m1x3_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x4_t __riscv_vlseg4e16ff_v_i16m1x4_tumu(vbool16_t vm, vint16m1x4_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x5_t __riscv_vlseg5e16ff_v_i16m1x5_tumu(vbool16_t vm, vint16m1x5_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x6_t __riscv_vlseg6e16ff_v_i16m1x6_tumu(vbool16_t vm, vint16m1x6_t vd,
```

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                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x7_t __riscv_vlseg7e16ff_v_i16m1x7_tumu(vbool16_t vm, vint16m1x7_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x8_t __riscv_vlseg8e16ff_v_i16m1x8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m2x2_t __riscv_vlseg2e16ff_v_i16m2x2_tumu(vbool8_t vm, vint16m2x2_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m2x3_t __riscv_vlseg3e16ff_v_i16m2x3_tumu(vbool8_t vm, vint16m2x3_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m2x4_t __riscv_vlseg4e16ff_v_i16m2x4_tumu(vbool8_t vm, vint16m2x4_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m4x2_t __riscv_vlseg2e16ff_v_i16m4x2_tumu(vbool4_t vm, vint16m4x2_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32ff_v_i32mf2x2_tumu(vbool64_t vm,
                                                  vint32mf2x2_t vd,
                                                  const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32ff_v_i32mf2x3_tumu(vbool64_t vm,
                                                  vint32mf2x3_t vd,
                                                  const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32ff_v_i32mf2x4_tumu(vbool64_t vm,
                                                  vint32mf2x4_t vd,
                                                  const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32ff_v_i32mf2x5_tumu(vbool64_t vm,
                                                  vint32mf2x5_t vd,
                                                  const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32ff_v_i32mf2x6_tumu(vbool64_t vm,
                                                  vint32mf2x6_t vd,
                                                  const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32ff_v_i32mf2x7_tumu(vbool64_t vm,
                                                  vint32mf2x7_t vd,
                                                  const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32ff_v_i32mf2x8_tumu(vbool64_t vm,
                                                  vint32mf2x8_t vd,
                                                  const int32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vint32m1x2_t __riscv_vlseg2e32ff_v_i32m1x2_tumu(vbool32_t vm, vint32m1x2_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x3_t __riscv_vlseg3e32ff_v_i32m1x3_tumu(vbool32_t vm, vint32m1x3_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x4_t __riscv_vlseg4e32ff_v_i32m1x4_tumu(vbool32_t vm, vint32m1x4_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x5_t __riscv_vlseg5e32ff_v_i32m1x5_tumu(vbool32_t vm, vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x6_t __riscv_vlseg6e32ff_v_i32m1x6_tumu(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x7_t __riscv_vlseg7e32ff_v_i32m1x7_tumu(vbool32_t vm, vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x8_t __riscv_vlseg8e32ff_v_i32m1x8_tumu(vbool32_t vm, vint32m1x8_t vd,
```

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                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m2x2_t __riscv_vlseg2e32ff_v_i32m2x2_tumu(vbool16_t vm, vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m2x3_t __riscv_vlseg3e32ff_v_i32m2x3_tumu(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m2x4_t __riscv_vlseg4e32ff_v_i32m2x4_tumu(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m4x2_t __riscv_vlseg2e32ff_v_i32m4x2_tumu(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x2_t __riscv_vlseg2e64ff_v_i64m1x2_tumu(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x3_t __riscv_vlseg3e64ff_v_i64m1x3_tumu(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x4_t __riscv_vlseg4e64ff_v_i64m1x4_tumu(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x5_t __riscv_vlseg5e64ff_v_i64m1x5_tumu(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x6_t __riscv_vlseg6e64ff_v_i64m1x6_tumu(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x7_t __riscv_vlseg7e64ff_v_i64m1x7_tumu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m1x8_t __riscv_vlseg8e64ff_v_i64m1x8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m2x2_t __riscv_vlseg2e64ff_v_i64m2x2_tumu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m2x3_t __riscv_vlseg3e64ff_v_i64m2x3_tumu(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m2x4_t __riscv_vlseg4e64ff_v_i64m2x4_tumu(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vint64m4x2_t __riscv_vlseg2e64ff_v_i64m4x2_tumu(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8_v_u8mf8x2_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8_v_u8mf8x3_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8_v_u8mf8x4_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8_v_u8mf8x5_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8_v_u8mf8x6_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8_v_u8mf8x7_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8_v_u8mf8x8_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8_v_u8mf4x2_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8_v_u8mf4x3_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8_v_u8mf4x4_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                              const uint8_t *rs1, size_t vl);
```

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vuint8mf4x5_t __riscv_vlseg5e8_v_u8mf4x5_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8_v_u8mf4x6_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8_v_u8mf4x7_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8_v_u8mf4x8_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8_v_u8mf2x2_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8_v_u8mf2x3_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8_v_u8mf2x4_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8_v_u8mf2x5_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8_v_u8mf2x6_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8_v_u8mf2x7_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8_v_u8mf2x8_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                              const uint8_t *rs1, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8_v_u8m1x2_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8_v_u8m1x3_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8_v_u8m1x4_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8_v_u8m1x5_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8_v_u8m1x6_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8m1x7_t __riscv_vlseg7e8_v_u8m1x7_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8_v_u8m1x8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8_v_u8m2x2_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8_v_u8m2x3_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8_v_u8m2x4_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8_v_u8m4x2_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                            const uint8_t *rs1, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16_v_u16mf4x2_tumu(vbool64_t vm,
                                                 vuint16mf4x2_t vd,
                                                 const uint16_t *rs1,
                                                 size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16_v_u16mf4x3_tumu(vbool64_t vm,
                                                 vuint16mf4x3_t vd,
                                                 const uint16_t *rs1,
                                                 size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16_v_u16mf4x4_tumu(vbool64_t vm,
                                                 vuint16mf4x4_t vd,
                                                 const uint16_t *rs1,
                                                 size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16_v_u16mf4x5_tumu(vbool64_t vm,
                                                 vuint16mf4x5_t vd,
                                                 const uint16_t *rs1,
                                                 size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16_v_u16mf4x6_tumu(vbool64_t vm,
                                                 vuint16mf4x6_t vd,
                                                 const uint16_t *rs1,
                                                 size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16_v_u16mf4x7_tumu(vbool64_t vm,
                                                 vuint16mf4x7_t vd,
                                                 const uint16_t *rs1,
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                                                size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16_v_u16mf4x8_tumu(vbool64_t vm,
                                                vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16_v_u16mf2x2_tumu(vbool32_t vm,
                                                vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16_v_u16mf2x3_tumu(vbool32_t vm,
                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16_v_u16mf2x4_tumu(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16_v_u16mf2x5_tumu(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16_v_u16mf2x6_tumu(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16_v_u16mf2x7_tumu(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16_v_u16mf2x8_tumu(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                size_t vl);
vuint16m1x2_t __riscv_vlseg2e16_v_u16m1x2_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16_v_u16m1x3_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16_v_u16m1x4_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16_v_u16m1x5_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16_v_u16m1x6_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16_v_u16m1x7_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16_v_u16m1x8_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16_v_u16m2x2_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16_v_u16m2x3_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16_v_u16m2x4_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16_v_u16m4x2_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32_v_u32mf2x2_tumu(vbool64_t vm,
                                                vuint32mf2x2_t vd,
                                                const uint32_t *rs1,
                                                size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32_v_u32mf2x3_tumu(vbool64_t vm,
                                                vuint32mf2x3_t vd,
                                                const uint32_t *rs1,
                                                size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32_v_u32mf2x4_tumu(vbool64_t vm,
                                                vuint32mf2x4_t vd,
                                                const uint32_t *rs1,
                                                size_t vl);
```

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vuint32mf2x5_t __riscv_vlseg5e32_v_u32mf2x5_tumu(vbool64_t vm,
                                                 vuint32mf2x5_t vd,
                                                 const uint32_t *rs1,
                                                 size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32_v_u32mf2x6_tumu(vbool64_t vm,
                                                 vuint32mf2x6_t vd,
                                                 const uint32_t *rs1,
                                                 size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32_v_u32mf2x7_tumu(vbool64_t vm,
                                                 vuint32mf2x7_t vd,
                                                 const uint32_t *rs1,
                                                 size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32_v_u32mf2x8_tumu(vbool64_t vm,
                                                 vuint32mf2x8_t vd,
                                                 const uint32_t *rs1,
                                                 size_t vl);
vuint32m1x2_t __riscv_vlseg2e32_v_u32m1x2_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32_v_u32m1x3_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32_v_u32m1x4_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32_v_u32m1x5_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32_v_u32m1x6_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32_v_u32m1x7_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32_v_u32m1x8_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32_v_u32m2x2_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32_v_u32m2x3_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32_v_u32m2x4_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32_v_u32m4x2_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64_v_u64m1x2_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                               const uint64_t *rs1, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64_v_u64m1x3_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                               const uint64_t *rs1, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64_v_u64m1x4_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                               const uint64_t *rs1, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64_v_u64m1x5_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                               const uint64_t *rs1, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64_v_u64m1x6_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                               const uint64_t *rs1, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64_v_u64m1x7_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                               const uint64_t *rs1, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64_v_u64m1x8_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                               const uint64_t *rs1, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64_v_u64m2x2_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                               const uint64_t *rs1, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64_v_u64m2x3_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                               const uint64_t *rs1, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64_v_u64m2x4_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                               const uint64_t *rs1, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64_v_u64m4x2_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                               const uint64_t *rs1, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8ff_v_u8mf8x2_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8ff_v_u8mf8x3_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8ff_v_u8mf8x4_tumu(vbool64_t vm, vuint8mf8x4_t vd,
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                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8ff_v_u8mf8x5_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8ff_v_u8mf8x6_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8ff_v_u8mf8x7_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8ff_v_u8mf8x8_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8ff_v_u8mf4x2_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8ff_v_u8mf4x3_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8ff_v_u8mf4x4_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8ff_v_u8mf4x5_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8ff_v_u8mf4x6_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8ff_v_u8mf4x7_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8ff_v_u8mf4x8_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8ff_v_u8mf2x2_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8ff_v_u8mf2x3_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8ff_v_u8mf2x4_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8ff_v_u8mf2x5_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8ff_v_u8mf2x6_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8ff_v_u8mf2x7_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8ff_v_u8mf2x8_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8ff_v_u8m1x2_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8ff_v_u8m1x3_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8ff_v_u8m1x4_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8ff_v_u8m1x5_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                              const uint8_t *rs1,
```

```
                                            size_t *new_vl, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8ff_v_u8m1x6_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m1x7_t __riscv_vlseg7e8ff_v_u8m1x7_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8ff_v_u8m1x8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8ff_v_u8m2x2_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8ff_v_u8m2x3_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8ff_v_u8m2x4_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8ff_v_u8m4x2_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                            const uint8_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16ff_v_u16mf4x2_tumu(vbool64_t vm,
                                                vuint16mf4x2_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16ff_v_u16mf4x3_tumu(vbool64_t vm,
                                                vuint16mf4x3_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16ff_v_u16mf4x4_tumu(vbool64_t vm,
                                                vuint16mf4x4_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16ff_v_u16mf4x5_tumu(vbool64_t vm,
                                                vuint16mf4x5_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16ff_v_u16mf4x6_tumu(vbool64_t vm,
                                                vuint16mf4x6_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16ff_v_u16mf4x7_tumu(vbool64_t vm,
                                                vuint16mf4x7_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16ff_v_u16mf4x8_tumu(vbool64_t vm,
                                                vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16ff_v_u16mf2x2_tumu(vbool32_t vm,
                                                vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16ff_v_u16mf2x3_tumu(vbool32_t vm,
                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16ff_v_u16mf2x4_tumu(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16ff_v_u16mf2x5_tumu(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16ff_v_u16mf2x6_tumu(vbool32_t vm,
```

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                                                    vuint16mf2x6_t vd,
                                                    const uint16_t *rs1,
                                                    size_t *new_vl, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16ff_v_u16mf2x7_tumu(vbool32_t vm,
                                                    vuint16mf2x7_t vd,
                                                    const uint16_t *rs1,
                                                    size_t *new_vl, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16ff_v_u16mf2x8_tumu(vbool32_t vm,
                                                    vuint16mf2x8_t vd,
                                                    const uint16_t *rs1,
                                                    size_t *new_vl, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16ff_v_u16m1x2_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16ff_v_u16m1x3_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16ff_v_u16m1x4_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16ff_v_u16m1x5_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16ff_v_u16m1x6_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16ff_v_u16m1x7_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16ff_v_u16m1x8_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16ff_v_u16m2x2_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16ff_v_u16m2x3_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16ff_v_u16m2x4_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16ff_v_u16m4x2_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32ff_v_u32mf2x2_tumu(vbool64_t vm,
                                                    vuint32mf2x2_t vd,
                                                    const uint32_t *rs1,
                                                    size_t *new_vl, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32ff_v_u32mf2x3_tumu(vbool64_t vm,
                                                    vuint32mf2x3_t vd,
                                                    const uint32_t *rs1,
                                                    size_t *new_vl, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32ff_v_u32mf2x4_tumu(vbool64_t vm,
                                                    vuint32mf2x4_t vd,
                                                    const uint32_t *rs1,
                                                    size_t *new_vl, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32ff_v_u32mf2x5_tumu(vbool64_t vm,
                                                    vuint32mf2x5_t vd,
                                                    const uint32_t *rs1,
                                                    size_t *new_vl, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32ff_v_u32mf2x6_tumu(vbool64_t vm,
                                                    vuint32mf2x6_t vd,
                                                    const uint32_t *rs1,
                                                    size_t *new_vl, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32ff_v_u32mf2x7_tumu(vbool64_t vm,
                                                    vuint32mf2x7_t vd,
                                                    const uint32_t *rs1,
```

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                                                    size_t *new_vl, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32ff_v_u32mf2x8_tumu(vbool64_t vm,
                                                    vuint32mf2x8_t vd,
                                                    const uint32_t *rs1,
                                                    size_t *new_vl, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32ff_v_u32m1x2_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32ff_v_u32m1x3_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32ff_v_u32m1x4_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32ff_v_u32m1x5_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32ff_v_u32m1x6_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32ff_v_u32m1x7_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32ff_v_u32m1x8_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32ff_v_u32m2x2_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32ff_v_u32m2x3_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32ff_v_u32m2x4_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32ff_v_u32m4x2_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                                 const uint32_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64ff_v_u64m1x2_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                                 const uint64_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64ff_v_u64m1x3_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                                 const uint64_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64ff_v_u64m1x4_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                                 const uint64_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64ff_v_u64m1x5_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                                 const uint64_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64ff_v_u64m1x6_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                                 const uint64_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64ff_v_u64m1x7_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                                 const uint64_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64ff_v_u64m1x8_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                                 const uint64_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64ff_v_u64m2x2_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                                 const uint64_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64ff_v_u64m2x3_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                                 const uint64_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64ff_v_u64m2x4_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                                 const uint64_t *rs1,
```

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                                                size_t *new_vl, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64ff_v_u64m4x2_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                                 const uint64_t *rs1,
                                                 size_t *new_vl, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlseg2e16_v_f16mf4x2_mu(vbool64_t vm,
                                                vfloat16mf4x2_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16_v_f16mf4x3_mu(vbool64_t vm,
                                                vfloat16mf4x3_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16_v_f16mf4x4_mu(vbool64_t vm,
                                                vfloat16mf4x4_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16_v_f16mf4x5_mu(vbool64_t vm,
                                                vfloat16mf4x5_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16_v_f16mf4x6_mu(vbool64_t vm,
                                                vfloat16mf4x6_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16_v_f16mf4x7_mu(vbool64_t vm,
                                                vfloat16mf4x7_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16_v_f16mf4x8_mu(vbool64_t vm,
                                                vfloat16mf4x8_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16_v_f16mf2x2_mu(vbool32_t vm,
                                                vfloat16mf2x2_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16_v_f16mf2x3_mu(vbool32_t vm,
                                                vfloat16mf2x3_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16_v_f16mf2x4_mu(vbool32_t vm,
                                                vfloat16mf2x4_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16_v_f16mf2x5_mu(vbool32_t vm,
                                                vfloat16mf2x5_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16_v_f16mf2x6_mu(vbool32_t vm,
                                                vfloat16mf2x6_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16_v_f16mf2x7_mu(vbool32_t vm,
                                                vfloat16mf2x7_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16_v_f16mf2x8_mu(vbool32_t vm,
                                                vfloat16mf2x8_t vd,
                                                const _Float16 *rs1, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16_v_f16m1x2_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16_v_f16m1x3_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16_v_f16m1x4_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16_v_f16m1x5_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16_v_f16m1x6_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16_v_f16m1x7_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16_v_f16m1x8_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16_v_f16m2x2_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16_v_f16m2x3_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16_v_f16m2x4_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                              const _Float16 *rs1, size_t vl);
```

```
vfloat16m4x2_t __riscv_vlseg2e16_v_f16m4x2_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                              const _Float16 *rs1, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32_v_f32mf2x2_mu(vbool64_t vm,
                                                vfloat32mf2x2_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32_v_f32mf2x3_mu(vbool64_t vm,
                                                vfloat32mf2x3_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32_v_f32mf2x4_mu(vbool64_t vm,
                                                vfloat32mf2x4_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32_v_f32mf2x5_mu(vbool64_t vm,
                                                vfloat32mf2x5_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32_v_f32mf2x6_mu(vbool64_t vm,
                                                vfloat32mf2x6_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32_v_f32mf2x7_mu(vbool64_t vm,
                                                vfloat32mf2x7_t vd,
                                                const float *rs1, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32_v_f32mf2x8_mu(vbool64_t vm,
                                                vfloat32mf2x8_t vd,
                                                const float *rs1, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32_v_f32m1x2_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                              const float *rs1, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32_v_f32m1x3_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                              const float *rs1, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32_v_f32m1x4_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                              const float *rs1, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32_v_f32m1x5_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                              const float *rs1, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32_v_f32m1x6_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                              const float *rs1, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32_v_f32m1x7_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                              const float *rs1, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32_v_f32m1x8_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                              const float *rs1, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32_v_f32m2x2_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                              const float *rs1, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32_v_f32m2x3_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                              const float *rs1, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32_v_f32m2x4_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                              const float *rs1, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32_v_f32m4x2_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                              const float *rs1, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64_v_f64m1x2_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64_v_f64m1x3_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64_v_f64m1x4_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64_v_f64m1x5_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64_v_f64m1x6_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64_v_f64m1x7_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                              const double *rs1, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64_v_f64m1x8_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                              const double *rs1, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64_v_f64m2x2_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                              const double *rs1, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64_v_f64m2x3_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                              const double *rs1, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64_v_f64m2x4_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                              const double *rs1, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64_v_f64m4x2_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                              const double *rs1, size_t vl);
```

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vfloat16mf4x2_t __riscv_vlseg2e16ff_v_f16mf4x2_mu(vbool64_t vm,
                                                  vfloat16mf4x2_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16ff_v_f16mf4x3_mu(vbool64_t vm,
                                                  vfloat16mf4x3_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16ff_v_f16mf4x4_mu(vbool64_t vm,
                                                  vfloat16mf4x4_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16ff_v_f16mf4x5_mu(vbool64_t vm,
                                                  vfloat16mf4x5_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16ff_v_f16mf4x6_mu(vbool64_t vm,
                                                  vfloat16mf4x6_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16ff_v_f16mf4x7_mu(vbool64_t vm,
                                                  vfloat16mf4x7_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16ff_v_f16mf4x8_mu(vbool64_t vm,
                                                  vfloat16mf4x8_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16ff_v_f16mf2x2_mu(vbool32_t vm,
                                                  vfloat16mf2x2_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16ff_v_f16mf2x3_mu(vbool32_t vm,
                                                  vfloat16mf2x3_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16ff_v_f16mf2x4_mu(vbool32_t vm,
                                                  vfloat16mf2x4_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16ff_v_f16mf2x5_mu(vbool32_t vm,
                                                  vfloat16mf2x5_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16ff_v_f16mf2x6_mu(vbool32_t vm,
                                                  vfloat16mf2x6_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16ff_v_f16mf2x7_mu(vbool32_t vm,
                                                  vfloat16mf2x7_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16ff_v_f16mf2x8_mu(vbool32_t vm,
                                                  vfloat16mf2x8_t vd,
                                                  const _Float16 *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16ff_v_f16m1x2_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16ff_v_f16m1x3_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16ff_v_f16m1x4_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16ff_v_f16m1x5_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
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                                                size_t *new_vl, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16ff_v_f16m1x6_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16ff_v_f16m1x7_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16ff_v_f16m1x8_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16ff_v_f16m2x2_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16ff_v_f16m2x3_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16ff_v_f16m2x4_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16ff_v_f16m4x2_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32ff_v_f32mf2x2_mu(vbool64_t vm,
                                                  vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32ff_v_f32mf2x3_mu(vbool64_t vm,
                                                  vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32ff_v_f32mf2x4_mu(vbool64_t vm,
                                                  vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32ff_v_f32mf2x5_mu(vbool64_t vm,
                                                  vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32ff_v_f32mf2x6_mu(vbool64_t vm,
                                                  vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32ff_v_f32mf2x7_mu(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32ff_v_f32mf2x8_mu(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  size_t *new_vl, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32ff_v_f32m1x2_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32ff_v_f32m1x3_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32ff_v_f32m1x4_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32ff_v_f32m1x5_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32ff_v_f32m1x6_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32ff_v_f32m1x7_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                                const float *rs1,
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                                                size_t *new_vl, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32ff_v_f32m1x8_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32ff_v_f32m2x2_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32ff_v_f32m2x3_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32ff_v_f32m2x4_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32ff_v_f32m4x2_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64ff_v_f64m1x2_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64ff_v_f64m1x3_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64ff_v_f64m1x4_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64ff_v_f64m1x5_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64ff_v_f64m1x6_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64ff_v_f64m1x7_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64ff_v_f64m1x8_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64ff_v_f64m2x2_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64ff_v_f64m2x3_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64ff_v_f64m2x4_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64ff_v_f64m4x2_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                                const double *rs1,
                                                size_t *new_vl, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8_v_i8mf8x2_mu(vbool64_t vm, vint8mf8x2_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8_v_i8mf8x3_mu(vbool64_t vm, vint8mf8x3_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8_v_i8mf8x4_mu(vbool64_t vm, vint8mf8x4_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8_v_i8mf8x5_mu(vbool64_t vm, vint8mf8x5_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8_v_i8mf8x6_mu(vbool64_t vm, vint8mf8x6_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8_v_i8mf8x7_mu(vbool64_t vm, vint8mf8x7_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8_v_i8mf8x8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8_v_i8mf4x2_mu(vbool32_t vm, vint8mf4x2_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8_v_i8mf4x3_mu(vbool32_t vm, vint8mf4x3_t vd,
                                           const int8_t *rs1, size_t vl);
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vint8mf4x4_t __riscv_vlseg4e8_v_i8mf4x4_mu(vbool32_t vm, vint8mf4x4_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8_v_i8mf4x5_mu(vbool32_t vm, vint8mf4x5_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8_v_i8mf4x6_mu(vbool32_t vm, vint8mf4x6_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8_v_i8mf4x7_mu(vbool32_t vm, vint8mf4x7_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8_v_i8mf4x8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8_v_i8mf2x2_mu(vbool16_t vm, vint8mf2x2_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8_v_i8mf2x3_mu(vbool16_t vm, vint8mf2x3_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf2x4_t __riscv_vlseg4e8_v_i8mf2x4_mu(vbool16_t vm, vint8mf2x4_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8_v_i8mf2x5_mu(vbool16_t vm, vint8mf2x5_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8_v_i8mf2x6_mu(vbool16_t vm, vint8mf2x6_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8_v_i8mf2x7_mu(vbool16_t vm, vint8mf2x7_t vd,
                                           const int8_t *rs1, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8_v_i8mf2x8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                           const int8_t *rs1, size_t vl);
vint8m1x2_t __riscv_vlseg2e8_v_i8m1x2_mu(vbool8_t vm, vint8m1x2_t vd,
                                         const int8_t *rs1, size_t vl);
vint8m1x3_t __riscv_vlseg3e8_v_i8m1x3_mu(vbool8_t vm, vint8m1x3_t vd,
                                         const int8_t *rs1, size_t vl);
vint8m1x4_t __riscv_vlseg4e8_v_i8m1x4_mu(vbool8_t vm, vint8m1x4_t vd,
                                         const int8_t *rs1, size_t vl);
vint8m1x5_t __riscv_vlseg5e8_v_i8m1x5_mu(vbool8_t vm, vint8m1x5_t vd,
                                         const int8_t *rs1, size_t vl);
vint8m1x6_t __riscv_vlseg6e8_v_i8m1x6_mu(vbool8_t vm, vint8m1x6_t vd,
                                         const int8_t *rs1, size_t vl);
vint8m1x7_t __riscv_vlseg7e8_v_i8m1x7_mu(vbool8_t vm, vint8m1x7_t vd,
                                         const int8_t *rs1, size_t vl);
vint8m1x8_t __riscv_vlseg8e8_v_i8m1x8_mu(vbool8_t vm, vint8m1x8_t vd,
                                         const int8_t *rs1, size_t vl);
vint8m2x2_t __riscv_vlseg2e8_v_i8m2x2_mu(vbool4_t vm, vint8m2x2_t vd,
                                         const int8_t *rs1, size_t vl);
vint8m2x3_t __riscv_vlseg3e8_v_i8m2x3_mu(vbool4_t vm, vint8m2x3_t vd,
                                         const int8_t *rs1, size_t vl);
vint8m2x4_t __riscv_vlseg4e8_v_i8m2x4_mu(vbool4_t vm, vint8m2x4_t vd,
                                         const int8_t *rs1, size_t vl);
vint8m4x2_t __riscv_vlseg2e8_v_i8m4x2_mu(vbool2_t vm, vint8m4x2_t vd,
                                         const int8_t *rs1, size_t vl);
vint16mf4x2_t __riscv_vlseg2e16_v_i16mf4x2_mu(vbool64_t vm, vint16mf4x2_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16_v_i16mf4x3_mu(vbool64_t vm, vint16mf4x3_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16_v_i16mf4x4_mu(vbool64_t vm, vint16mf4x4_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16_v_i16mf4x5_mu(vbool64_t vm, vint16mf4x5_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16_v_i16mf4x6_mu(vbool64_t vm, vint16mf4x6_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16_v_i16mf4x7_mu(vbool64_t vm, vint16mf4x7_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16_v_i16mf4x8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16_v_i16mf2x2_mu(vbool32_t vm, vint16mf2x2_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16_v_i16mf2x3_mu(vbool32_t vm, vint16mf2x3_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16_v_i16mf2x4_mu(vbool32_t vm, vint16mf2x4_t vd,
                                              const int16_t *rs1, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16_v_i16mf2x5_mu(vbool32_t vm, vint16mf2x5_t vd,
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                                                const int16_t *rs1, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16_v_i16mf2x6_mu(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16_v_i16mf2x7_mu(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16_v_i16mf2x8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1, size_t vl);
vint16m1x2_t __riscv_vlseg2e16_v_i16m1x2_mu(vbool16_t vm, vint16m1x2_t vd,
                                            const int16_t *rs1, size_t vl);
vint16m1x3_t __riscv_vlseg3e16_v_i16m1x3_mu(vbool16_t vm, vint16m1x3_t vd,
                                            const int16_t *rs1, size_t vl);
vint16m1x4_t __riscv_vlseg4e16_v_i16m1x4_mu(vbool16_t vm, vint16m1x4_t vd,
                                            const int16_t *rs1, size_t vl);
vint16m1x5_t __riscv_vlseg5e16_v_i16m1x5_mu(vbool16_t vm, vint16m1x5_t vd,
                                            const int16_t *rs1, size_t vl);
vint16m1x6_t __riscv_vlseg6e16_v_i16m1x6_mu(vbool16_t vm, vint16m1x6_t vd,
                                            const int16_t *rs1, size_t vl);
vint16m1x7_t __riscv_vlseg7e16_v_i16m1x7_mu(vbool16_t vm, vint16m1x7_t vd,
                                            const int16_t *rs1, size_t vl);
vint16m1x8_t __riscv_vlseg8e16_v_i16m1x8_mu(vbool16_t vm, vint16m1x8_t vd,
                                            const int16_t *rs1, size_t vl);
vint16m2x2_t __riscv_vlseg2e16_v_i16m2x2_mu(vbool8_t vm, vint16m2x2_t vd,
                                            const int16_t *rs1, size_t vl);
vint16m2x3_t __riscv_vlseg3e16_v_i16m2x3_mu(vbool8_t vm, vint16m2x3_t vd,
                                            const int16_t *rs1, size_t vl);
vint16m2x4_t __riscv_vlseg4e16_v_i16m2x4_mu(vbool8_t vm, vint16m2x4_t vd,
                                            const int16_t *rs1, size_t vl);
vint16m4x2_t __riscv_vlseg2e16_v_i16m4x2_mu(vbool4_t vm, vint16m4x2_t vd,
                                            const int16_t *rs1, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32_v_i32mf2x2_mu(vbool64_t vm, vint32mf2x2_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32_v_i32mf2x3_mu(vbool64_t vm, vint32mf2x3_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32_v_i32mf2x4_mu(vbool64_t vm, vint32mf2x4_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32_v_i32mf2x5_mu(vbool64_t vm, vint32mf2x5_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32_v_i32mf2x6_mu(vbool64_t vm, vint32mf2x6_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32_v_i32mf2x7_mu(vbool64_t vm, vint32mf2x7_t vd,
                                                const int32_t *rs1, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32_v_i32mf2x8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                                const int32_t *rs1, size_t vl);
vint32m1x2_t __riscv_vlseg2e32_v_i32m1x2_mu(vbool32_t vm, vint32m1x2_t vd,
                                            const int32_t *rs1, size_t vl);
vint32m1x3_t __riscv_vlseg3e32_v_i32m1x3_mu(vbool32_t vm, vint32m1x3_t vd,
                                            const int32_t *rs1, size_t vl);
vint32m1x4_t __riscv_vlseg4e32_v_i32m1x4_mu(vbool32_t vm, vint32m1x4_t vd,
                                            const int32_t *rs1, size_t vl);
vint32m1x5_t __riscv_vlseg5e32_v_i32m1x5_mu(vbool32_t vm, vint32m1x5_t vd,
                                            const int32_t *rs1, size_t vl);
vint32m1x6_t __riscv_vlseg6e32_v_i32m1x6_mu(vbool32_t vm, vint32m1x6_t vd,
                                            const int32_t *rs1, size_t vl);
vint32m1x7_t __riscv_vlseg7e32_v_i32m1x7_mu(vbool32_t vm, vint32m1x7_t vd,
                                            const int32_t *rs1, size_t vl);
vint32m1x8_t __riscv_vlseg8e32_v_i32m1x8_mu(vbool32_t vm, vint32m1x8_t vd,
                                            const int32_t *rs1, size_t vl);
vint32m2x2_t __riscv_vlseg2e32_v_i32m2x2_mu(vbool16_t vm, vint32m2x2_t vd,
                                            const int32_t *rs1, size_t vl);
vint32m2x3_t __riscv_vlseg3e32_v_i32m2x3_mu(vbool16_t vm, vint32m2x3_t vd,
                                            const int32_t *rs1, size_t vl);
vint32m2x4_t __riscv_vlseg4e32_v_i32m2x4_mu(vbool16_t vm, vint32m2x4_t vd,
                                            const int32_t *rs1, size_t vl);
vint32m4x2_t __riscv_vlseg2e32_v_i32m4x2_mu(vbool8_t vm, vint32m4x2_t vd,
                                            const int32_t *rs1, size_t vl);
vint64m1x2_t __riscv_vlseg2e64_v_i64m1x2_mu(vbool64_t vm, vint64m1x2_t vd,
                                            const int64_t *rs1, size_t vl);
```

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vint64m1x3_t __riscv_vlseg3e64_v_i64m1x3_mu(vbool64_t vm, vint64m1x3_t vd,
                                            const int64_t *rs1, size_t vl);
vint64m1x4_t __riscv_vlseg4e64_v_i64m1x4_mu(vbool64_t vm, vint64m1x4_t vd,
                                            const int64_t *rs1, size_t vl);
vint64m1x5_t __riscv_vlseg5e64_v_i64m1x5_mu(vbool64_t vm, vint64m1x5_t vd,
                                            const int64_t *rs1, size_t vl);
vint64m1x6_t __riscv_vlseg6e64_v_i64m1x6_mu(vbool64_t vm, vint64m1x6_t vd,
                                            const int64_t *rs1, size_t vl);
vint64m1x7_t __riscv_vlseg7e64_v_i64m1x7_mu(vbool64_t vm, vint64m1x7_t vd,
                                            const int64_t *rs1, size_t vl);
vint64m1x8_t __riscv_vlseg8e64_v_i64m1x8_mu(vbool64_t vm, vint64m1x8_t vd,
                                            const int64_t *rs1, size_t vl);
vint64m2x2_t __riscv_vlseg2e64_v_i64m2x2_mu(vbool32_t vm, vint64m2x2_t vd,
                                            const int64_t *rs1, size_t vl);
vint64m2x3_t __riscv_vlseg3e64_v_i64m2x3_mu(vbool32_t vm, vint64m2x3_t vd,
                                            const int64_t *rs1, size_t vl);
vint64m2x4_t __riscv_vlseg4e64_v_i64m2x4_mu(vbool32_t vm, vint64m2x4_t vd,
                                            const int64_t *rs1, size_t vl);
vint64m4x2_t __riscv_vlseg2e64_v_i64m4x2_mu(vbool16_t vm, vint64m4x2_t vd,
                                            const int64_t *rs1, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8ff_v_i8mf8x2_mu(vbool64_t vm, vint8mf8x2_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf8x3_t __riscv_vlseg3e8ff_v_i8mf8x3_mu(vbool64_t vm, vint8mf8x3_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf8x4_t __riscv_vlseg4e8ff_v_i8mf8x4_mu(vbool64_t vm, vint8mf8x4_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf8x5_t __riscv_vlseg5e8ff_v_i8mf8x5_mu(vbool64_t vm, vint8mf8x5_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf8x6_t __riscv_vlseg6e8ff_v_i8mf8x6_mu(vbool64_t vm, vint8mf8x6_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf8x7_t __riscv_vlseg7e8ff_v_i8mf8x7_mu(vbool64_t vm, vint8mf8x7_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf8x8_t __riscv_vlseg8e8ff_v_i8mf8x8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf4x2_t __riscv_vlseg2e8ff_v_i8mf4x2_mu(vbool32_t vm, vint8mf4x2_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf4x3_t __riscv_vlseg3e8ff_v_i8mf4x3_mu(vbool32_t vm, vint8mf4x3_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf4x4_t __riscv_vlseg4e8ff_v_i8mf4x4_mu(vbool32_t vm, vint8mf4x4_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf4x5_t __riscv_vlseg5e8ff_v_i8mf4x5_mu(vbool32_t vm, vint8mf4x5_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf4x6_t __riscv_vlseg6e8ff_v_i8mf4x6_mu(vbool32_t vm, vint8mf4x6_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf4x7_t __riscv_vlseg7e8ff_v_i8mf4x7_mu(vbool32_t vm, vint8mf4x7_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf4x8_t __riscv_vlseg8e8ff_v_i8mf4x8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf2x2_t __riscv_vlseg2e8ff_v_i8mf2x2_mu(vbool16_t vm, vint8mf2x2_t vd,
                                             const int8_t *rs1, size_t *new_vl,
                                             size_t vl);
vint8mf2x3_t __riscv_vlseg3e8ff_v_i8mf2x3_mu(vbool16_t vm, vint8mf2x3_t vd,
                                             const int8_t *rs1, size_t *new_vl,
```

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                                            size_t vl);
vint8mf2x4_t __riscv_vlseg4e8ff_v_i8mf2x4_mu(vbool16_t vm, vint8mf2x4_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8mf2x5_t __riscv_vlseg5e8ff_v_i8mf2x5_mu(vbool16_t vm, vint8mf2x5_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8mf2x6_t __riscv_vlseg6e8ff_v_i8mf2x6_mu(vbool16_t vm, vint8mf2x6_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8mf2x7_t __riscv_vlseg7e8ff_v_i8mf2x7_mu(vbool16_t vm, vint8mf2x7_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8mf2x8_t __riscv_vlseg8e8ff_v_i8mf2x8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                            const int8_t *rs1, size_t *new_vl,
                                            size_t vl);
vint8m1x2_t __riscv_vlseg2e8ff_v_i8m1x2_mu(vbool8_t vm, vint8m1x2_t vd,
                                           const int8_t *rs1, size_t *new_vl,
                                           size_t vl);
vint8m1x3_t __riscv_vlseg3e8ff_v_i8m1x3_mu(vbool8_t vm, vint8m1x3_t vd,
                                           const int8_t *rs1, size_t *new_vl,
                                           size_t vl);
vint8m1x4_t __riscv_vlseg4e8ff_v_i8m1x4_mu(vbool8_t vm, vint8m1x4_t vd,
                                           const int8_t *rs1, size_t *new_vl,
                                           size_t vl);
vint8m1x5_t __riscv_vlseg5e8ff_v_i8m1x5_mu(vbool8_t vm, vint8m1x5_t vd,
                                           const int8_t *rs1, size_t *new_vl,
                                           size_t vl);
vint8m1x6_t __riscv_vlseg6e8ff_v_i8m1x6_mu(vbool8_t vm, vint8m1x6_t vd,
                                           const int8_t *rs1, size_t *new_vl,
                                           size_t vl);
vint8m1x7_t __riscv_vlseg7e8ff_v_i8m1x7_mu(vbool8_t vm, vint8m1x7_t vd,
                                           const int8_t *rs1, size_t *new_vl,
                                           size_t vl);
vint8m1x8_t __riscv_vlseg8e8ff_v_i8m1x8_mu(vbool8_t vm, vint8m1x8_t vd,
                                           const int8_t *rs1, size_t *new_vl,
                                           size_t vl);
vint8m2x2_t __riscv_vlseg2e8ff_v_i8m2x2_mu(vbool4_t vm, vint8m2x2_t vd,
                                           const int8_t *rs1, size_t *new_vl,
                                           size_t vl);
vint8m2x3_t __riscv_vlseg3e8ff_v_i8m2x3_mu(vbool4_t vm, vint8m2x3_t vd,
                                           const int8_t *rs1, size_t *new_vl,
                                           size_t vl);
vint8m2x4_t __riscv_vlseg4e8ff_v_i8m2x4_mu(vbool4_t vm, vint8m2x4_t vd,
                                           const int8_t *rs1, size_t *new_vl,
                                           size_t vl);
vint8m4x2_t __riscv_vlseg2e8ff_v_i8m4x2_mu(vbool2_t vm, vint8m4x2_t vd,
                                           const int8_t *rs1, size_t *new_vl,
                                           size_t vl);
vint16mf4x2_t __riscv_vlseg2e16ff_v_i16mf4x2_mu(vbool64_t vm, vint16mf4x2_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16ff_v_i16mf4x3_mu(vbool64_t vm, vint16mf4x3_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16ff_v_i16mf4x4_mu(vbool64_t vm, vint16mf4x4_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16ff_v_i16mf4x5_mu(vbool64_t vm, vint16mf4x5_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16ff_v_i16mf4x6_mu(vbool64_t vm, vint16mf4x6_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16ff_v_i16mf4x7_mu(vbool64_t vm, vint16mf4x7_t vd,
                                               const int16_t *rs1,
                                               size_t *new_vl, size_t vl);
```

```
vint16mf4x8_t __riscv_vlseg8e16ff_v_i16mf4x8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16ff_v_i16mf2x2_mu(vbool32_t vm, vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16ff_v_i16mf2x3_mu(vbool32_t vm, vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16ff_v_i16mf2x4_mu(vbool32_t vm, vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16ff_v_i16mf2x5_mu(vbool32_t vm, vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16ff_v_i16mf2x6_mu(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16ff_v_i16mf2x7_mu(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16ff_v_i16mf2x8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                size_t *new_vl, size_t vl);
vint16m1x2_t __riscv_vlseg2e16ff_v_i16m1x2_mu(vbool16_t vm, vint16m1x2_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x3_t __riscv_vlseg3e16ff_v_i16m1x3_mu(vbool16_t vm, vint16m1x3_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x4_t __riscv_vlseg4e16ff_v_i16m1x4_mu(vbool16_t vm, vint16m1x4_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x5_t __riscv_vlseg5e16ff_v_i16m1x5_mu(vbool16_t vm, vint16m1x5_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x6_t __riscv_vlseg6e16ff_v_i16m1x6_mu(vbool16_t vm, vint16m1x6_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x7_t __riscv_vlseg7e16ff_v_i16m1x7_mu(vbool16_t vm, vint16m1x7_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m1x8_t __riscv_vlseg8e16ff_v_i16m1x8_mu(vbool16_t vm, vint16m1x8_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m2x2_t __riscv_vlseg2e16ff_v_i16m2x2_mu(vbool8_t vm, vint16m2x2_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m2x3_t __riscv_vlseg3e16ff_v_i16m2x3_mu(vbool8_t vm, vint16m2x3_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m2x4_t __riscv_vlseg4e16ff_v_i16m2x4_mu(vbool8_t vm, vint16m2x4_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint16m4x2_t __riscv_vlseg2e16ff_v_i16m4x2_mu(vbool4_t vm, vint16m4x2_t vd,
                                              const int16_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32ff_v_i32mf2x2_mu(vbool64_t vm, vint32mf2x2_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32ff_v_i32mf2x3_mu(vbool64_t vm, vint32mf2x3_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32ff_v_i32mf2x4_mu(vbool64_t vm, vint32mf2x4_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32ff_v_i32mf2x5_mu(vbool64_t vm, vint32mf2x5_t vd,
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                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32ff_v_i32mf2x6_mu(vbool64_t vm, vint32mf2x6_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32ff_v_i32mf2x7_mu(vbool64_t vm, vint32mf2x7_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32ff_v_i32mf2x8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                                const int32_t *rs1,
                                                size_t *new_vl, size_t vl);
vint32m1x2_t __riscv_vlseg2e32ff_v_i32m1x2_mu(vbool32_t vm, vint32m1x2_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m1x3_t __riscv_vlseg3e32ff_v_i32m1x3_mu(vbool32_t vm, vint32m1x3_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m1x4_t __riscv_vlseg4e32ff_v_i32m1x4_mu(vbool32_t vm, vint32m1x4_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m1x5_t __riscv_vlseg5e32ff_v_i32m1x5_mu(vbool32_t vm, vint32m1x5_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m1x6_t __riscv_vlseg6e32ff_v_i32m1x6_mu(vbool32_t vm, vint32m1x6_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m1x7_t __riscv_vlseg7e32ff_v_i32m1x7_mu(vbool32_t vm, vint32m1x7_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m1x8_t __riscv_vlseg8e32ff_v_i32m1x8_mu(vbool32_t vm, vint32m1x8_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m2x2_t __riscv_vlseg2e32ff_v_i32m2x2_mu(vbool16_t vm, vint32m2x2_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m2x3_t __riscv_vlseg3e32ff_v_i32m2x3_mu(vbool16_t vm, vint32m2x3_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m2x4_t __riscv_vlseg4e32ff_v_i32m2x4_mu(vbool16_t vm, vint32m2x4_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint32m4x2_t __riscv_vlseg2e32ff_v_i32m4x2_mu(vbool8_t vm, vint32m4x2_t vd,
                                              const int32_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x2_t __riscv_vlseg2e64ff_v_i64m1x2_mu(vbool64_t vm, vint64m1x2_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x3_t __riscv_vlseg3e64ff_v_i64m1x3_mu(vbool64_t vm, vint64m1x3_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x4_t __riscv_vlseg4e64ff_v_i64m1x4_mu(vbool64_t vm, vint64m1x4_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x5_t __riscv_vlseg5e64ff_v_i64m1x5_mu(vbool64_t vm, vint64m1x5_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x6_t __riscv_vlseg6e64ff_v_i64m1x6_mu(vbool64_t vm, vint64m1x6_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x7_t __riscv_vlseg7e64ff_v_i64m1x7_mu(vbool64_t vm, vint64m1x7_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m1x8_t __riscv_vlseg8e64ff_v_i64m1x8_mu(vbool64_t vm, vint64m1x8_t vd,
                                              const int64_t *rs1,
                                              size_t *new_vl, size_t vl);
vint64m2x2_t __riscv_vlseg2e64ff_v_i64m2x2_mu(vbool32_t vm, vint64m2x2_t vd,
                                              const int64_t *rs1,
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                                            size_t *new_vl, size_t vl);
vint64m2x3_t __riscv_vlseg3e64ff_v_i64m2x3_mu(vbool32_t vm, vint64m2x3_t vd,
                                            const int64_t *rs1,
                                            size_t *new_vl, size_t vl);
vint64m2x4_t __riscv_vlseg4e64ff_v_i64m2x4_mu(vbool32_t vm, vint64m2x4_t vd,
                                            const int64_t *rs1,
                                            size_t *new_vl, size_t vl);
vint64m4x2_t __riscv_vlseg2e64ff_v_i64m4x2_mu(vbool16_t vm, vint64m4x2_t vd,
                                            const int64_t *rs1,
                                            size_t *new_vl, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8_v_u8mf8x2_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8_v_u8mf8x3_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8_v_u8mf8x4_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8_v_u8mf8x5_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8_v_u8mf8x6_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8_v_u8mf8x7_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8_v_u8mf8x8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8_v_u8mf4x2_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8_v_u8mf4x3_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8_v_u8mf4x4_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8_v_u8mf4x5_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8_v_u8mf4x6_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8_v_u8mf4x7_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8_v_u8mf4x8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8_v_u8mf2x2_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8_v_u8mf2x3_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8_v_u8mf2x4_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8_v_u8mf2x5_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8_v_u8mf2x6_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8_v_u8mf2x7_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8_v_u8mf2x8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8_v_u8m1x2_mu(vbool8_t vm, vuint8m1x2_t vd,
                                        const uint8_t *rs1, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8_v_u8m1x3_mu(vbool8_t vm, vuint8m1x3_t vd,
                                        const uint8_t *rs1, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8_v_u8m1x4_mu(vbool8_t vm, vuint8m1x4_t vd,
                                        const uint8_t *rs1, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8_v_u8m1x5_mu(vbool8_t vm, vuint8m1x5_t vd,
                                        const uint8_t *rs1, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8_v_u8m1x6_mu(vbool8_t vm, vuint8m1x6_t vd,
                                        const uint8_t *rs1, size_t vl);
vuint8m1x7_t __riscv_vlseg7e8_v_u8m1x7_mu(vbool8_t vm, vuint8m1x7_t vd,
                                        const uint8_t *rs1, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8_v_u8m1x8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                        const uint8_t *rs1, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8_v_u8m2x2_mu(vbool4_t vm, vuint8m2x2_t vd,
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                                          const uint8_t *rs1, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8_v_u8m2x3_mu(vbool4_t vm, vuint8m2x3_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8_v_u8m2x4_mu(vbool4_t vm, vuint8m2x4_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8_v_u8m4x2_mu(vbool2_t vm, vuint8m4x2_t vd,
                                          const uint8_t *rs1, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16_v_u16mf4x2_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16_v_u16mf4x3_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16_v_u16mf4x4_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16_v_u16mf4x5_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16_v_u16mf4x6_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16_v_u16mf4x7_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16_v_u16mf4x8_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16_v_u16mf2x2_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16_v_u16mf2x3_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16_v_u16mf2x4_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16_v_u16mf2x5_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16_v_u16mf2x6_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16_v_u16mf2x7_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16_v_u16mf2x8_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                               const uint16_t *rs1, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16_v_u16m1x2_mu(vbool16_t vm, vuint16m1x2_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16_v_u16m1x3_mu(vbool16_t vm, vuint16m1x3_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16_v_u16m1x4_mu(vbool16_t vm, vuint16m1x4_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16_v_u16m1x5_mu(vbool16_t vm, vuint16m1x5_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16_v_u16m1x6_mu(vbool16_t vm, vuint16m1x6_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16_v_u16m1x7_mu(vbool16_t vm, vuint16m1x7_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16_v_u16m1x8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16_v_u16m2x2_mu(vbool8_t vm, vuint16m2x2_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16_v_u16m2x3_mu(vbool8_t vm, vuint16m2x3_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16_v_u16m2x4_mu(vbool8_t vm, vuint16m2x4_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16_v_u16m4x2_mu(vbool4_t vm, vuint16m4x2_t vd,
                                             const uint16_t *rs1, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32_v_u32mf2x2_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32_v_u32mf2x3_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32_v_u32mf2x4_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32_v_u32mf2x5_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32_v_u32mf2x6_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                               const uint32_t *rs1, size_t vl);
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vuint32mf2x7_t __riscv_vlseg7e32_v_u32mf2x7_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32_v_u32mf2x8_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                               const uint32_t *rs1, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32_v_u32m1x2_mu(vbool32_t vm, vuint32m1x2_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32_v_u32m1x3_mu(vbool32_t vm, vuint32m1x3_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32_v_u32m1x4_mu(vbool32_t vm, vuint32m1x4_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32_v_u32m1x5_mu(vbool32_t vm, vuint32m1x5_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32_v_u32m1x6_mu(vbool32_t vm, vuint32m1x6_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32_v_u32m1x7_mu(vbool32_t vm, vuint32m1x7_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32_v_u32m1x8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32_v_u32m2x2_mu(vbool16_t vm, vuint32m2x2_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32_v_u32m2x3_mu(vbool16_t vm, vuint32m2x3_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32_v_u32m2x4_mu(vbool16_t vm, vuint32m2x4_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32_v_u32m4x2_mu(vbool8_t vm, vuint32m4x2_t vd,
                                             const uint32_t *rs1, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64_v_u64m1x2_mu(vbool64_t vm, vuint64m1x2_t vd,
                                             const uint64_t *rs1, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64_v_u64m1x3_mu(vbool64_t vm, vuint64m1x3_t vd,
                                             const uint64_t *rs1, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64_v_u64m1x4_mu(vbool64_t vm, vuint64m1x4_t vd,
                                             const uint64_t *rs1, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64_v_u64m1x5_mu(vbool64_t vm, vuint64m1x5_t vd,
                                             const uint64_t *rs1, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64_v_u64m1x6_mu(vbool64_t vm, vuint64m1x6_t vd,
                                             const uint64_t *rs1, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64_v_u64m1x7_mu(vbool64_t vm, vuint64m1x7_t vd,
                                             const uint64_t *rs1, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64_v_u64m1x8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                             const uint64_t *rs1, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64_v_u64m2x2_mu(vbool32_t vm, vuint64m2x2_t vd,
                                             const uint64_t *rs1, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64_v_u64m2x3_mu(vbool32_t vm, vuint64m2x3_t vd,
                                             const uint64_t *rs1, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64_v_u64m2x4_mu(vbool32_t vm, vuint64m2x4_t vd,
                                             const uint64_t *rs1, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64_v_u64m4x2_mu(vbool16_t vm, vuint64m4x2_t vd,
                                             const uint64_t *rs1, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8ff_v_u8mf8x2_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8ff_v_u8mf8x3_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8ff_v_u8mf8x4_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8ff_v_u8mf8x5_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8ff_v_u8mf8x6_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8ff_v_u8mf8x7_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                              const uint8_t *rs1,
                                              size_t *new_vl, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8ff_v_u8mf8x8_mu(vbool64_t vm, vuint8mf8x8_t vd,
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                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8ff_v_u8mf4x2_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8ff_v_u8mf4x3_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8ff_v_u8mf4x4_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8ff_v_u8mf4x5_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8ff_v_u8mf4x6_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8ff_v_u8mf4x7_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8ff_v_u8mf4x8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8ff_v_u8mf2x2_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8ff_v_u8mf2x3_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8ff_v_u8mf2x4_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8ff_v_u8mf2x5_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8ff_v_u8mf2x6_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8ff_v_u8mf2x7_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8ff_v_u8mf2x8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                          const uint8_t *rs1,
                                          size_t *new_vl, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8ff_v_u8m1x2_mu(vbool8_t vm, vuint8m1x2_t vd,
                                        const uint8_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint8m1x3_t __riscv_vlseg3e8ff_v_u8m1x3_mu(vbool8_t vm, vuint8m1x3_t vd,
                                        const uint8_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint8m1x4_t __riscv_vlseg4e8ff_v_u8m1x4_mu(vbool8_t vm, vuint8m1x4_t vd,
                                        const uint8_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint8m1x5_t __riscv_vlseg5e8ff_v_u8m1x5_mu(vbool8_t vm, vuint8m1x5_t vd,
                                        const uint8_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint8m1x6_t __riscv_vlseg6e8ff_v_u8m1x6_mu(vbool8_t vm, vuint8m1x6_t vd,
                                        const uint8_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint8m1x7_t __riscv_vlseg7e8ff_v_u8m1x7_mu(vbool8_t vm, vuint8m1x7_t vd,
                                        const uint8_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint8m1x8_t __riscv_vlseg8e8ff_v_u8m1x8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                        const uint8_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint8m2x2_t __riscv_vlseg2e8ff_v_u8m2x2_mu(vbool4_t vm, vuint8m2x2_t vd,
                                        const uint8_t *rs1, size_t *new_vl,
```

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                                          size_t vl);
vuint8m2x3_t __riscv_vlseg3e8ff_v_u8m2x3_mu(vbool4_t vm, vuint8m2x3_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m2x4_t __riscv_vlseg4e8ff_v_u8m2x4_mu(vbool4_t vm, vuint8m2x4_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint8m4x2_t __riscv_vlseg2e8ff_v_u8m4x2_mu(vbool2_t vm, vuint8m4x2_t vd,
                                          const uint8_t *rs1, size_t *new_vl,
                                          size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16ff_v_u16mf4x2_mu(vbool64_t vm,
                                                 vuint16mf4x2_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16ff_v_u16mf4x3_mu(vbool64_t vm,
                                                 vuint16mf4x3_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16ff_v_u16mf4x4_mu(vbool64_t vm,
                                                 vuint16mf4x4_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16ff_v_u16mf4x5_mu(vbool64_t vm,
                                                 vuint16mf4x5_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16ff_v_u16mf4x6_mu(vbool64_t vm,
                                                 vuint16mf4x6_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16ff_v_u16mf4x7_mu(vbool64_t vm,
                                                 vuint16mf4x7_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16ff_v_u16mf4x8_mu(vbool64_t vm,
                                                 vuint16mf4x8_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16ff_v_u16mf2x2_mu(vbool32_t vm,
                                                 vuint16mf2x2_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16ff_v_u16mf2x3_mu(vbool32_t vm,
                                                 vuint16mf2x3_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16ff_v_u16mf2x4_mu(vbool32_t vm,
                                                 vuint16mf2x4_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16ff_v_u16mf2x5_mu(vbool32_t vm,
                                                 vuint16mf2x5_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16ff_v_u16mf2x6_mu(vbool32_t vm,
                                                 vuint16mf2x6_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16ff_v_u16mf2x7_mu(vbool32_t vm,
                                                 vuint16mf2x7_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16ff_v_u16mf2x8_mu(vbool32_t vm,
                                                 vuint16mf2x8_t vd,
                                                 const uint16_t *rs1,
                                                 size_t *new_vl, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16ff_v_u16m1x2_mu(vbool16_t vm, vuint16m1x2_t vd,
```

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                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16ff_v_u16m1x3_mu(vbool16_t vm, vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16ff_v_u16m1x4_mu(vbool16_t vm, vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16ff_v_u16m1x5_mu(vbool16_t vm, vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16ff_v_u16m1x6_mu(vbool16_t vm, vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16ff_v_u16m1x7_mu(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16ff_v_u16m1x8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16ff_v_u16m2x2_mu(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16ff_v_u16m2x3_mu(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16ff_v_u16m2x4_mu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16ff_v_u16m4x2_mu(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32ff_v_u32mf2x2_mu(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32ff_v_u32mf2x3_mu(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32ff_v_u32mf2x4_mu(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32ff_v_u32mf2x5_mu(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32ff_v_u32mf2x6_mu(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32ff_v_u32mf2x7_mu(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32ff_v_u32mf2x8_mu(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  size_t *new_vl, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32ff_v_u32m1x2_mu(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32ff_v_u32m1x3_mu(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32ff_v_u32m1x4_mu(vbool32_t vm, vuint32m1x4_t vd,
```

```
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32ff_v_u32m1x5_mu(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32ff_v_u32m1x6_mu(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32ff_v_u32m1x7_mu(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32ff_v_u32m1x8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32ff_v_u32m2x2_mu(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32ff_v_u32m2x3_mu(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32ff_v_u32m2x4_mu(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32ff_v_u32m4x2_mu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64ff_v_u64m1x2_mu(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64ff_v_u64m1x3_mu(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64ff_v_u64m1x4_mu(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64ff_v_u64m1x5_mu(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64ff_v_u64m1x6_mu(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64ff_v_u64m1x7_mu(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64ff_v_u64m1x8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64ff_v_u64m2x2_mu(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64ff_v_u64m2x3_mu(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64ff_v_u64m2x4_mu(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64ff_v_u64m4x2_mu(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                size_t *new_vl, size_t vl);
```

B.2.2. Vector Unit-Stride Segment Store Intrinsics

Intrinsics here don't have a policy variant.

B.2.3. Vector Strided Segment Load Intrinsics

```
vfloat16mf4x2_t __riscv_vlsseg2e16_v_f16mf4x2_tu(vfloat16mf4x2_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vlsseg3e16_v_f16mf4x3_tu(vfloat16mf4x3_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vlsseg4e16_v_f16mf4x4_tu(vfloat16mf4x4_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vlsseg5e16_v_f16mf4x5_tu(vfloat16mf4x5_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vlsseg6e16_v_f16mf4x6_tu(vfloat16mf4x6_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vlsseg7e16_v_f16mf4x7_tu(vfloat16mf4x7_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vlsseg8e16_v_f16mf4x8_tu(vfloat16mf4x8_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vlsseg2e16_v_f16mf2x2_tu(vfloat16mf2x2_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vlsseg3e16_v_f16mf2x3_tu(vfloat16mf2x3_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vlsseg4e16_v_f16mf2x4_tu(vfloat16mf2x4_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vlsseg5e16_v_f16mf2x5_tu(vfloat16mf2x5_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vlsseg6e16_v_f16mf2x6_tu(vfloat16mf2x6_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vlsseg7e16_v_f16mf2x7_tu(vfloat16mf2x7_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vlsseg8e16_v_f16mf2x8_tu(vfloat16mf2x8_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vlsseg2e16_v_f16m1x2_tu(vfloat16m1x2_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vlsseg3e16_v_f16m1x3_tu(vfloat16m1x3_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vlsseg4e16_v_f16m1x4_tu(vfloat16m1x4_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vlsseg5e16_v_f16m1x5_tu(vfloat16m1x5_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vlsseg6e16_v_f16m1x6_tu(vfloat16m1x6_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vlsseg7e16_v_f16m1x7_tu(vfloat16m1x7_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vlsseg8e16_v_f16m1x8_tu(vfloat16m1x8_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vlsseg2e16_v_f16m2x2_tu(vfloat16m2x2_t vd,
```

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                                            const _Float16 *rs1,
                                            ptrdiff_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vlsseg3e16_v_f16m2x3_tu(vfloat16m2x3_t vd,
                                            const _Float16 *rs1,
                                            ptrdiff_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vlsseg4e16_v_f16m2x4_tu(vfloat16m2x4_t vd,
                                            const _Float16 *rs1,
                                            ptrdiff_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vlsseg2e16_v_f16m4x2_tu(vfloat16m4x2_t vd,
                                            const _Float16 *rs1,
                                            ptrdiff_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vlsseg2e32_v_f32mf2x2_tu(vfloat32mf2x2_t vd,
                                              const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vlsseg3e32_v_f32mf2x3_tu(vfloat32mf2x3_t vd,
                                              const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vlsseg4e32_v_f32mf2x4_tu(vfloat32mf2x4_t vd,
                                              const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vlsseg5e32_v_f32mf2x5_tu(vfloat32mf2x5_t vd,
                                              const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vlsseg6e32_v_f32mf2x6_tu(vfloat32mf2x6_t vd,
                                              const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vlsseg7e32_v_f32mf2x7_tu(vfloat32mf2x7_t vd,
                                              const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vlsseg8e32_v_f32mf2x8_tu(vfloat32mf2x8_t vd,
                                              const float *rs1,
                                              ptrdiff_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vlsseg2e32_v_f32m1x2_tu(vfloat32m1x2_t vd,
                                            const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x3_t __riscv_vlsseg3e32_v_f32m1x3_tu(vfloat32m1x3_t vd,
                                            const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x4_t __riscv_vlsseg4e32_v_f32m1x4_tu(vfloat32m1x4_t vd,
                                            const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x5_t __riscv_vlsseg5e32_v_f32m1x5_tu(vfloat32m1x5_t vd,
                                            const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x6_t __riscv_vlsseg6e32_v_f32m1x6_tu(vfloat32m1x6_t vd,
                                            const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x7_t __riscv_vlsseg7e32_v_f32m1x7_tu(vfloat32m1x7_t vd,
                                            const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m1x8_t __riscv_vlsseg8e32_v_f32m1x8_tu(vfloat32m1x8_t vd,
                                            const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m2x2_t __riscv_vlsseg2e32_v_f32m2x2_tu(vfloat32m2x2_t vd,
                                            const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m2x3_t __riscv_vlsseg3e32_v_f32m2x3_tu(vfloat32m2x3_t vd,
                                            const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m2x4_t __riscv_vlsseg4e32_v_f32m2x4_tu(vfloat32m2x4_t vd,
                                            const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat32m4x2_t __riscv_vlsseg2e32_v_f32m4x2_tu(vfloat32m4x2_t vd,
                                            const float *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m1x2_t __riscv_vlsseg2e64_v_f64m1x2_tu(vfloat64m1x2_t vd,
                                            const double *rs1, ptrdiff_t rs2,
```

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                                                size_t vl);
vfloat64m1x3_t __riscv_vlsseg3e64_v_f64m1x3_tu(vfloat64m1x3_t vd,
                                                const double *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat64m1x4_t __riscv_vlsseg4e64_v_f64m1x4_tu(vfloat64m1x4_t vd,
                                                const double *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat64m1x5_t __riscv_vlsseg5e64_v_f64m1x5_tu(vfloat64m1x5_t vd,
                                                const double *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat64m1x6_t __riscv_vlsseg6e64_v_f64m1x6_tu(vfloat64m1x6_t vd,
                                                const double *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat64m1x7_t __riscv_vlsseg7e64_v_f64m1x7_tu(vfloat64m1x7_t vd,
                                                const double *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat64m1x8_t __riscv_vlsseg8e64_v_f64m1x8_tu(vfloat64m1x8_t vd,
                                                const double *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat64m2x2_t __riscv_vlsseg2e64_v_f64m2x2_tu(vfloat64m2x2_t vd,
                                                const double *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat64m2x3_t __riscv_vlsseg3e64_v_f64m2x3_tu(vfloat64m2x3_t vd,
                                                const double *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat64m2x4_t __riscv_vlsseg4e64_v_f64m2x4_tu(vfloat64m2x4_t vd,
                                                const double *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat64m4x2_t __riscv_vlsseg2e64_v_f64m4x2_tu(vfloat64m4x2_t vd,
                                                const double *rs1, ptrdiff_t rs2,
                                                size_t vl);
vint8mf8x2_t __riscv_vlsseg2e8_v_i8mf8x2_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf8x3_t __riscv_vlsseg3e8_v_i8mf8x3_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf8x4_t __riscv_vlsseg4e8_v_i8mf8x4_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf8x5_t __riscv_vlsseg5e8_v_i8mf8x5_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf8x6_t __riscv_vlsseg6e8_v_i8mf8x6_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf8x7_t __riscv_vlsseg7e8_v_i8mf8x7_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf8x8_t __riscv_vlsseg8e8_v_i8mf8x8_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf4x2_t __riscv_vlsseg2e8_v_i8mf4x2_tu(vint8mf4x2_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf4x3_t __riscv_vlsseg3e8_v_i8mf4x3_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf4x4_t __riscv_vlsseg4e8_v_i8mf4x4_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf4x5_t __riscv_vlsseg5e8_v_i8mf4x5_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf4x6_t __riscv_vlsseg6e8_v_i8mf4x6_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf4x7_t __riscv_vlsseg7e8_v_i8mf4x7_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf4x8_t __riscv_vlsseg8e8_v_i8mf4x8_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf2x2_t __riscv_vlsseg2e8_v_i8mf2x2_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf2x3_t __riscv_vlsseg3e8_v_i8mf2x3_tu(vint8mf2x3_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf2x4_t __riscv_vlsseg4e8_v_i8mf2x4_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf2x5_t __riscv_vlsseg5e8_v_i8mf2x5_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
```

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vint8mf2x6_t __riscv_vlsseg6e8_v_i8mf2x6_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf2x7_t __riscv_vlsseg7e8_v_i8mf2x7_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8mf2x8_t __riscv_vlsseg8e8_v_i8mf2x8_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint8m1x2_t __riscv_vlsseg2e8_v_i8m1x2_tu(vint8m1x2_t vd, const int8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint8m1x3_t __riscv_vlsseg3e8_v_i8m1x3_tu(vint8m1x3_t vd, const int8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint8m1x4_t __riscv_vlsseg4e8_v_i8m1x4_tu(vint8m1x4_t vd, const int8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint8m1x5_t __riscv_vlsseg5e8_v_i8m1x5_tu(vint8m1x5_t vd, const int8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint8m1x6_t __riscv_vlsseg6e8_v_i8m1x6_tu(vint8m1x6_t vd, const int8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint8m1x7_t __riscv_vlsseg7e8_v_i8m1x7_tu(vint8m1x7_t vd, const int8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint8m1x8_t __riscv_vlsseg8e8_v_i8m1x8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint8m2x2_t __riscv_vlsseg2e8_v_i8m2x2_tu(vint8m2x2_t vd, const int8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint8m2x3_t __riscv_vlsseg3e8_v_i8m2x3_tu(vint8m2x3_t vd, const int8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint8m2x4_t __riscv_vlsseg4e8_v_i8m2x4_tu(vint8m2x4_t vd, const int8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint8m4x2_t __riscv_vlsseg2e8_v_i8m4x2_tu(vint8m4x2_t vd, const int8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vint16mf4x2_t __riscv_vlsseg2e16_v_i16mf4x2_tu(vint16mf4x2_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf4x3_t __riscv_vlsseg3e16_v_i16mf4x3_tu(vint16mf4x3_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf4x4_t __riscv_vlsseg4e16_v_i16mf4x4_tu(vint16mf4x4_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf4x5_t __riscv_vlsseg5e16_v_i16mf4x5_tu(vint16mf4x5_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf4x6_t __riscv_vlsseg6e16_v_i16mf4x6_tu(vint16mf4x6_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf4x7_t __riscv_vlsseg7e16_v_i16mf4x7_tu(vint16mf4x7_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf4x8_t __riscv_vlsseg8e16_v_i16mf4x8_tu(vint16mf4x8_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf2x2_t __riscv_vlsseg2e16_v_i16mf2x2_tu(vint16mf2x2_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf2x3_t __riscv_vlsseg3e16_v_i16mf2x3_tu(vint16mf2x3_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf2x4_t __riscv_vlsseg4e16_v_i16mf2x4_tu(vint16mf2x4_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf2x5_t __riscv_vlsseg5e16_v_i16mf2x5_tu(vint16mf2x5_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf2x6_t __riscv_vlsseg6e16_v_i16mf2x6_tu(vint16mf2x6_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf2x7_t __riscv_vlsseg7e16_v_i16mf2x7_tu(vint16mf2x7_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
```

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vint16mf2x8_t __riscv_vlsseg8e16_v_i16mf2x8_tu(vint16mf2x8_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m1x2_t __riscv_vlsseg2e16_v_i16m1x2_tu(vint16m1x2_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x3_t __riscv_vlsseg3e16_v_i16m1x3_tu(vint16m1x3_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x4_t __riscv_vlsseg4e16_v_i16m1x4_tu(vint16m1x4_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x5_t __riscv_vlsseg5e16_v_i16m1x5_tu(vint16m1x5_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x6_t __riscv_vlsseg6e16_v_i16m1x6_tu(vint16m1x6_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x7_t __riscv_vlsseg7e16_v_i16m1x7_tu(vint16m1x7_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x8_t __riscv_vlsseg8e16_v_i16m1x8_tu(vint16m1x8_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m2x2_t __riscv_vlsseg2e16_v_i16m2x2_tu(vint16m2x2_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m2x3_t __riscv_vlsseg3e16_v_i16m2x3_tu(vint16m2x3_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m2x4_t __riscv_vlsseg4e16_v_i16m2x4_tu(vint16m2x4_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m4x2_t __riscv_vlsseg2e16_v_i16m4x2_tu(vint16m4x2_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint32mf2x2_t __riscv_vlsseg2e32_v_i32mf2x2_tu(vint32mf2x2_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32mf2x3_t __riscv_vlsseg3e32_v_i32mf2x3_tu(vint32mf2x3_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32mf2x4_t __riscv_vlsseg4e32_v_i32mf2x4_tu(vint32mf2x4_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32mf2x5_t __riscv_vlsseg5e32_v_i32mf2x5_tu(vint32mf2x5_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32mf2x6_t __riscv_vlsseg6e32_v_i32mf2x6_tu(vint32mf2x6_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32mf2x7_t __riscv_vlsseg7e32_v_i32mf2x7_tu(vint32mf2x7_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32mf2x8_t __riscv_vlsseg8e32_v_i32mf2x8_tu(vint32mf2x8_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32m1x2_t __riscv_vlsseg2e32_v_i32m1x2_tu(vint32m1x2_t vd,
                                             const int32_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint32m1x3_t __riscv_vlsseg3e32_v_i32m1x3_tu(vint32m1x3_t vd,
                                             const int32_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint32m1x4_t __riscv_vlsseg4e32_v_i32m1x4_tu(vint32m1x4_t vd,
                                             const int32_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint32m1x5_t __riscv_vlsseg5e32_v_i32m1x5_tu(vint32m1x5_t vd,
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                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m1x6_t __riscv_vlsseg6e32_v_i32m1x6_tu(vint32m1x6_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m1x7_t __riscv_vlsseg7e32_v_i32m1x7_tu(vint32m1x7_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m1x8_t __riscv_vlsseg8e32_v_i32m1x8_tu(vint32m1x8_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m2x2_t __riscv_vlsseg2e32_v_i32m2x2_tu(vint32m2x2_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m2x3_t __riscv_vlsseg3e32_v_i32m2x3_tu(vint32m2x3_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m2x4_t __riscv_vlsseg4e32_v_i32m2x4_tu(vint32m2x4_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m4x2_t __riscv_vlsseg2e32_v_i32m4x2_tu(vint32m4x2_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x2_t __riscv_vlsseg2e64_v_i64m1x2_tu(vint64m1x2_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x3_t __riscv_vlsseg3e64_v_i64m1x3_tu(vint64m1x3_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x4_t __riscv_vlsseg4e64_v_i64m1x4_tu(vint64m1x4_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x5_t __riscv_vlsseg5e64_v_i64m1x5_tu(vint64m1x5_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x6_t __riscv_vlsseg6e64_v_i64m1x6_tu(vint64m1x6_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x7_t __riscv_vlsseg7e64_v_i64m1x7_tu(vint64m1x7_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x8_t __riscv_vlsseg8e64_v_i64m1x8_tu(vint64m1x8_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m2x2_t __riscv_vlsseg2e64_v_i64m2x2_tu(vint64m2x2_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m2x3_t __riscv_vlsseg3e64_v_i64m2x3_tu(vint64m2x3_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m2x4_t __riscv_vlsseg4e64_v_i64m2x4_tu(vint64m2x4_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m4x2_t __riscv_vlsseg2e64_v_i64m4x2_tu(vint64m4x2_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x2_t __riscv_vlsseg2e8_v_u8mf8x2_tu(vuint8mf8x2_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x3_t __riscv_vlsseg3e8_v_u8mf8x3_tu(vuint8mf8x3_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x4_t __riscv_vlsseg4e8_v_u8mf8x4_tu(vuint8mf8x4_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x5_t __riscv_vlsseg5e8_v_u8mf8x5_tu(vuint8mf8x5_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
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                                          size_t vl);
vuint8mf8x6_t __riscv_vlsseg6e8_v_u8mf8x6_tu(vuint8mf8x6_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x7_t __riscv_vlsseg7e8_v_u8mf8x7_tu(vuint8mf8x7_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x8_t __riscv_vlsseg8e8_v_u8mf8x8_tu(vuint8mf8x8_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x2_t __riscv_vlsseg2e8_v_u8mf4x2_tu(vuint8mf4x2_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x3_t __riscv_vlsseg3e8_v_u8mf4x3_tu(vuint8mf4x3_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x4_t __riscv_vlsseg4e8_v_u8mf4x4_tu(vuint8mf4x4_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x5_t __riscv_vlsseg5e8_v_u8mf4x5_tu(vuint8mf4x5_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x6_t __riscv_vlsseg6e8_v_u8mf4x6_tu(vuint8mf4x6_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x7_t __riscv_vlsseg7e8_v_u8mf4x7_tu(vuint8mf4x7_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x8_t __riscv_vlsseg8e8_v_u8mf4x8_tu(vuint8mf4x8_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x2_t __riscv_vlsseg2e8_v_u8mf2x2_tu(vuint8mf2x2_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x3_t __riscv_vlsseg3e8_v_u8mf2x3_tu(vuint8mf2x3_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x4_t __riscv_vlsseg4e8_v_u8mf2x4_tu(vuint8mf2x4_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x5_t __riscv_vlsseg5e8_v_u8mf2x5_tu(vuint8mf2x5_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x6_t __riscv_vlsseg6e8_v_u8mf2x6_tu(vuint8mf2x6_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x7_t __riscv_vlsseg7e8_v_u8mf2x7_tu(vuint8mf2x7_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x8_t __riscv_vlsseg8e8_v_u8mf2x8_tu(vuint8mf2x8_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8m1x2_t __riscv_vlsseg2e8_v_u8m1x2_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                        ptrdiff_t rs2, size_t vl);
vuint8m1x3_t __riscv_vlsseg3e8_v_u8m1x3_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                        ptrdiff_t rs2, size_t vl);
vuint8m1x4_t __riscv_vlsseg4e8_v_u8m1x4_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                        ptrdiff_t rs2, size_t vl);
vuint8m1x5_t __riscv_vlsseg5e8_v_u8m1x5_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                        ptrdiff_t rs2, size_t vl);
vuint8m1x6_t __riscv_vlsseg6e8_v_u8m1x6_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                        ptrdiff_t rs2, size_t vl);
vuint8m1x7_t __riscv_vlsseg7e8_v_u8m1x7_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                        ptrdiff_t rs2, size_t vl);
vuint8m1x8_t __riscv_vlsseg8e8_v_u8m1x8_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                        ptrdiff_t rs2, size_t vl);
vuint8m2x2_t __riscv_vlsseg2e8_v_u8m2x2_tu(vuint8m2x2_t vd, const uint8_t *rs1,
```

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                                          ptrdiff_t rs2, size_t vl);
vuint8m2x3_t __riscv_vlsseg3e8_v_u8m2x3_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vuint8m2x4_t __riscv_vlsseg4e8_v_u8m2x4_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vuint8m4x2_t __riscv_vlsseg2e8_v_u8m4x2_tu(vuint8m4x2_t vd, const uint8_t *rs1,
                                          ptrdiff_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vlsseg2e16_v_u16mf4x2_tu(vuint16mf4x2_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vlsseg3e16_v_u16mf4x3_tu(vuint16mf4x3_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vlsseg4e16_v_u16mf4x4_tu(vuint16mf4x4_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vlsseg5e16_v_u16mf4x5_tu(vuint16mf4x5_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vlsseg6e16_v_u16mf4x6_tu(vuint16mf4x6_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vlsseg7e16_v_u16mf4x7_tu(vuint16mf4x7_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vlsseg8e16_v_u16mf4x8_tu(vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vlsseg2e16_v_u16mf2x2_tu(vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vlsseg3e16_v_u16mf2x3_tu(vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vlsseg4e16_v_u16mf2x4_tu(vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vlsseg5e16_v_u16mf2x5_tu(vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vlsseg6e16_v_u16mf2x6_tu(vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vlsseg7e16_v_u16mf2x7_tu(vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vlsseg8e16_v_u16mf2x8_tu(vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m1x2_t __riscv_vlsseg2e16_v_u16m1x2_tu(vuint16m1x2_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m1x3_t __riscv_vlsseg3e16_v_u16m1x3_tu(vuint16m1x3_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m1x4_t __riscv_vlsseg4e16_v_u16m1x4_tu(vuint16m1x4_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m1x5_t __riscv_vlsseg5e16_v_u16m1x5_tu(vuint16m1x5_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m1x6_t __riscv_vlsseg6e16_v_u16m1x6_tu(vuint16m1x6_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m1x7_t __riscv_vlsseg7e16_v_u16m1x7_tu(vuint16m1x7_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
```

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vuint16m1x8_t __riscv_vlsseg8e16_v_u16m1x8_tu(vuint16m1x8_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m2x2_t __riscv_vlsseg2e16_v_u16m2x2_tu(vuint16m2x2_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m2x3_t __riscv_vlsseg3e16_v_u16m2x3_tu(vuint16m2x3_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m2x4_t __riscv_vlsseg4e16_v_u16m2x4_tu(vuint16m2x4_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m4x2_t __riscv_vlsseg2e16_v_u16m4x2_tu(vuint16m4x2_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vlsseg2e32_v_u32mf2x2_tu(vuint32mf2x2_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vlsseg3e32_v_u32mf2x3_tu(vuint32mf2x3_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vlsseg4e32_v_u32mf2x4_tu(vuint32mf2x4_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vlsseg5e32_v_u32mf2x5_tu(vuint32mf2x5_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vlsseg6e32_v_u32mf2x6_tu(vuint32mf2x6_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vlsseg7e32_v_u32mf2x7_tu(vuint32mf2x7_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vlsseg8e32_v_u32mf2x8_tu(vuint32mf2x8_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x2_t __riscv_vlsseg2e32_v_u32m1x2_tu(vuint32m1x2_t vd,
                                              const uint32_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32m1x3_t __riscv_vlsseg3e32_v_u32m1x3_tu(vuint32m1x3_t vd,
                                              const uint32_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32m1x4_t __riscv_vlsseg4e32_v_u32m1x4_tu(vuint32m1x4_t vd,
                                              const uint32_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32m1x5_t __riscv_vlsseg5e32_v_u32m1x5_tu(vuint32m1x5_t vd,
                                              const uint32_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32m1x6_t __riscv_vlsseg6e32_v_u32m1x6_tu(vuint32m1x6_t vd,
                                              const uint32_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32m1x7_t __riscv_vlsseg7e32_v_u32m1x7_tu(vuint32m1x7_t vd,
                                              const uint32_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32m1x8_t __riscv_vlsseg8e32_v_u32m1x8_tu(vuint32m1x8_t vd,
                                              const uint32_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32m2x2_t __riscv_vlsseg2e32_v_u32m2x2_tu(vuint32m2x2_t vd,
                                              const uint32_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32m2x3_t __riscv_vlsseg3e32_v_u32m2x3_tu(vuint32m2x3_t vd,
                                              const uint32_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32m2x4_t __riscv_vlsseg4e32_v_u32m2x4_tu(vuint32m2x4_t vd,
                                              const uint32_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32m4x2_t __riscv_vlsseg2e32_v_u32m4x2_tu(vuint32m4x2_t vd,
```

```
                                            const uint32_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint64m1x2_t __riscv_vlsseg2e64_v_u64m1x2_tu(vuint64m1x2_t vd,
                                            const uint64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint64m1x3_t __riscv_vlsseg3e64_v_u64m1x3_tu(vuint64m1x3_t vd,
                                            const uint64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint64m1x4_t __riscv_vlsseg4e64_v_u64m1x4_tu(vuint64m1x4_t vd,
                                            const uint64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint64m1x5_t __riscv_vlsseg5e64_v_u64m1x5_tu(vuint64m1x5_t vd,
                                            const uint64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint64m1x6_t __riscv_vlsseg6e64_v_u64m1x6_tu(vuint64m1x6_t vd,
                                            const uint64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint64m1x7_t __riscv_vlsseg7e64_v_u64m1x7_tu(vuint64m1x7_t vd,
                                            const uint64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint64m1x8_t __riscv_vlsseg8e64_v_u64m1x8_tu(vuint64m1x8_t vd,
                                            const uint64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint64m2x2_t __riscv_vlsseg2e64_v_u64m2x2_tu(vuint64m2x2_t vd,
                                            const uint64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint64m2x3_t __riscv_vlsseg3e64_v_u64m2x3_tu(vuint64m2x3_t vd,
                                            const uint64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint64m2x4_t __riscv_vlsseg4e64_v_u64m2x4_tu(vuint64m2x4_t vd,
                                            const uint64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vuint64m4x2_t __riscv_vlsseg2e64_v_u64m4x2_tu(vuint64m4x2_t vd,
                                            const uint64_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlsseg2e16_v_f16mf4x2_tum(vbool64_t vm,
                                                vfloat16mf4x2_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vlsseg3e16_v_f16mf4x3_tum(vbool64_t vm,
                                                vfloat16mf4x3_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vlsseg4e16_v_f16mf4x4_tum(vbool64_t vm,
                                                vfloat16mf4x4_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vlsseg5e16_v_f16mf4x5_tum(vbool64_t vm,
                                                vfloat16mf4x5_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vlsseg6e16_v_f16mf4x6_tum(vbool64_t vm,
                                                vfloat16mf4x6_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vlsseg7e16_v_f16mf4x7_tum(vbool64_t vm,
                                                vfloat16mf4x7_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vlsseg8e16_v_f16mf4x8_tum(vbool64_t vm,
                                                vfloat16mf4x8_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vlsseg2e16_v_f16mf2x2_tum(vbool32_t vm,
                                                vfloat16mf2x2_t vd,
                                                const _Float16 *rs1,
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                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vlsseg3e16_v_f16mf2x3_tum(vbool32_t vm,
                                                vfloat16mf2x3_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vlsseg4e16_v_f16mf2x4_tum(vbool32_t vm,
                                                vfloat16mf2x4_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vlsseg5e16_v_f16mf2x5_tum(vbool32_t vm,
                                                vfloat16mf2x5_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vlsseg6e16_v_f16mf2x6_tum(vbool32_t vm,
                                                vfloat16mf2x6_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vlsseg7e16_v_f16mf2x7_tum(vbool32_t vm,
                                                vfloat16mf2x7_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vlsseg8e16_v_f16mf2x8_tum(vbool32_t vm,
                                                vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vlsseg2e16_v_f16m1x2_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vlsseg3e16_v_f16m1x3_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vlsseg4e16_v_f16m1x4_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vlsseg5e16_v_f16m1x5_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vlsseg6e16_v_f16m1x6_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vlsseg7e16_v_f16m1x7_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vlsseg8e16_v_f16m1x8_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vlsseg2e16_v_f16m2x2_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vlsseg3e16_v_f16m2x3_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vlsseg4e16_v_f16m2x4_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vlsseg2e16_v_f16m4x2_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vlsseg2e32_v_f32mf2x2_tum(vbool64_t vm,
                                                  vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vlsseg3e32_v_f32mf2x3_tum(vbool64_t vm,
                                                vfloat32mf2x3_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vlsseg4e32_v_f32mf2x4_tum(vbool64_t vm,
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                                                vfloat32mf2x4_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vlsseg5e32_v_f32mf2x5_tum(vbool64_t vm,
                                                vfloat32mf2x5_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vlsseg6e32_v_f32mf2x6_tum(vbool64_t vm,
                                                vfloat32mf2x6_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vlsseg7e32_v_f32mf2x7_tum(vbool64_t vm,
                                                vfloat32mf2x7_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vlsseg8e32_v_f32mf2x8_tum(vbool64_t vm,
                                                vfloat32mf2x8_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vlsseg2e32_v_f32m1x2_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                                const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat32m1x3_t __riscv_vlsseg3e32_v_f32m1x3_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                                const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat32m1x4_t __riscv_vlsseg4e32_v_f32m1x4_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                                const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat32m1x5_t __riscv_vlsseg5e32_v_f32m1x5_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                                const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat32m1x6_t __riscv_vlsseg6e32_v_f32m1x6_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                                const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat32m1x7_t __riscv_vlsseg7e32_v_f32m1x7_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                                const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat32m1x8_t __riscv_vlsseg8e32_v_f32m1x8_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                                const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat32m2x2_t __riscv_vlsseg2e32_v_f32m2x2_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                                const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat32m2x3_t __riscv_vlsseg3e32_v_f32m2x3_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                                const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat32m2x4_t __riscv_vlsseg4e32_v_f32m2x4_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                                const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat32m4x2_t __riscv_vlsseg2e32_v_f32m4x2_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1, ptrdiff_t rs2,
                                                size_t vl);
vfloat64m1x2_t __riscv_vlsseg2e64_v_f64m1x2_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vlsseg3e64_v_f64m1x3_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vlsseg4e64_v_f64m1x4_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vlsseg5e64_v_f64m1x5_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vlsseg6e64_v_f64m1x6_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
```

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vfloat64m1x7_t __riscv_vlsseg7e64_v_f64m1x7_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vlsseg8e64_v_f64m1x8_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vlsseg2e64_v_f64m2x2_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vlsseg3e64_v_f64m2x3_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vlsseg4e64_v_f64m2x4_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vlsseg2e64_v_f64m4x2_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint8mf8x2_t __riscv_vlsseg2e8_v_i8mf8x2_tum(vbool64_t vm, vint8mf8x2_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf8x3_t __riscv_vlsseg3e8_v_i8mf8x3_tum(vbool64_t vm, vint8mf8x3_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf8x4_t __riscv_vlsseg4e8_v_i8mf8x4_tum(vbool64_t vm, vint8mf8x4_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf8x5_t __riscv_vlsseg5e8_v_i8mf8x5_tum(vbool64_t vm, vint8mf8x5_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf8x6_t __riscv_vlsseg6e8_v_i8mf8x6_tum(vbool64_t vm, vint8mf8x6_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf8x7_t __riscv_vlsseg7e8_v_i8mf8x7_tum(vbool64_t vm, vint8mf8x7_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf8x8_t __riscv_vlsseg8e8_v_i8mf8x8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf4x2_t __riscv_vlsseg2e8_v_i8mf4x2_tum(vbool32_t vm, vint8mf4x2_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf4x3_t __riscv_vlsseg3e8_v_i8mf4x3_tum(vbool32_t vm, vint8mf4x3_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf4x4_t __riscv_vlsseg4e8_v_i8mf4x4_tum(vbool32_t vm, vint8mf4x4_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf4x5_t __riscv_vlsseg5e8_v_i8mf4x5_tum(vbool32_t vm, vint8mf4x5_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf4x6_t __riscv_vlsseg6e8_v_i8mf4x6_tum(vbool32_t vm, vint8mf4x6_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf4x7_t __riscv_vlsseg7e8_v_i8mf4x7_tum(vbool32_t vm, vint8mf4x7_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf4x8_t __riscv_vlsseg8e8_v_i8mf4x8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf2x2_t __riscv_vlsseg2e8_v_i8mf2x2_tum(vbool16_t vm, vint8mf2x2_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf2x3_t __riscv_vlsseg3e8_v_i8mf2x3_tum(vbool16_t vm, vint8mf2x3_t vd,
                                             const int8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint8mf2x4_t __riscv_vlsseg4e8_v_i8mf2x4_tum(vbool16_t vm, vint8mf2x4_t vd,
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                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf2x5_t __riscv_vlsseg5e8_v_i8mf2x5_tum(vbool16_t vm, vint8mf2x5_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf2x6_t __riscv_vlsseg6e8_v_i8mf2x6_tum(vbool16_t vm, vint8mf2x6_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf2x7_t __riscv_vlsseg7e8_v_i8mf2x7_tum(vbool16_t vm, vint8mf2x7_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf2x8_t __riscv_vlsseg8e8_v_i8mf2x8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m1x2_t __riscv_vlsseg2e8_v_i8m1x2_tum(vbool8_t vm, vint8m1x2_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x3_t __riscv_vlsseg3e8_v_i8m1x3_tum(vbool8_t vm, vint8m1x3_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x4_t __riscv_vlsseg4e8_v_i8m1x4_tum(vbool8_t vm, vint8m1x4_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x5_t __riscv_vlsseg5e8_v_i8m1x5_tum(vbool8_t vm, vint8m1x5_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x6_t __riscv_vlsseg6e8_v_i8m1x6_tum(vbool8_t vm, vint8m1x6_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x7_t __riscv_vlsseg7e8_v_i8m1x7_tum(vbool8_t vm, vint8m1x7_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x8_t __riscv_vlsseg8e8_v_i8m1x8_tum(vbool8_t vm, vint8m1x8_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m2x2_t __riscv_vlsseg2e8_v_i8m2x2_tum(vbool4_t vm, vint8m2x2_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m2x3_t __riscv_vlsseg3e8_v_i8m2x3_tum(vbool4_t vm, vint8m2x3_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m2x4_t __riscv_vlsseg4e8_v_i8m2x4_tum(vbool4_t vm, vint8m2x4_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m4x2_t __riscv_vlsseg2e8_v_i8m4x2_tum(vbool2_t vm, vint8m4x2_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16mf4x2_t __riscv_vlsseg2e16_v_i16mf4x2_tum(vbool64_t vm, vint16mf4x2_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x3_t __riscv_vlsseg3e16_v_i16mf4x3_tum(vbool64_t vm, vint16mf4x3_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x4_t __riscv_vlsseg4e16_v_i16mf4x4_tum(vbool64_t vm, vint16mf4x4_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x5_t __riscv_vlsseg5e16_v_i16mf4x5_tum(vbool64_t vm, vint16mf4x5_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x6_t __riscv_vlsseg6e16_v_i16mf4x6_tum(vbool64_t vm, vint16mf4x6_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x7_t __riscv_vlsseg7e16_v_i16mf4x7_tum(vbool64_t vm, vint16mf4x7_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x8_t __riscv_vlsseg8e16_v_i16mf4x8_tum(vbool64_t vm, vint16mf4x8_t vd,
                                            const int16_t *rs1,
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                                                ptrdiff_t rs2, size_t vl);
vint16mf2x2_t __riscv_vlsseg2e16_v_i16mf2x2_tum(vbool32_t vm, vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x3_t __riscv_vlsseg3e16_v_i16mf2x3_tum(vbool32_t vm, vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x4_t __riscv_vlsseg4e16_v_i16mf2x4_tum(vbool32_t vm, vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x5_t __riscv_vlsseg5e16_v_i16mf2x5_tum(vbool32_t vm, vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x6_t __riscv_vlsseg6e16_v_i16mf2x6_tum(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x7_t __riscv_vlsseg7e16_v_i16mf2x7_tum(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x8_t __riscv_vlsseg8e16_v_i16mf2x8_tum(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16m1x2_t __riscv_vlsseg2e16_v_i16m1x2_tum(vbool16_t vm, vint16m1x2_t vd,
                                              const int16_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint16m1x3_t __riscv_vlsseg3e16_v_i16m1x3_tum(vbool16_t vm, vint16m1x3_t vd,
                                              const int16_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint16m1x4_t __riscv_vlsseg4e16_v_i16m1x4_tum(vbool16_t vm, vint16m1x4_t vd,
                                              const int16_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint16m1x5_t __riscv_vlsseg5e16_v_i16m1x5_tum(vbool16_t vm, vint16m1x5_t vd,
                                              const int16_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint16m1x6_t __riscv_vlsseg6e16_v_i16m1x6_tum(vbool16_t vm, vint16m1x6_t vd,
                                              const int16_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint16m1x7_t __riscv_vlsseg7e16_v_i16m1x7_tum(vbool16_t vm, vint16m1x7_t vd,
                                              const int16_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint16m1x8_t __riscv_vlsseg8e16_v_i16m1x8_tum(vbool16_t vm, vint16m1x8_t vd,
                                              const int16_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint16m2x2_t __riscv_vlsseg2e16_v_i16m2x2_tum(vbool8_t vm, vint16m2x2_t vd,
                                              const int16_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint16m2x3_t __riscv_vlsseg3e16_v_i16m2x3_tum(vbool8_t vm, vint16m2x3_t vd,
                                              const int16_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint16m2x4_t __riscv_vlsseg4e16_v_i16m2x4_tum(vbool8_t vm, vint16m2x4_t vd,
                                              const int16_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint16m4x2_t __riscv_vlsseg2e16_v_i16m4x2_tum(vbool4_t vm, vint16m4x2_t vd,
                                              const int16_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint32mf2x2_t __riscv_vlsseg2e32_v_i32mf2x2_tum(vbool64_t vm, vint32mf2x2_t vd,
                                                const int32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint32mf2x3_t __riscv_vlsseg3e32_v_i32mf2x3_tum(vbool64_t vm, vint32mf2x3_t vd,
                                                const int32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint32mf2x4_t __riscv_vlsseg4e32_v_i32mf2x4_tum(vbool64_t vm, vint32mf2x4_t vd,
                                                const int32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint32mf2x5_t __riscv_vlsseg5e32_v_i32mf2x5_tum(vbool64_t vm, vint32mf2x5_t vd,
                                                const int32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
```

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vint32mf2x6_t __riscv_vlsseg6e32_v_i32mf2x6_tum(vbool64_t vm, vint32mf2x6_t vd,
                                                const int32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint32mf2x7_t __riscv_vlsseg7e32_v_i32mf2x7_tum(vbool64_t vm, vint32mf2x7_t vd,
                                                const int32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint32mf2x8_t __riscv_vlsseg8e32_v_i32mf2x8_tum(vbool64_t vm, vint32mf2x8_t vd,
                                                const int32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint32m1x2_t __riscv_vlsseg2e32_v_i32m1x2_tum(vbool32_t vm, vint32m1x2_t vd,
                                              const int32_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint32m1x3_t __riscv_vlsseg3e32_v_i32m1x3_tum(vbool32_t vm, vint32m1x3_t vd,
                                              const int32_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint32m1x4_t __riscv_vlsseg4e32_v_i32m1x4_tum(vbool32_t vm, vint32m1x4_t vd,
                                              const int32_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint32m1x5_t __riscv_vlsseg5e32_v_i32m1x5_tum(vbool32_t vm, vint32m1x5_t vd,
                                              const int32_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint32m1x6_t __riscv_vlsseg6e32_v_i32m1x6_tum(vbool32_t vm, vint32m1x6_t vd,
                                              const int32_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint32m1x7_t __riscv_vlsseg7e32_v_i32m1x7_tum(vbool32_t vm, vint32m1x7_t vd,
                                              const int32_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint32m1x8_t __riscv_vlsseg8e32_v_i32m1x8_tum(vbool32_t vm, vint32m1x8_t vd,
                                              const int32_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint32m2x2_t __riscv_vlsseg2e32_v_i32m2x2_tum(vbool16_t vm, vint32m2x2_t vd,
                                              const int32_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint32m2x3_t __riscv_vlsseg3e32_v_i32m2x3_tum(vbool16_t vm, vint32m2x3_t vd,
                                              const int32_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint32m2x4_t __riscv_vlsseg4e32_v_i32m2x4_tum(vbool16_t vm, vint32m2x4_t vd,
                                              const int32_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint32m4x2_t __riscv_vlsseg2e32_v_i32m4x2_tum(vbool8_t vm, vint32m4x2_t vd,
                                              const int32_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint64m1x2_t __riscv_vlsseg2e64_v_i64m1x2_tum(vbool64_t vm, vint64m1x2_t vd,
                                              const int64_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint64m1x3_t __riscv_vlsseg3e64_v_i64m1x3_tum(vbool64_t vm, vint64m1x3_t vd,
                                              const int64_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint64m1x4_t __riscv_vlsseg4e64_v_i64m1x4_tum(vbool64_t vm, vint64m1x4_t vd,
                                              const int64_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint64m1x5_t __riscv_vlsseg5e64_v_i64m1x5_tum(vbool64_t vm, vint64m1x5_t vd,
                                              const int64_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint64m1x6_t __riscv_vlsseg6e64_v_i64m1x6_tum(vbool64_t vm, vint64m1x6_t vd,
                                              const int64_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint64m1x7_t __riscv_vlsseg7e64_v_i64m1x7_tum(vbool64_t vm, vint64m1x7_t vd,
                                              const int64_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint64m1x8_t __riscv_vlsseg8e64_v_i64m1x8_tum(vbool64_t vm, vint64m1x8_t vd,
                                              const int64_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint64m2x2_t __riscv_vlsseg2e64_v_i64m2x2_tum(vbool32_t vm, vint64m2x2_t vd,
                                              const int64_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint64m2x3_t __riscv_vlsseg3e64_v_i64m2x3_tum(vbool32_t vm, vint64m2x3_t vd,
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                                            const int64_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint64m2x4_t __riscv_vlsseg4e64_v_i64m2x4_tum(vbool32_t vm, vint64m2x4_t vd,
                                            const int64_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint64m4x2_t __riscv_vlsseg2e64_v_i64m4x2_tum(vbool16_t vm, vint64m4x2_t vd,
                                            const int64_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf8x2_t __riscv_vlsseg2e8_v_u8mf8x2_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf8x3_t __riscv_vlsseg3e8_v_u8mf8x3_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf8x4_t __riscv_vlsseg4e8_v_u8mf8x4_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf8x5_t __riscv_vlsseg5e8_v_u8mf8x5_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf8x6_t __riscv_vlsseg6e8_v_u8mf8x6_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf8x7_t __riscv_vlsseg7e8_v_u8mf8x7_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf8x8_t __riscv_vlsseg8e8_v_u8mf8x8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf4x2_t __riscv_vlsseg2e8_v_u8mf4x2_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf4x3_t __riscv_vlsseg3e8_v_u8mf4x3_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf4x4_t __riscv_vlsseg4e8_v_u8mf4x4_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf4x5_t __riscv_vlsseg5e8_v_u8mf4x5_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf4x6_t __riscv_vlsseg6e8_v_u8mf4x6_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf4x7_t __riscv_vlsseg7e8_v_u8mf4x7_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf4x8_t __riscv_vlsseg8e8_v_u8mf4x8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf2x2_t __riscv_vlsseg2e8_v_u8mf2x2_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf2x3_t __riscv_vlsseg3e8_v_u8mf2x3_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf2x4_t __riscv_vlsseg4e8_v_u8mf2x4_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf2x5_t __riscv_vlsseg5e8_v_u8mf2x5_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf2x6_t __riscv_vlsseg6e8_v_u8mf2x6_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8mf2x7_t __riscv_vlsseg7e8_v_u8mf2x7_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
```

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                                                size_t vl);
vuint8mf2x8_t __riscv_vlsseg8e8_v_u8mf2x8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                               const uint8_t *rs1, ptrdiff_t rs2,
                                               size_t vl);
vuint8m1x2_t __riscv_vlsseg2e8_v_u8m1x2_tum(vbool8_t vm, vuint8m1x2_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8m1x3_t __riscv_vlsseg3e8_v_u8m1x3_tum(vbool8_t vm, vuint8m1x3_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8m1x4_t __riscv_vlsseg4e8_v_u8m1x4_tum(vbool8_t vm, vuint8m1x4_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8m1x5_t __riscv_vlsseg5e8_v_u8m1x5_tum(vbool8_t vm, vuint8m1x5_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8m1x6_t __riscv_vlsseg6e8_v_u8m1x6_tum(vbool8_t vm, vuint8m1x6_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8m1x7_t __riscv_vlsseg7e8_v_u8m1x7_tum(vbool8_t vm, vuint8m1x7_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8m1x8_t __riscv_vlsseg8e8_v_u8m1x8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8m2x2_t __riscv_vlsseg2e8_v_u8m2x2_tum(vbool4_t vm, vuint8m2x2_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8m2x3_t __riscv_vlsseg3e8_v_u8m2x3_tum(vbool4_t vm, vuint8m2x3_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8m2x4_t __riscv_vlsseg4e8_v_u8m2x4_tum(vbool4_t vm, vuint8m2x4_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint8m4x2_t __riscv_vlsseg2e8_v_u8m4x2_tum(vbool2_t vm, vuint8m4x2_t vd,
                                            const uint8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vuint16mf4x2_t __riscv_vlsseg2e16_v_u16mf4x2_tum(vbool64_t vm,
                                                 vuint16mf4x2_t vd,
                                                 const uint16_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vlsseg3e16_v_u16mf4x3_tum(vbool64_t vm,
                                                 vuint16mf4x3_t vd,
                                                 const uint16_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vlsseg4e16_v_u16mf4x4_tum(vbool64_t vm,
                                                 vuint16mf4x4_t vd,
                                                 const uint16_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vlsseg5e16_v_u16mf4x5_tum(vbool64_t vm,
                                                 vuint16mf4x5_t vd,
                                                 const uint16_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vlsseg6e16_v_u16mf4x6_tum(vbool64_t vm,
                                                 vuint16mf4x6_t vd,
                                                 const uint16_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vlsseg7e16_v_u16mf4x7_tum(vbool64_t vm,
                                                 vuint16mf4x7_t vd,
                                                 const uint16_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vlsseg8e16_v_u16mf4x8_tum(vbool64_t vm,
                                                 vuint16mf4x8_t vd,
                                                 const uint16_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vlsseg2e16_v_u16mf2x2_tum(vbool32_t vm,
                                                 vuint16mf2x2_t vd,
```

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                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vlsseg3e16_v_u16mf2x3_tum(vbool32_t vm,
                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vlsseg4e16_v_u16mf2x4_tum(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vlsseg5e16_v_u16mf2x5_tum(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vlsseg6e16_v_u16mf2x6_tum(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vlsseg7e16_v_u16mf2x7_tum(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vlsseg8e16_v_u16mf2x8_tum(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m1x2_t __riscv_vlsseg2e16_v_u16m1x2_tum(vbool16_t vm, vuint16m1x2_t vd,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16m1x3_t __riscv_vlsseg3e16_v_u16m1x3_tum(vbool16_t vm, vuint16m1x3_t vd,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16m1x4_t __riscv_vlsseg4e16_v_u16m1x4_tum(vbool16_t vm, vuint16m1x4_t vd,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16m1x5_t __riscv_vlsseg5e16_v_u16m1x5_tum(vbool16_t vm, vuint16m1x5_t vd,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16m1x6_t __riscv_vlsseg6e16_v_u16m1x6_tum(vbool16_t vm, vuint16m1x6_t vd,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16m1x7_t __riscv_vlsseg7e16_v_u16m1x7_tum(vbool16_t vm, vuint16m1x7_t vd,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16m1x8_t __riscv_vlsseg8e16_v_u16m1x8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16m2x2_t __riscv_vlsseg2e16_v_u16m2x2_tum(vbool8_t vm, vuint16m2x2_t vd,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16m2x3_t __riscv_vlsseg3e16_v_u16m2x3_tum(vbool8_t vm, vuint16m2x3_t vd,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16m2x4_t __riscv_vlsseg4e16_v_u16m2x4_tum(vbool8_t vm, vuint16m2x4_t vd,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint16m4x2_t __riscv_vlsseg2e16_v_u16m4x2_tum(vbool4_t vm, vuint16m4x2_t vd,
                                               const uint16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vlsseg2e32_v_u32mf2x2_tum(vbool64_t vm,
                                                vuint32mf2x2_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vlsseg3e32_v_u32mf2x3_tum(vbool64_t vm,
                                                vuint32mf2x3_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
```

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vuint32mf2x4_t __riscv_vlsseg4e32_v_u32mf2x4_tum(vbool64_t vm,
                                                 vuint32mf2x4_t vd,
                                                 const uint32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vlsseg5e32_v_u32mf2x5_tum(vbool64_t vm,
                                                 vuint32mf2x5_t vd,
                                                 const uint32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vlsseg6e32_v_u32mf2x6_tum(vbool64_t vm,
                                                 vuint32mf2x6_t vd,
                                                 const uint32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vlsseg7e32_v_u32mf2x7_tum(vbool64_t vm,
                                                 vuint32mf2x7_t vd,
                                                 const uint32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vlsseg8e32_v_u32mf2x8_tum(vbool64_t vm,
                                                 vuint32mf2x8_t vd,
                                                 const uint32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vuint32m1x2_t __riscv_vlsseg2e32_v_u32m1x2_tum(vbool32_t vm, vuint32m1x2_t vd,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32m1x3_t __riscv_vlsseg3e32_v_u32m1x3_tum(vbool32_t vm, vuint32m1x3_t vd,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32m1x4_t __riscv_vlsseg4e32_v_u32m1x4_tum(vbool32_t vm, vuint32m1x4_t vd,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32m1x5_t __riscv_vlsseg5e32_v_u32m1x5_tum(vbool32_t vm, vuint32m1x5_t vd,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32m1x6_t __riscv_vlsseg6e32_v_u32m1x6_tum(vbool32_t vm, vuint32m1x6_t vd,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32m1x7_t __riscv_vlsseg7e32_v_u32m1x7_tum(vbool32_t vm, vuint32m1x7_t vd,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32m1x8_t __riscv_vlsseg8e32_v_u32m1x8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32m2x2_t __riscv_vlsseg2e32_v_u32m2x2_tum(vbool16_t vm, vuint32m2x2_t vd,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32m2x3_t __riscv_vlsseg3e32_v_u32m2x3_tum(vbool16_t vm, vuint32m2x3_t vd,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32m2x4_t __riscv_vlsseg4e32_v_u32m2x4_tum(vbool16_t vm, vuint32m2x4_t vd,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint32m4x2_t __riscv_vlsseg2e32_v_u32m4x2_tum(vbool8_t vm, vuint32m4x2_t vd,
                                               const uint32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint64m1x2_t __riscv_vlsseg2e64_v_u64m1x2_tum(vbool64_t vm, vuint64m1x2_t vd,
                                               const uint64_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint64m1x3_t __riscv_vlsseg3e64_v_u64m1x3_tum(vbool64_t vm, vuint64m1x3_t vd,
                                               const uint64_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint64m1x4_t __riscv_vlsseg4e64_v_u64m1x4_tum(vbool64_t vm, vuint64m1x4_t vd,
                                               const uint64_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint64m1x5_t __riscv_vlsseg5e64_v_u64m1x5_tum(vbool64_t vm, vuint64m1x5_t vd,
                                               const uint64_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vuint64m1x6_t __riscv_vlsseg6e64_v_u64m1x6_tum(vbool64_t vm, vuint64m1x6_t vd,
                                               const uint64_t *rs1,
```

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                                                ptrdiff_t rs2, size_t vl);
vuint64m1x7_t __riscv_vlsseg7e64_v_u64m1x7_tum(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x8_t __riscv_vlsseg8e64_v_u64m1x8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m2x2_t __riscv_vlsseg2e64_v_u64m2x2_tum(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m2x3_t __riscv_vlsseg3e64_v_u64m2x3_tum(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m2x4_t __riscv_vlsseg4e64_v_u64m2x4_tum(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m4x2_t __riscv_vlsseg2e64_v_u64m4x2_tum(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlsseg2e16_v_f16mf4x2_tumu(vbool64_t vm,
                                                   vfloat16mf4x2_t vd,
                                                   const _Float16 *rs1,
                                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vlsseg3e16_v_f16mf4x3_tumu(vbool64_t vm,
                                                   vfloat16mf4x3_t vd,
                                                   const _Float16 *rs1,
                                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vlsseg4e16_v_f16mf4x4_tumu(vbool64_t vm,
                                                   vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vlsseg5e16_v_f16mf4x5_tumu(vbool64_t vm,
                                                   vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vlsseg6e16_v_f16mf4x6_tumu(vbool64_t vm,
                                                   vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vlsseg7e16_v_f16mf4x7_tumu(vbool64_t vm,
                                                   vfloat16mf4x7_t vd,
                                                   const _Float16 *rs1,
                                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vlsseg8e16_v_f16mf4x8_tumu(vbool64_t vm,
                                                   vfloat16mf4x8_t vd,
                                                   const _Float16 *rs1,
                                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vlsseg2e16_v_f16mf2x2_tumu(vbool32_t vm,
                                                   vfloat16mf2x2_t vd,
                                                   const _Float16 *rs1,
                                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vlsseg3e16_v_f16mf2x3_tumu(vbool32_t vm,
                                                   vfloat16mf2x3_t vd,
                                                   const _Float16 *rs1,
                                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vlsseg4e16_v_f16mf2x4_tumu(vbool32_t vm,
                                                   vfloat16mf2x4_t vd,
                                                   const _Float16 *rs1,
                                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vlsseg5e16_v_f16mf2x5_tumu(vbool32_t vm,
                                                   vfloat16mf2x5_t vd,
                                                   const _Float16 *rs1,
                                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vlsseg6e16_v_f16mf2x6_tumu(vbool32_t vm,
                                                   vfloat16mf2x6_t vd,
                                                   const _Float16 *rs1,
```

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                                                    ptrdiff_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vlsseg7e16_v_f16mf2x7_tumu(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    ptrdiff_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vlsseg8e16_v_f16mf2x8_tumu(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    ptrdiff_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vlsseg2e16_v_f16m1x2_tumu(vbool16_t vm,
                                                  vfloat16m1x2_t vd,
                                                  const _Float16 *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vlsseg3e16_v_f16m1x3_tumu(vbool16_t vm,
                                                  vfloat16m1x3_t vd,
                                                  const _Float16 *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vlsseg4e16_v_f16m1x4_tumu(vbool16_t vm,
                                                  vfloat16m1x4_t vd,
                                                  const _Float16 *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vlsseg5e16_v_f16m1x5_tumu(vbool16_t vm,
                                                  vfloat16m1x5_t vd,
                                                  const _Float16 *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vlsseg6e16_v_f16m1x6_tumu(vbool16_t vm,
                                                  vfloat16m1x6_t vd,
                                                  const _Float16 *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vlsseg7e16_v_f16m1x7_tumu(vbool16_t vm,
                                                  vfloat16m1x7_t vd,
                                                  const _Float16 *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vlsseg8e16_v_f16m1x8_tumu(vbool16_t vm,
                                                  vfloat16m1x8_t vd,
                                                  const _Float16 *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vlsseg2e16_v_f16m2x2_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                                  const _Float16 *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vlsseg3e16_v_f16m2x3_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                                  const _Float16 *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vlsseg4e16_v_f16m2x4_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                                  const _Float16 *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vlsseg2e16_v_f16m4x2_tumu(vbool4_t vm, vfloat16m4x2_t vd,
                                                  const _Float16 *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vlsseg2e32_v_f32mf2x2_tumu(vbool64_t vm,
                                                    vfloat32mf2x2_t vd,
                                                    const float *rs1,
                                                    ptrdiff_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vlsseg3e32_v_f32mf2x3_tumu(vbool64_t vm,
                                                    vfloat32mf2x3_t vd,
                                                    const float *rs1,
                                                    ptrdiff_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vlsseg4e32_v_f32mf2x4_tumu(vbool64_t vm,
                                                    vfloat32mf2x4_t vd,
                                                    const float *rs1,
                                                    ptrdiff_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vlsseg5e32_v_f32mf2x5_tumu(vbool64_t vm,
                                                    vfloat32mf2x5_t vd,
                                                    const float *rs1,
                                                    ptrdiff_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vlsseg6e32_v_f32mf2x6_tumu(vbool64_t vm,
                                                    vfloat32mf2x6_t vd,
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                                                  const float *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vlsseg7e32_v_f32mf2x7_tumu(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vlsseg8e32_v_f32mf2x8_tumu(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vlsseg2e32_v_f32m1x2_tumu(vbool32_t vm,
                                                 vfloat32m1x2_t vd,
                                                 const float *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vlsseg3e32_v_f32m1x3_tumu(vbool32_t vm,
                                                 vfloat32m1x3_t vd,
                                                 const float *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vlsseg4e32_v_f32m1x4_tumu(vbool32_t vm,
                                                 vfloat32m1x4_t vd,
                                                 const float *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vlsseg5e32_v_f32m1x5_tumu(vbool32_t vm,
                                                 vfloat32m1x5_t vd,
                                                 const float *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vlsseg6e32_v_f32m1x6_tumu(vbool32_t vm,
                                                 vfloat32m1x6_t vd,
                                                 const float *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vlsseg7e32_v_f32m1x7_tumu(vbool32_t vm,
                                                 vfloat32m1x7_t vd,
                                                 const float *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vlsseg8e32_v_f32m1x8_tumu(vbool32_t vm,
                                                 vfloat32m1x8_t vd,
                                                 const float *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vlsseg2e32_v_f32m2x2_tumu(vbool16_t vm,
                                                 vfloat32m2x2_t vd,
                                                 const float *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vlsseg3e32_v_f32m2x3_tumu(vbool16_t vm,
                                                 vfloat32m2x3_t vd,
                                                 const float *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vlsseg4e32_v_f32m2x4_tumu(vbool16_t vm,
                                                 vfloat32m2x4_t vd,
                                                 const float *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vlsseg2e32_v_f32m4x2_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                                 const float *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vlsseg2e64_v_f64m1x2_tumu(vbool64_t vm,
                                                 vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vlsseg3e64_v_f64m1x3_tumu(vbool64_t vm,
                                                 vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vlsseg4e64_v_f64m1x4_tumu(vbool64_t vm,
                                                 vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vlsseg5e64_v_f64m1x5_tumu(vbool64_t vm,
                                                 vfloat64m1x5_t vd,
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                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vlsseg6e64_v_f64m1x6_tumu(vbool64_t vm,
                                                vfloat64m1x6_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vlsseg7e64_v_f64m1x7_tumu(vbool64_t vm,
                                                vfloat64m1x7_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vlsseg8e64_v_f64m1x8_tumu(vbool64_t vm,
                                                vfloat64m1x8_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vlsseg2e64_v_f64m2x2_tumu(vbool32_t vm,
                                                vfloat64m2x2_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vlsseg3e64_v_f64m2x3_tumu(vbool32_t vm,
                                                vfloat64m2x3_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vlsseg4e64_v_f64m2x4_tumu(vbool32_t vm,
                                                vfloat64m2x4_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vlsseg2e64_v_f64m4x2_tumu(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint8mf8x2_t __riscv_vlsseg2e8_v_i8mf8x2_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf8x3_t __riscv_vlsseg3e8_v_i8mf8x3_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf8x4_t __riscv_vlsseg4e8_v_i8mf8x4_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf8x5_t __riscv_vlsseg5e8_v_i8mf8x5_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf8x6_t __riscv_vlsseg6e8_v_i8mf8x6_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf8x7_t __riscv_vlsseg7e8_v_i8mf8x7_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf8x8_t __riscv_vlsseg8e8_v_i8mf8x8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf4x2_t __riscv_vlsseg2e8_v_i8mf4x2_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf4x3_t __riscv_vlsseg3e8_v_i8mf4x3_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf4x4_t __riscv_vlsseg4e8_v_i8mf4x4_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf4x5_t __riscv_vlsseg5e8_v_i8mf4x5_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf4x6_t __riscv_vlsseg6e8_v_i8mf4x6_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                              const int8_t *rs1, ptrdiff_t rs2,
                                              size_t vl);
vint8mf4x7_t __riscv_vlsseg7e8_v_i8mf4x7_tumu(vbool32_t vm, vint8mf4x7_t vd,
```

```
                                            const int8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint8mf4x8_t __riscv_vlsseg8e8_v_i8mf4x8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                            const int8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint8mf2x2_t __riscv_vlsseg2e8_v_i8mf2x2_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                            const int8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint8mf2x3_t __riscv_vlsseg3e8_v_i8mf2x3_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                            const int8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint8mf2x4_t __riscv_vlsseg4e8_v_i8mf2x4_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                            const int8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint8mf2x5_t __riscv_vlsseg5e8_v_i8mf2x5_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                            const int8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint8mf2x6_t __riscv_vlsseg6e8_v_i8mf2x6_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                            const int8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint8mf2x7_t __riscv_vlsseg7e8_v_i8mf2x7_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                            const int8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint8mf2x8_t __riscv_vlsseg8e8_v_i8mf2x8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                            const int8_t *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint8m1x2_t __riscv_vlsseg2e8_v_i8m1x2_tumu(vbool8_t vm, vint8m1x2_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m1x3_t __riscv_vlsseg3e8_v_i8m1x3_tumu(vbool8_t vm, vint8m1x3_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m1x4_t __riscv_vlsseg4e8_v_i8m1x4_tumu(vbool8_t vm, vint8m1x4_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m1x5_t __riscv_vlsseg5e8_v_i8m1x5_tumu(vbool8_t vm, vint8m1x5_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m1x6_t __riscv_vlsseg6e8_v_i8m1x6_tumu(vbool8_t vm, vint8m1x6_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m1x7_t __riscv_vlsseg7e8_v_i8m1x7_tumu(vbool8_t vm, vint8m1x7_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m1x8_t __riscv_vlsseg8e8_v_i8m1x8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m2x2_t __riscv_vlsseg2e8_v_i8m2x2_tumu(vbool4_t vm, vint8m2x2_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m2x3_t __riscv_vlsseg3e8_v_i8m2x3_tumu(vbool4_t vm, vint8m2x3_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m2x4_t __riscv_vlsseg4e8_v_i8m2x4_tumu(vbool4_t vm, vint8m2x4_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m4x2_t __riscv_vlsseg2e8_v_i8m4x2_tumu(vbool2_t vm, vint8m4x2_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint16mf4x2_t __riscv_vlsseg2e16_v_i16mf4x2_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf4x3_t __riscv_vlsseg3e16_v_i16mf4x3_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf4x4_t __riscv_vlsseg4e16_v_i16mf4x4_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                               const int16_t *rs1,
```

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                                                ptrdiff_t rs2, size_t vl);
vint16mf4x5_t __riscv_vlsseg5e16_v_i16mf4x5_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf4x6_t __riscv_vlsseg6e16_v_i16mf4x6_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf4x7_t __riscv_vlsseg7e16_v_i16mf4x7_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf4x8_t __riscv_vlsseg8e16_v_i16mf4x8_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x2_t __riscv_vlsseg2e16_v_i16mf2x2_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x3_t __riscv_vlsseg3e16_v_i16mf2x3_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x4_t __riscv_vlsseg4e16_v_i16mf2x4_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x5_t __riscv_vlsseg5e16_v_i16mf2x5_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x6_t __riscv_vlsseg6e16_v_i16mf2x6_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x7_t __riscv_vlsseg7e16_v_i16mf2x7_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16mf2x8_t __riscv_vlsseg8e16_v_i16mf2x8_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint16m1x2_t __riscv_vlsseg2e16_v_i16m1x2_tumu(vbool16_t vm, vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m1x3_t __riscv_vlsseg3e16_v_i16m1x3_tumu(vbool16_t vm, vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m1x4_t __riscv_vlsseg4e16_v_i16m1x4_tumu(vbool16_t vm, vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m1x5_t __riscv_vlsseg5e16_v_i16m1x5_tumu(vbool16_t vm, vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m1x6_t __riscv_vlsseg6e16_v_i16m1x6_tumu(vbool16_t vm, vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m1x7_t __riscv_vlsseg7e16_v_i16m1x7_tumu(vbool16_t vm, vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m1x8_t __riscv_vlsseg8e16_v_i16m1x8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m2x2_t __riscv_vlsseg2e16_v_i16m2x2_tumu(vbool8_t vm, vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m2x3_t __riscv_vlsseg3e16_v_i16m2x3_tumu(vbool8_t vm, vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m2x4_t __riscv_vlsseg4e16_v_i16m2x4_tumu(vbool8_t vm, vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m4x2_t __riscv_vlsseg2e16_v_i16m4x2_tumu(vbool4_t vm, vint16m4x2_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
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vint32mf2x2_t __riscv_vlsseg2e32_v_i32mf2x2_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vint32mf2x3_t __riscv_vlsseg3e32_v_i32mf2x3_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vint32mf2x4_t __riscv_vlsseg4e32_v_i32mf2x4_tumu(vbool64_t vm, vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vint32mf2x5_t __riscv_vlsseg5e32_v_i32mf2x5_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vint32mf2x6_t __riscv_vlsseg6e32_v_i32mf2x6_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vint32mf2x7_t __riscv_vlsseg7e32_v_i32mf2x7_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vint32mf2x8_t __riscv_vlsseg8e32_v_i32mf2x8_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                                 const int32_t *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vint32m1x2_t __riscv_vlsseg2e32_v_i32m1x2_tumu(vbool32_t vm, vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32m1x3_t __riscv_vlsseg3e32_v_i32m1x3_tumu(vbool32_t vm, vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32m1x4_t __riscv_vlsseg4e32_v_i32m1x4_tumu(vbool32_t vm, vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32m1x5_t __riscv_vlsseg5e32_v_i32m1x5_tumu(vbool32_t vm, vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32m1x6_t __riscv_vlsseg6e32_v_i32m1x6_tumu(vbool32_t vm, vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32m1x7_t __riscv_vlsseg7e32_v_i32m1x7_tumu(vbool32_t vm, vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32m1x8_t __riscv_vlsseg8e32_v_i32m1x8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32m2x2_t __riscv_vlsseg2e32_v_i32m2x2_tumu(vbool16_t vm, vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32m2x3_t __riscv_vlsseg3e32_v_i32m2x3_tumu(vbool16_t vm, vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32m2x4_t __riscv_vlsseg4e32_v_i32m2x4_tumu(vbool16_t vm, vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32m4x2_t __riscv_vlsseg2e32_v_i32m4x2_tumu(vbool8_t vm, vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint64m1x2_t __riscv_vlsseg2e64_v_i64m1x2_tumu(vbool64_t vm, vint64m1x2_t vd,
                                               const int64_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint64m1x3_t __riscv_vlsseg3e64_v_i64m1x3_tumu(vbool64_t vm, vint64m1x3_t vd,
                                               const int64_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint64m1x4_t __riscv_vlsseg4e64_v_i64m1x4_tumu(vbool64_t vm, vint64m1x4_t vd,
                                               const int64_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint64m1x5_t __riscv_vlsseg5e64_v_i64m1x5_tumu(vbool64_t vm, vint64m1x5_t vd,
                                               const int64_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint64m1x6_t __riscv_vlsseg6e64_v_i64m1x6_tumu(vbool64_t vm, vint64m1x6_t vd,
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                                                const int64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint64m1x7_t __riscv_vlsseg7e64_v_i64m1x7_tumu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint64m1x8_t __riscv_vlsseg8e64_v_i64m1x8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint64m2x2_t __riscv_vlsseg2e64_v_i64m2x2_tumu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint64m2x3_t __riscv_vlsseg3e64_v_i64m2x3_tumu(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint64m2x4_t __riscv_vlsseg4e64_v_i64m2x4_tumu(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vint64m4x2_t __riscv_vlsseg2e64_v_i64m4x2_tumu(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vlsseg2e8_v_u8mf8x2_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vlsseg3e8_v_u8mf8x3_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vlsseg4e8_v_u8mf8x4_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vlsseg5e8_v_u8mf8x5_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vlsseg6e8_v_u8mf8x6_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vlsseg7e8_v_u8mf8x7_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vlsseg8e8_v_u8mf8x8_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vlsseg2e8_v_u8mf4x2_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vlsseg3e8_v_u8mf4x3_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vlsseg4e8_v_u8mf4x4_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vlsseg5e8_v_u8mf4x5_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vlsseg6e8_v_u8mf4x6_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vlsseg7e8_v_u8mf4x7_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vlsseg8e8_v_u8mf4x8_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vlsseg2e8_v_u8mf2x2_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vlsseg3e8_v_u8mf2x3_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
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```
                                                ptrdiff_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vlsseg4e8_v_u8mf2x4_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vlsseg5e8_v_u8mf2x5_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vlsseg6e8_v_u8mf2x6_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vlsseg7e8_v_u8mf2x7_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vlsseg8e8_v_u8mf2x8_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint8m1x2_t __riscv_vlsseg2e8_v_u8m1x2_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                             const uint8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint8m1x3_t __riscv_vlsseg3e8_v_u8m1x3_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                             const uint8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint8m1x4_t __riscv_vlsseg4e8_v_u8m1x4_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                             const uint8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint8m1x5_t __riscv_vlsseg5e8_v_u8m1x5_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                             const uint8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint8m1x6_t __riscv_vlsseg6e8_v_u8m1x6_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                             const uint8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint8m1x7_t __riscv_vlsseg7e8_v_u8m1x7_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                             const uint8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint8m1x8_t __riscv_vlsseg8e8_v_u8m1x8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                             const uint8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint8m2x2_t __riscv_vlsseg2e8_v_u8m2x2_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                             const uint8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint8m2x3_t __riscv_vlsseg3e8_v_u8m2x3_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                             const uint8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint8m2x4_t __riscv_vlsseg4e8_v_u8m2x4_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                             const uint8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint8m4x2_t __riscv_vlsseg2e8_v_u8m4x2_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                             const uint8_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vuint16mf4x2_t __riscv_vlsseg2e16_v_u16mf4x2_tumu(vbool64_t vm,
                                                  vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vlsseg3e16_v_u16mf4x3_tumu(vbool64_t vm,
                                                  vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vlsseg4e16_v_u16mf4x4_tumu(vbool64_t vm,
                                                  vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vlsseg5e16_v_u16mf4x5_tumu(vbool64_t vm,
                                                  vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vlsseg6e16_v_u16mf4x6_tumu(vbool64_t vm,
                                                  vuint16mf4x6_t vd,
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                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vlsseg7e16_v_u16mf4x7_tumu(vbool64_t vm,
                                                vuint16mf4x7_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vlsseg8e16_v_u16mf4x8_tumu(vbool64_t vm,
                                                vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vlsseg2e16_v_u16mf2x2_tumu(vbool32_t vm,
                                                vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vlsseg3e16_v_u16mf2x3_tumu(vbool32_t vm,
                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vlsseg4e16_v_u16mf2x4_tumu(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vlsseg5e16_v_u16mf2x5_tumu(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vlsseg6e16_v_u16mf2x6_tumu(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vlsseg7e16_v_u16mf2x7_tumu(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vlsseg8e16_v_u16mf2x8_tumu(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m1x2_t __riscv_vlsseg2e16_v_u16m1x2_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m1x3_t __riscv_vlsseg3e16_v_u16m1x3_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m1x4_t __riscv_vlsseg4e16_v_u16m1x4_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m1x5_t __riscv_vlsseg5e16_v_u16m1x5_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m1x6_t __riscv_vlsseg6e16_v_u16m1x6_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m1x7_t __riscv_vlsseg7e16_v_u16m1x7_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m1x8_t __riscv_vlsseg8e16_v_u16m1x8_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m2x2_t __riscv_vlsseg2e16_v_u16m2x2_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m2x3_t __riscv_vlsseg3e16_v_u16m2x3_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m2x4_t __riscv_vlsseg4e16_v_u16m2x4_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
```

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                                                ptrdiff_t rs2, size_t vl);
vuint16m4x2_t __riscv_vlsseg2e16_v_u16m4x2_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vlsseg2e32_v_u32mf2x2_tumu(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vlsseg3e32_v_u32mf2x3_tumu(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vlsseg4e32_v_u32mf2x4_tumu(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vlsseg5e32_v_u32mf2x5_tumu(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vlsseg6e32_v_u32mf2x6_tumu(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vlsseg7e32_v_u32mf2x7_tumu(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vlsseg8e32_v_u32mf2x8_tumu(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  ptrdiff_t rs2, size_t vl);
vuint32m1x2_t __riscv_vlsseg2e32_v_u32m1x2_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x3_t __riscv_vlsseg3e32_v_u32m1x3_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x4_t __riscv_vlsseg4e32_v_u32m1x4_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x5_t __riscv_vlsseg5e32_v_u32m1x5_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x6_t __riscv_vlsseg6e32_v_u32m1x6_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x7_t __riscv_vlsseg7e32_v_u32m1x7_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x8_t __riscv_vlsseg8e32_v_u32m1x8_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m2x2_t __riscv_vlsseg2e32_v_u32m2x2_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m2x3_t __riscv_vlsseg3e32_v_u32m2x3_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m2x4_t __riscv_vlsseg4e32_v_u32m2x4_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m4x2_t __riscv_vlsseg2e32_v_u32m4x2_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x2_t __riscv_vlsseg2e64_v_u64m1x2_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
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                                                ptrdiff_t rs2, size_t vl);
vuint64m1x3_t __riscv_vlsseg3e64_v_u64m1x3_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x4_t __riscv_vlsseg4e64_v_u64m1x4_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x5_t __riscv_vlsseg5e64_v_u64m1x5_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x6_t __riscv_vlsseg6e64_v_u64m1x6_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x7_t __riscv_vlsseg7e64_v_u64m1x7_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x8_t __riscv_vlsseg8e64_v_u64m1x8_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m2x2_t __riscv_vlsseg2e64_v_u64m2x2_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m2x3_t __riscv_vlsseg3e64_v_u64m2x3_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m2x4_t __riscv_vlsseg4e64_v_u64m2x4_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m4x2_t __riscv_vlsseg2e64_v_u64m4x2_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlsseg2e16_v_f16mf4x2_mu(vbool64_t vm,
                                                 vfloat16mf4x2_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vlsseg3e16_v_f16mf4x3_mu(vbool64_t vm,
                                                 vfloat16mf4x3_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vlsseg4e16_v_f16mf4x4_mu(vbool64_t vm,
                                                 vfloat16mf4x4_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vlsseg5e16_v_f16mf4x5_mu(vbool64_t vm,
                                                 vfloat16mf4x5_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vlsseg6e16_v_f16mf4x6_mu(vbool64_t vm,
                                                 vfloat16mf4x6_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vlsseg7e16_v_f16mf4x7_mu(vbool64_t vm,
                                                 vfloat16mf4x7_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vlsseg8e16_v_f16mf4x8_mu(vbool64_t vm,
                                                 vfloat16mf4x8_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vlsseg2e16_v_f16mf2x2_mu(vbool32_t vm,
                                                 vfloat16mf2x2_t vd,
                                                 const _Float16 *rs1,
                                                 ptrdiff_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vlsseg3e16_v_f16mf2x3_mu(vbool32_t vm,
                                                 vfloat16mf2x3_t vd,
                                                 const _Float16 *rs1,
```

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                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vlsseg4e16_v_f16mf2x4_mu(vbool32_t vm,
                                                vfloat16mf2x4_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vlsseg5e16_v_f16mf2x5_mu(vbool32_t vm,
                                                vfloat16mf2x5_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vlsseg6e16_v_f16mf2x6_mu(vbool32_t vm,
                                                vfloat16mf2x6_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vlsseg7e16_v_f16mf2x7_mu(vbool32_t vm,
                                                vfloat16mf2x7_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vlsseg8e16_v_f16mf2x8_mu(vbool32_t vm,
                                                vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vlsseg2e16_v_f16m1x2_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vlsseg3e16_v_f16m1x3_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vlsseg4e16_v_f16m1x4_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vlsseg5e16_v_f16m1x5_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vlsseg6e16_v_f16m1x6_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vlsseg7e16_v_f16m1x7_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vlsseg8e16_v_f16m1x8_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vlsseg2e16_v_f16m2x2_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vlsseg3e16_v_f16m2x3_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vlsseg4e16_v_f16m2x4_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vlsseg2e16_v_f16m4x2_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                               const _Float16 *rs1,
                                               ptrdiff_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vlsseg2e32_v_f32mf2x2_mu(vbool64_t vm,
                                                vfloat32mf2x2_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vlsseg3e32_v_f32mf2x3_mu(vbool64_t vm,
                                                vfloat32mf2x3_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vlsseg4e32_v_f32mf2x4_mu(vbool64_t vm,
                                                vfloat32mf2x4_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vlsseg5e32_v_f32mf2x5_mu(vbool64_t vm,
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                                                vfloat32mf2x5_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vlsseg6e32_v_f32mf2x6_mu(vbool64_t vm,
                                                vfloat32mf2x6_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vlsseg7e32_v_f32mf2x7_mu(vbool64_t vm,
                                                vfloat32mf2x7_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vlsseg8e32_v_f32mf2x8_mu(vbool64_t vm,
                                                vfloat32mf2x8_t vd,
                                                const float *rs1,
                                                ptrdiff_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vlsseg2e32_v_f32m1x2_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                               const float *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat32m1x3_t __riscv_vlsseg3e32_v_f32m1x3_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                               const float *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat32m1x4_t __riscv_vlsseg4e32_v_f32m1x4_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                               const float *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat32m1x5_t __riscv_vlsseg5e32_v_f32m1x5_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                               const float *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat32m1x6_t __riscv_vlsseg6e32_v_f32m1x6_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                               const float *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat32m1x7_t __riscv_vlsseg7e32_v_f32m1x7_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                               const float *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat32m1x8_t __riscv_vlsseg8e32_v_f32m1x8_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                               const float *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat32m2x2_t __riscv_vlsseg2e32_v_f32m2x2_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                               const float *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat32m2x3_t __riscv_vlsseg3e32_v_f32m2x3_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                               const float *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat32m2x4_t __riscv_vlsseg4e32_v_f32m2x4_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                               const float *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat32m4x2_t __riscv_vlsseg2e32_v_f32m4x2_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                               const float *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat64m1x2_t __riscv_vlsseg2e64_v_f64m1x2_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                               const double *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat64m1x3_t __riscv_vlsseg3e64_v_f64m1x3_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                               const double *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat64m1x4_t __riscv_vlsseg4e64_v_f64m1x4_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                               const double *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat64m1x5_t __riscv_vlsseg5e64_v_f64m1x5_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                               const double *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat64m1x6_t __riscv_vlsseg6e64_v_f64m1x6_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                               const double *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat64m1x7_t __riscv_vlsseg7e64_v_f64m1x7_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                               const double *rs1, ptrdiff_t rs2,
                                               size_t vl);
vfloat64m1x8_t __riscv_vlsseg8e64_v_f64m1x8_mu(vbool64_t vm, vfloat64m1x8_t vd,
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                                            const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m2x2_t __riscv_vlsseg2e64_v_f64m2x2_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                            const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m2x3_t __riscv_vlsseg3e64_v_f64m2x3_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                            const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m2x4_t __riscv_vlsseg4e64_v_f64m2x4_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                            const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vfloat64m4x2_t __riscv_vlsseg2e64_v_f64m4x2_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                            const double *rs1, ptrdiff_t rs2,
                                            size_t vl);
vint8mf8x2_t __riscv_vlsseg2e8_v_i8mf8x2_mu(vbool64_t vm, vint8mf8x2_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf8x3_t __riscv_vlsseg3e8_v_i8mf8x3_mu(vbool64_t vm, vint8mf8x3_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf8x4_t __riscv_vlsseg4e8_v_i8mf8x4_mu(vbool64_t vm, vint8mf8x4_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf8x5_t __riscv_vlsseg5e8_v_i8mf8x5_mu(vbool64_t vm, vint8mf8x5_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf8x6_t __riscv_vlsseg6e8_v_i8mf8x6_mu(vbool64_t vm, vint8mf8x6_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf8x7_t __riscv_vlsseg7e8_v_i8mf8x7_mu(vbool64_t vm, vint8mf8x7_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf8x8_t __riscv_vlsseg8e8_v_i8mf8x8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf4x2_t __riscv_vlsseg2e8_v_i8mf4x2_mu(vbool32_t vm, vint8mf4x2_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf4x3_t __riscv_vlsseg3e8_v_i8mf4x3_mu(vbool32_t vm, vint8mf4x3_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf4x4_t __riscv_vlsseg4e8_v_i8mf4x4_mu(vbool32_t vm, vint8mf4x4_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf4x5_t __riscv_vlsseg5e8_v_i8mf4x5_mu(vbool32_t vm, vint8mf4x5_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf4x6_t __riscv_vlsseg6e8_v_i8mf4x6_mu(vbool32_t vm, vint8mf4x6_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf4x7_t __riscv_vlsseg7e8_v_i8mf4x7_mu(vbool32_t vm, vint8mf4x7_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf4x8_t __riscv_vlsseg8e8_v_i8mf4x8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf2x2_t __riscv_vlsseg2e8_v_i8mf2x2_mu(vbool16_t vm, vint8mf2x2_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf2x3_t __riscv_vlsseg3e8_v_i8mf2x3_mu(vbool16_t vm, vint8mf2x3_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf2x4_t __riscv_vlsseg4e8_v_i8mf2x4_mu(vbool16_t vm, vint8mf2x4_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8mf2x5_t __riscv_vlsseg5e8_v_i8mf2x5_mu(vbool16_t vm, vint8mf2x5_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
```

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                                          size_t vl);
vint8mf2x6_t __riscv_vlsseg6e8_v_i8mf2x6_mu(vbool16_t vm, vint8mf2x6_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf2x7_t __riscv_vlsseg7e8_v_i8mf2x7_mu(vbool16_t vm, vint8mf2x7_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8mf2x8_t __riscv_vlsseg8e8_v_i8mf2x8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                          const int8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint8m1x2_t __riscv_vlsseg2e8_v_i8m1x2_mu(vbool8_t vm, vint8m1x2_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x3_t __riscv_vlsseg3e8_v_i8m1x3_mu(vbool8_t vm, vint8m1x3_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x4_t __riscv_vlsseg4e8_v_i8m1x4_mu(vbool8_t vm, vint8m1x4_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x5_t __riscv_vlsseg5e8_v_i8m1x5_mu(vbool8_t vm, vint8m1x5_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x6_t __riscv_vlsseg6e8_v_i8m1x6_mu(vbool8_t vm, vint8m1x6_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x7_t __riscv_vlsseg7e8_v_i8m1x7_mu(vbool8_t vm, vint8m1x7_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m1x8_t __riscv_vlsseg8e8_v_i8m1x8_mu(vbool8_t vm, vint8m1x8_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m2x2_t __riscv_vlsseg2e8_v_i8m2x2_mu(vbool4_t vm, vint8m2x2_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m2x3_t __riscv_vlsseg3e8_v_i8m2x3_mu(vbool4_t vm, vint8m2x3_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m2x4_t __riscv_vlsseg4e8_v_i8m2x4_mu(vbool4_t vm, vint8m2x4_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint8m4x2_t __riscv_vlsseg2e8_v_i8m4x2_mu(vbool2_t vm, vint8m4x2_t vd,
                                        const int8_t *rs1, ptrdiff_t rs2,
                                        size_t vl);
vint16mf4x2_t __riscv_vlsseg2e16_v_i16mf4x2_mu(vbool64_t vm, vint16mf4x2_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x3_t __riscv_vlsseg3e16_v_i16mf4x3_mu(vbool64_t vm, vint16mf4x3_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x4_t __riscv_vlsseg4e16_v_i16mf4x4_mu(vbool64_t vm, vint16mf4x4_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x5_t __riscv_vlsseg5e16_v_i16mf4x5_mu(vbool64_t vm, vint16mf4x5_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x6_t __riscv_vlsseg6e16_v_i16mf4x6_mu(vbool64_t vm, vint16mf4x6_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x7_t __riscv_vlsseg7e16_v_i16mf4x7_mu(vbool64_t vm, vint16mf4x7_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf4x8_t __riscv_vlsseg8e16_v_i16mf4x8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint16mf2x2_t __riscv_vlsseg2e16_v_i16mf2x2_mu(vbool32_t vm, vint16mf2x2_t vd,
                                            const int16_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
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vint16mf2x3_t __riscv_vlsseg3e16_v_i16mf2x3_mu(vbool32_t vm, vint16mf2x3_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf2x4_t __riscv_vlsseg4e16_v_i16mf2x4_mu(vbool32_t vm, vint16mf2x4_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf2x5_t __riscv_vlsseg5e16_v_i16mf2x5_mu(vbool32_t vm, vint16mf2x5_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf2x6_t __riscv_vlsseg6e16_v_i16mf2x6_mu(vbool32_t vm, vint16mf2x6_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf2x7_t __riscv_vlsseg7e16_v_i16mf2x7_mu(vbool32_t vm, vint16mf2x7_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16mf2x8_t __riscv_vlsseg8e16_v_i16mf2x8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                               const int16_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint16m1x2_t __riscv_vlsseg2e16_v_i16m1x2_mu(vbool16_t vm, vint16m1x2_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x3_t __riscv_vlsseg3e16_v_i16m1x3_mu(vbool16_t vm, vint16m1x3_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x4_t __riscv_vlsseg4e16_v_i16m1x4_mu(vbool16_t vm, vint16m1x4_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x5_t __riscv_vlsseg5e16_v_i16m1x5_mu(vbool16_t vm, vint16m1x5_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x6_t __riscv_vlsseg6e16_v_i16m1x6_mu(vbool16_t vm, vint16m1x6_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x7_t __riscv_vlsseg7e16_v_i16m1x7_mu(vbool16_t vm, vint16m1x7_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m1x8_t __riscv_vlsseg8e16_v_i16m1x8_mu(vbool16_t vm, vint16m1x8_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m2x2_t __riscv_vlsseg2e16_v_i16m2x2_mu(vbool8_t vm, vint16m2x2_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m2x3_t __riscv_vlsseg3e16_v_i16m2x3_mu(vbool8_t vm, vint16m2x3_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m2x4_t __riscv_vlsseg4e16_v_i16m2x4_mu(vbool8_t vm, vint16m2x4_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint16m4x2_t __riscv_vlsseg2e16_v_i16m4x2_mu(vbool4_t vm, vint16m4x2_t vd,
                                             const int16_t *rs1, ptrdiff_t rs2,
                                             size_t vl);
vint32mf2x2_t __riscv_vlsseg2e32_v_i32mf2x2_mu(vbool64_t vm, vint32mf2x2_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32mf2x3_t __riscv_vlsseg3e32_v_i32mf2x3_mu(vbool64_t vm, vint32mf2x3_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32mf2x4_t __riscv_vlsseg4e32_v_i32mf2x4_mu(vbool64_t vm, vint32mf2x4_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32mf2x5_t __riscv_vlsseg5e32_v_i32mf2x5_mu(vbool64_t vm, vint32mf2x5_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32mf2x6_t __riscv_vlsseg6e32_v_i32mf2x6_mu(vbool64_t vm, vint32mf2x6_t vd,
                                               const int32_t *rs1,
                                               ptrdiff_t rs2, size_t vl);
vint32mf2x7_t __riscv_vlsseg7e32_v_i32mf2x7_mu(vbool64_t vm, vint32mf2x7_t vd,
```

```
                                            const int32_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint32mf2x8_t __riscv_vlsseg8e32_v_i32mf2x8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                            const int32_t *rs1,
                                            ptrdiff_t rs2, size_t vl);
vint32m1x2_t __riscv_vlsseg2e32_v_i32m1x2_mu(vbool32_t vm, vint32m1x2_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m1x3_t __riscv_vlsseg3e32_v_i32m1x3_mu(vbool32_t vm, vint32m1x3_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m1x4_t __riscv_vlsseg4e32_v_i32m1x4_mu(vbool32_t vm, vint32m1x4_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m1x5_t __riscv_vlsseg5e32_v_i32m1x5_mu(vbool32_t vm, vint32m1x5_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m1x6_t __riscv_vlsseg6e32_v_i32m1x6_mu(vbool32_t vm, vint32m1x6_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m1x7_t __riscv_vlsseg7e32_v_i32m1x7_mu(vbool32_t vm, vint32m1x7_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m1x8_t __riscv_vlsseg8e32_v_i32m1x8_mu(vbool32_t vm, vint32m1x8_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m2x2_t __riscv_vlsseg2e32_v_i32m2x2_mu(vbool16_t vm, vint32m2x2_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m2x3_t __riscv_vlsseg3e32_v_i32m2x3_mu(vbool16_t vm, vint32m2x3_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m2x4_t __riscv_vlsseg4e32_v_i32m2x4_mu(vbool16_t vm, vint32m2x4_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint32m4x2_t __riscv_vlsseg2e32_v_i32m4x2_mu(vbool8_t vm, vint32m4x2_t vd,
                                          const int32_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x2_t __riscv_vlsseg2e64_v_i64m1x2_mu(vbool64_t vm, vint64m1x2_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x3_t __riscv_vlsseg3e64_v_i64m1x3_mu(vbool64_t vm, vint64m1x3_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x4_t __riscv_vlsseg4e64_v_i64m1x4_mu(vbool64_t vm, vint64m1x4_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x5_t __riscv_vlsseg5e64_v_i64m1x5_mu(vbool64_t vm, vint64m1x5_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x6_t __riscv_vlsseg6e64_v_i64m1x6_mu(vbool64_t vm, vint64m1x6_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x7_t __riscv_vlsseg7e64_v_i64m1x7_mu(vbool64_t vm, vint64m1x7_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m1x8_t __riscv_vlsseg8e64_v_i64m1x8_mu(vbool64_t vm, vint64m1x8_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m2x2_t __riscv_vlsseg2e64_v_i64m2x2_mu(vbool32_t vm, vint64m2x2_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m2x3_t __riscv_vlsseg3e64_v_i64m2x3_mu(vbool32_t vm, vint64m2x3_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vint64m2x4_t __riscv_vlsseg4e64_v_i64m2x4_mu(vbool32_t vm, vint64m2x4_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
```

```
                                          size_t vl);
vint64m4x2_t __riscv_vlsseg2e64_v_i64m4x2_mu(vbool16_t vm, vint64m4x2_t vd,
                                          const int64_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x2_t __riscv_vlsseg2e8_v_u8mf8x2_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x3_t __riscv_vlsseg3e8_v_u8mf8x3_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x4_t __riscv_vlsseg4e8_v_u8mf8x4_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x5_t __riscv_vlsseg5e8_v_u8mf8x5_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x6_t __riscv_vlsseg6e8_v_u8mf8x6_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x7_t __riscv_vlsseg7e8_v_u8mf8x7_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf8x8_t __riscv_vlsseg8e8_v_u8mf8x8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x2_t __riscv_vlsseg2e8_v_u8mf4x2_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x3_t __riscv_vlsseg3e8_v_u8mf4x3_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x4_t __riscv_vlsseg4e8_v_u8mf4x4_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x5_t __riscv_vlsseg5e8_v_u8mf4x5_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x6_t __riscv_vlsseg6e8_v_u8mf4x6_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x7_t __riscv_vlsseg7e8_v_u8mf4x7_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf4x8_t __riscv_vlsseg8e8_v_u8mf4x8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x2_t __riscv_vlsseg2e8_v_u8mf2x2_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x3_t __riscv_vlsseg3e8_v_u8mf2x3_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x4_t __riscv_vlsseg4e8_v_u8mf2x4_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x5_t __riscv_vlsseg5e8_v_u8mf2x5_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x6_t __riscv_vlsseg6e8_v_u8mf2x6_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x7_t __riscv_vlsseg7e8_v_u8mf2x7_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
vuint8mf2x8_t __riscv_vlsseg8e8_v_u8mf2x8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                          const uint8_t *rs1, ptrdiff_t rs2,
                                          size_t vl);
```

```
vuint8m1x2_t __riscv_vlsseg2e8_v_u8m1x2_mu(vbool8_t vm, vuint8m1x2_t vd,
                                           const uint8_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint8m1x3_t __riscv_vlsseg3e8_v_u8m1x3_mu(vbool8_t vm, vuint8m1x3_t vd,
                                           const uint8_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint8m1x4_t __riscv_vlsseg4e8_v_u8m1x4_mu(vbool8_t vm, vuint8m1x4_t vd,
                                           const uint8_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint8m1x5_t __riscv_vlsseg5e8_v_u8m1x5_mu(vbool8_t vm, vuint8m1x5_t vd,
                                           const uint8_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint8m1x6_t __riscv_vlsseg6e8_v_u8m1x6_mu(vbool8_t vm, vuint8m1x6_t vd,
                                           const uint8_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint8m1x7_t __riscv_vlsseg7e8_v_u8m1x7_mu(vbool8_t vm, vuint8m1x7_t vd,
                                           const uint8_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint8m1x8_t __riscv_vlsseg8e8_v_u8m1x8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                           const uint8_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint8m2x2_t __riscv_vlsseg2e8_v_u8m2x2_mu(vbool4_t vm, vuint8m2x2_t vd,
                                           const uint8_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint8m2x3_t __riscv_vlsseg3e8_v_u8m2x3_mu(vbool4_t vm, vuint8m2x3_t vd,
                                           const uint8_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint8m2x4_t __riscv_vlsseg4e8_v_u8m2x4_mu(vbool4_t vm, vuint8m2x4_t vd,
                                           const uint8_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint8m4x2_t __riscv_vlsseg2e8_v_u8m4x2_mu(vbool2_t vm, vuint8m4x2_t vd,
                                           const uint8_t *rs1, ptrdiff_t rs2,
                                           size_t vl);
vuint16mf4x2_t __riscv_vlsseg2e16_v_u16mf4x2_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vlsseg3e16_v_u16mf4x3_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vlsseg4e16_v_u16mf4x4_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vlsseg5e16_v_u16mf4x5_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vlsseg6e16_v_u16mf4x6_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vlsseg7e16_v_u16mf4x7_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vlsseg8e16_v_u16mf4x8_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vlsseg2e16_v_u16mf2x2_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vlsseg3e16_v_u16mf2x3_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vlsseg4e16_v_u16mf2x4_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vlsseg5e16_v_u16mf2x5_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vlsseg6e16_v_u16mf2x6_mu(vbool32_t vm, vuint16mf2x6_t vd,
```

```
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vlsseg7e16_v_u16mf2x7_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vlsseg8e16_v_u16mf2x8_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint16m1x2_t __riscv_vlsseg2e16_v_u16m1x2_mu(vbool16_t vm, vuint16m1x2_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m1x3_t __riscv_vlsseg3e16_v_u16m1x3_mu(vbool16_t vm, vuint16m1x3_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m1x4_t __riscv_vlsseg4e16_v_u16m1x4_mu(vbool16_t vm, vuint16m1x4_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m1x5_t __riscv_vlsseg5e16_v_u16m1x5_mu(vbool16_t vm, vuint16m1x5_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m1x6_t __riscv_vlsseg6e16_v_u16m1x6_mu(vbool16_t vm, vuint16m1x6_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m1x7_t __riscv_vlsseg7e16_v_u16m1x7_mu(vbool16_t vm, vuint16m1x7_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m1x8_t __riscv_vlsseg8e16_v_u16m1x8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m2x2_t __riscv_vlsseg2e16_v_u16m2x2_mu(vbool8_t vm, vuint16m2x2_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m2x3_t __riscv_vlsseg3e16_v_u16m2x3_mu(vbool8_t vm, vuint16m2x3_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m2x4_t __riscv_vlsseg4e16_v_u16m2x4_mu(vbool8_t vm, vuint16m2x4_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint16m4x2_t __riscv_vlsseg2e16_v_u16m4x2_mu(vbool4_t vm, vuint16m4x2_t vd,
                                              const uint16_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vlsseg2e32_v_u32mf2x2_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vlsseg3e32_v_u32mf2x3_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vlsseg4e32_v_u32mf2x4_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vlsseg5e32_v_u32mf2x5_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vlsseg6e32_v_u32mf2x6_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vlsseg7e32_v_u32mf2x7_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vlsseg8e32_v_u32mf2x8_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x2_t __riscv_vlsseg2e32_v_u32m1x2_mu(vbool32_t vm, vuint32m1x2_t vd,
                                              const uint32_t *rs1,
                                              ptrdiff_t rs2, size_t vl);
vuint32m1x3_t __riscv_vlsseg3e32_v_u32m1x3_mu(vbool32_t vm, vuint32m1x3_t vd,
                                              const uint32_t *rs1,
```

```
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x4_t __riscv_vlsseg4e32_v_u32m1x4_mu(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x5_t __riscv_vlsseg5e32_v_u32m1x5_mu(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x6_t __riscv_vlsseg6e32_v_u32m1x6_mu(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x7_t __riscv_vlsseg7e32_v_u32m1x7_mu(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m1x8_t __riscv_vlsseg8e32_v_u32m1x8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m2x2_t __riscv_vlsseg2e32_v_u32m2x2_mu(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m2x3_t __riscv_vlsseg3e32_v_u32m2x3_mu(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m2x4_t __riscv_vlsseg4e32_v_u32m2x4_mu(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint32m4x2_t __riscv_vlsseg2e32_v_u32m4x2_mu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x2_t __riscv_vlsseg2e64_v_u64m1x2_mu(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x3_t __riscv_vlsseg3e64_v_u64m1x3_mu(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x4_t __riscv_vlsseg4e64_v_u64m1x4_mu(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x5_t __riscv_vlsseg5e64_v_u64m1x5_mu(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x6_t __riscv_vlsseg6e64_v_u64m1x6_mu(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x7_t __riscv_vlsseg7e64_v_u64m1x7_mu(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m1x8_t __riscv_vlsseg8e64_v_u64m1x8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m2x2_t __riscv_vlsseg2e64_v_u64m2x2_mu(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m2x3_t __riscv_vlsseg3e64_v_u64m2x3_mu(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m2x4_t __riscv_vlsseg4e64_v_u64m2x4_mu(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
vuint64m4x2_t __riscv_vlsseg2e64_v_u64m4x2_mu(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                ptrdiff_t rs2, size_t vl);
```

B.2.4. Vector Strided Segment Store Intrinsics

Intrinsics here don't have a policy variant.

B.2.5. Vector Indexed Segment Load Intrinsics

```
vfloat16mf4x2_t __riscv_vloxseg2ei8_v_f16mf4x2_tu(vfloat16mf4x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei8_v_f16mf4x3_tu(vfloat16mf4x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei8_v_f16mf4x4_tu(vfloat16mf4x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8_v_f16mf4x5_tu(vfloat16mf4x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8_v_f16mf4x6_tu(vfloat16mf4x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8_v_f16mf4x7_tu(vfloat16mf4x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8_v_f16mf4x8_tu(vfloat16mf4x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8_v_f16mf2x2_tu(vfloat16mf2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8_v_f16mf2x3_tu(vfloat16mf2x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8_v_f16mf2x4_tu(vfloat16mf2x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8_v_f16mf2x5_tu(vfloat16mf2x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8_v_f16mf2x6_tu(vfloat16mf2x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8_v_f16mf2x7_tu(vfloat16mf2x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8_v_f16mf2x8_tu(vfloat16mf2x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8_v_f16m1x2_tu(vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8_v_f16m1x3_tu(vfloat16m1x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8_v_f16m1x4_tu(vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8_v_f16m1x5_tu(vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8_v_f16m1x6_tu(vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei8_v_f16m1x7_tu(vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8_v_f16m1x8_tu(vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8_v_f16m2x2_tu(vfloat16m2x2_t vd,
```

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                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8_v_f16m2x3_tu(vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8_v_f16m2x4_tu(vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8_v_f16m4x2_tu(vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16_v_f16mf4x2_tu(vfloat16mf4x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16_v_f16mf4x3_tu(vfloat16mf4x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16_v_f16mf4x4_tu(vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16_v_f16mf4x5_tu(vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16_v_f16mf4x6_tu(vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16_v_f16mf4x7_tu(vfloat16mf4x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16_v_f16mf4x8_tu(vfloat16mf4x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16_v_f16mf2x2_tu(vfloat16mf2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16_v_f16mf2x3_tu(vfloat16mf2x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16_v_f16mf2x4_tu(vfloat16mf2x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16_v_f16mf2x5_tu(vfloat16mf2x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei16_v_f16mf2x6_tu(vfloat16mf2x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16_v_f16mf2x7_tu(vfloat16mf2x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16_v_f16mf2x8_tu(vfloat16mf2x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei16_v_f16m1x2_tu(vfloat16m1x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16_v_f16m1x3_tu(vfloat16m1x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei16_v_f16m1x4_tu(vfloat16m1x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16_v_f16m1x5_tu(vfloat16m1x5_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16_v_f16m1x6_tu(vfloat16m1x6_t vd,
                                                 const _Float16 *rs1,
```

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                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16_v_f16m1x7_tu(vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16_v_f16m1x8_tu(vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16_v_f16m2x2_tu(vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16_v_f16m2x3_tu(vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16_v_f16m2x4_tu(vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16_v_f16m4x2_tu(vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei32_v_f16mf4x2_tu(vfloat16mf4x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32_v_f16mf4x3_tu(vfloat16mf4x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32_v_f16mf4x4_tu(vfloat16mf4x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32_v_f16mf4x5_tu(vfloat16mf4x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32_v_f16mf4x6_tu(vfloat16mf4x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32_v_f16mf4x7_tu(vfloat16mf4x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32_v_f16mf4x8_tu(vfloat16mf4x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32_v_f16mf2x2_tu(vfloat16mf2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32_v_f16mf2x3_tu(vfloat16mf2x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32_v_f16mf2x4_tu(vfloat16mf2x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32_v_f16mf2x5_tu(vfloat16mf2x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32_v_f16mf2x6_tu(vfloat16mf2x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32_v_f16mf2x7_tu(vfloat16mf2x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32_v_f16mf2x8_tu(vfloat16mf2x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32_v_f16m1x2_tu(vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32_v_f16m1x3_tu(vfloat16m1x3_t vd,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
```

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vfloat16m1x4_t __riscv_vloxseg4ei32_v_f16m1x4_tu(vfloat16m1x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32_v_f16m1x5_tu(vfloat16m1x5_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei32_v_f16m1x6_tu(vfloat16m1x6_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei32_v_f16m1x7_tu(vfloat16m1x7_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32_v_f16m1x8_tu(vfloat16m1x8_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32_v_f16m2x2_tu(vfloat16m2x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32_v_f16m2x3_tu(vfloat16m2x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32_v_f16m2x4_tu(vfloat16m2x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32_v_f16m4x2_tu(vfloat16m4x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64_v_f16mf4x2_tu(vfloat16mf4x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei64_v_f16mf4x3_tu(vfloat16mf4x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64_v_f16mf4x4_tu(vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64_v_f16mf4x5_tu(vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64_v_f16mf4x6_tu(vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64_v_f16mf4x7_tu(vfloat16mf4x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64_v_f16mf4x8_tu(vfloat16mf4x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64_v_f16mf2x2_tu(vfloat16mf2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64_v_f16mf2x3_tu(vfloat16mf2x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64_v_f16mf2x4_tu(vfloat16mf2x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64_v_f16mf2x5_tu(vfloat16mf2x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei64_v_f16mf2x6_tu(vfloat16mf2x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64_v_f16mf2x7_tu(vfloat16mf2x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64_v_f16mf2x8_tu(vfloat16mf2x8_t vd,
```

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                                                const _Float16 *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64_v_f16m1x2_tu(vfloat16m1x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64_v_f16m1x3_tu(vfloat16m1x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei64_v_f16m1x4_tu(vfloat16m1x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64_v_f16m1x5_tu(vfloat16m1x5_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64_v_f16m1x6_tu(vfloat16m1x6_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64_v_f16m1x7_tu(vfloat16m1x7_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64_v_f16m1x8_tu(vfloat16m1x8_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64_v_f16m2x2_tu(vfloat16m2x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64_v_f16m2x3_tu(vfloat16m2x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64_v_f16m2x4_tu(vfloat16m2x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8_v_f32mf2x2_tu(vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8_v_f32mf2x3_tu(vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8_v_f32mf2x4_tu(vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8_v_f32mf2x5_tu(vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei8_v_f32mf2x6_tu(vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8_v_f32mf2x7_tu(vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8_v_f32mf2x8_tu(vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei8_v_f32m1x2_tu(vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8_v_f32m1x3_tu(vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei8_v_f32m1x4_tu(vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8_v_f32m1x5_tu(vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8_v_f32m1x6_tu(vfloat32m1x6_t vd,
                                                const float *rs1,
```

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                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8_v_f32m1x7_tu(vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8_v_f32m1x8_tu(vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8_v_f32m2x2_tu(vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8_v_f32m2x3_tu(vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8_v_f32m2x4_tu(vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8_v_f32m4x2_tu(vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei16_v_f32mf2x2_tu(vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16_v_f32mf2x3_tu(vfloat32mf2x3_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16_v_f32mf2x4_tu(vfloat32mf2x4_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16_v_f32mf2x5_tu(vfloat32mf2x5_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16_v_f32mf2x6_tu(vfloat32mf2x6_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16_v_f32mf2x7_tu(vfloat32mf2x7_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16_v_f32mf2x8_tu(vfloat32mf2x8_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16_v_f32m1x2_tu(vfloat32m1x2_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16_v_f32m1x3_tu(vfloat32m1x3_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16_v_f32m1x4_tu(vfloat32m1x4_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16_v_f32m1x5_tu(vfloat32m1x5_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16_v_f32m1x6_tu(vfloat32m1x6_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16_v_f32m1x7_tu(vfloat32m1x7_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16_v_f32m1x8_tu(vfloat32m1x8_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16_v_f32m2x2_tu(vfloat32m2x2_t vd,
                                                 const float *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16_v_f32m2x3_tu(vfloat32m2x3_t vd,
                                                 const float *rs1,
                                                 vuint16m1_t rs2, size_t vl);
```

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vfloat32m2x4_t __riscv_vloxseg4ei16_v_f32m2x4_tu(vfloat32m2x4_t vd,
                                                 const float *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16_v_f32m4x2_tu(vfloat32m4x2_t vd,
                                                 const float *rs1,
                                                 vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei32_v_f32mf2x2_tu(vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei32_v_f32mf2x3_tu(vfloat32mf2x3_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei32_v_f32mf2x4_tu(vfloat32mf2x4_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32_v_f32mf2x5_tu(vfloat32mf2x5_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32_v_f32mf2x6_tu(vfloat32mf2x6_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32_v_f32mf2x7_tu(vfloat32mf2x7_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32_v_f32mf2x8_tu(vfloat32mf2x8_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32_v_f32m1x2_tu(vfloat32m1x2_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32_v_f32m1x3_tu(vfloat32m1x3_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32_v_f32m1x4_tu(vfloat32m1x4_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32_v_f32m1x5_tu(vfloat32m1x5_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32_v_f32m1x6_tu(vfloat32m1x6_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei32_v_f32m1x7_tu(vfloat32m1x7_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32_v_f32m1x8_tu(vfloat32m1x8_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32_v_f32m2x2_tu(vfloat32m2x2_t vd,
                                                 const float *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32_v_f32m2x3_tu(vfloat32m2x3_t vd,
                                                 const float *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32_v_f32m2x4_tu(vfloat32m2x4_t vd,
                                                 const float *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32_v_f32m4x2_tu(vfloat32m4x2_t vd,
                                                 const float *rs1,
                                                 vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei64_v_f32mf2x2_tu(vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64_v_f32mf2x3_tu(vfloat32mf2x3_t vd,
                                                   const float *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64_v_f32mf2x4_tu(vfloat32mf2x4_t vd,
```

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                                                const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64_v_f32mf2x5_tu(vfloat32mf2x5_t vd,
                                                const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64_v_f32mf2x6_tu(vfloat32mf2x6_t vd,
                                                const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64_v_f32mf2x7_tu(vfloat32mf2x7_t vd,
                                                const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64_v_f32mf2x8_tu(vfloat32mf2x8_t vd,
                                                const float *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64_v_f32m1x2_tu(vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64_v_f32m1x3_tu(vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64_v_f32m1x4_tu(vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64_v_f32m1x5_tu(vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64_v_f32m1x6_tu(vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64_v_f32m1x7_tu(vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64_v_f32m1x8_tu(vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64_v_f32m2x2_tu(vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64_v_f32m2x3_tu(vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64_v_f32m2x4_tu(vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64_v_f32m4x2_tu(vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8_v_f64m1x2_tu(vfloat64m1x2_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8_v_f64m1x3_tu(vfloat64m1x3_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei8_v_f64m1x4_tu(vfloat64m1x4_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8_v_f64m1x5_tu(vfloat64m1x5_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei8_v_f64m1x6_tu(vfloat64m1x6_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8_v_f64m1x7_tu(vfloat64m1x7_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei8_v_f64m1x8_tu(vfloat64m1x8_t vd,
                                               const double *rs1,
```

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                                                vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8_v_f64m2x2_tu(vfloat64m2x2_t vd,
                                                const double *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8_v_f64m2x3_tu(vfloat64m2x3_t vd,
                                                const double *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8_v_f64m2x4_tu(vfloat64m2x4_t vd,
                                                const double *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8_v_f64m4x2_tu(vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei16_v_f64m1x2_tu(vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16_v_f64m1x3_tu(vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei16_v_f64m1x4_tu(vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16_v_f64m1x5_tu(vfloat64m1x5_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16_v_f64m1x6_tu(vfloat64m1x6_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16_v_f64m1x7_tu(vfloat64m1x7_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16_v_f64m1x8_tu(vfloat64m1x8_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16_v_f64m2x2_tu(vfloat64m2x2_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16_v_f64m2x3_tu(vfloat64m2x3_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16_v_f64m2x4_tu(vfloat64m2x4_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16_v_f64m4x2_tu(vfloat64m4x2_t vd,
                                                 const double *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32_v_f64m1x2_tu(vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32_v_f64m1x3_tu(vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32_v_f64m1x4_tu(vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32_v_f64m1x5_tu(vfloat64m1x5_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32_v_f64m1x6_tu(vfloat64m1x6_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32_v_f64m1x7_tu(vfloat64m1x7_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32_v_f64m1x8_tu(vfloat64m1x8_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
```

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vfloat64m2x2_t __riscv_vloxseg2ei32_v_f64m2x2_tu(vfloat64m2x2_t vd,
                                                 const double *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32_v_f64m2x3_tu(vfloat64m2x3_t vd,
                                                 const double *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei32_v_f64m2x4_tu(vfloat64m2x4_t vd,
                                                 const double *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei32_v_f64m4x2_tu(vfloat64m4x2_t vd,
                                                 const double *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei64_v_f64m1x2_tu(vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64_v_f64m1x3_tu(vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64_v_f64m1x4_tu(vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64_v_f64m1x5_tu(vfloat64m1x5_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64_v_f64m1x6_tu(vfloat64m1x6_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64_v_f64m1x7_tu(vfloat64m1x7_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64_v_f64m1x8_tu(vfloat64m1x8_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64_v_f64m2x2_tu(vfloat64m2x2_t vd,
                                                 const double *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64_v_f64m2x3_tu(vfloat64m2x3_t vd,
                                                 const double *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64_v_f64m2x4_tu(vfloat64m2x4_t vd,
                                                 const double *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64_v_f64m4x2_tu(vfloat64m4x2_t vd,
                                                 const double *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8_v_f16mf4x2_tu(vfloat16mf4x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8_v_f16mf4x3_tu(vfloat16mf4x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei8_v_f16mf4x4_tu(vfloat16mf4x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8_v_f16mf4x5_tu(vfloat16mf4x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8_v_f16mf4x6_tu(vfloat16mf4x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei8_v_f16mf4x7_tu(vfloat16mf4x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8_v_f16mf4x8_tu(vfloat16mf4x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8_v_f16mf2x2_tu(vfloat16mf2x2_t vd,
```

```
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8_v_f16mf2x3_tu(vfloat16mf2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8_v_f16mf2x4_tu(vfloat16mf2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8_v_f16mf2x5_tu(vfloat16mf2x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8_v_f16mf2x6_tu(vfloat16mf2x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8_v_f16mf2x7_tu(vfloat16mf2x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8_v_f16mf2x8_tu(vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8_v_f16m1x2_tu(vfloat16m1x2_t vd,
                                              const _Float16 *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8_v_f16m1x3_tu(vfloat16m1x3_t vd,
                                              const _Float16 *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8_v_f16m1x4_tu(vfloat16m1x4_t vd,
                                              const _Float16 *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8_v_f16m1x5_tu(vfloat16m1x5_t vd,
                                              const _Float16 *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8_v_f16m1x6_tu(vfloat16m1x6_t vd,
                                              const _Float16 *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8_v_f16m1x7_tu(vfloat16m1x7_t vd,
                                              const _Float16 *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8_v_f16m1x8_tu(vfloat16m1x8_t vd,
                                              const _Float16 *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8_v_f16m2x2_tu(vfloat16m2x2_t vd,
                                              const _Float16 *rs1,
                                              vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8_v_f16m2x3_tu(vfloat16m2x3_t vd,
                                              const _Float16 *rs1,
                                              vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8_v_f16m2x4_tu(vfloat16m2x4_t vd,
                                              const _Float16 *rs1,
                                              vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8_v_f16m4x2_tu(vfloat16m4x2_t vd,
                                              const _Float16 *rs1,
                                              vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei16_v_f16mf4x2_tu(vfloat16mf4x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16_v_f16mf4x3_tu(vfloat16mf4x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei16_v_f16mf4x4_tu(vfloat16mf4x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16_v_f16mf4x5_tu(vfloat16mf4x5_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16_v_f16mf4x6_tu(vfloat16mf4x6_t vd,
                                                 const _Float16 *rs1,
```

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                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16_v_f16mf4x7_tu(vfloat16mf4x7_t vd,
                                                const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16_v_f16mf4x8_tu(vfloat16mf4x8_t vd,
                                                const _Float16 *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16_v_f16mf2x2_tu(vfloat16mf2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei16_v_f16mf2x3_tu(vfloat16mf2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16_v_f16mf2x4_tu(vfloat16mf2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16_v_f16mf2x5_tu(vfloat16mf2x5_t vd,
                                                const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei16_v_f16mf2x6_tu(vfloat16mf2x6_t vd,
                                                const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16_v_f16mf2x7_tu(vfloat16mf2x7_t vd,
                                                const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16_v_f16mf2x8_tu(vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16_v_f16m1x2_tu(vfloat16m1x2_t vd,
                                              const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16_v_f16m1x3_tu(vfloat16m1x3_t vd,
                                              const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16_v_f16m1x4_tu(vfloat16m1x4_t vd,
                                              const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16_v_f16m1x5_tu(vfloat16m1x5_t vd,
                                              const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei16_v_f16m1x6_tu(vfloat16m1x6_t vd,
                                              const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16_v_f16m1x7_tu(vfloat16m1x7_t vd,
                                              const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16_v_f16m1x8_tu(vfloat16m1x8_t vd,
                                              const _Float16 *rs1,
                                              vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16_v_f16m2x2_tu(vfloat16m2x2_t vd,
                                              const _Float16 *rs1,
                                              vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16_v_f16m2x3_tu(vfloat16m2x3_t vd,
                                              const _Float16 *rs1,
                                              vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16_v_f16m2x4_tu(vfloat16m2x4_t vd,
                                              const _Float16 *rs1,
                                              vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16_v_f16m4x2_tu(vfloat16m4x2_t vd,
                                              const _Float16 *rs1,
                                              vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32_v_f16mf4x2_tu(vfloat16mf4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32_v_f16mf4x3_tu(vfloat16mf4x3_t vd,
                                                const _Float16 *rs1,
                                                vuint32mf2_t rs2, size_t vl);
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vfloat16mf4x4_t __riscv_vluxseg4ei32_v_f16mf4x4_tu(vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32_v_f16mf4x5_tu(vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei32_v_f16mf4x6_tu(vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei32_v_f16mf4x7_tu(vfloat16mf4x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei32_v_f16mf4x8_tu(vfloat16mf4x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32_v_f16mf2x2_tu(vfloat16mf2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32_v_f16mf2x3_tu(vfloat16mf2x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32_v_f16mf2x4_tu(vfloat16mf2x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32_v_f16mf2x5_tu(vfloat16mf2x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32_v_f16mf2x6_tu(vfloat16mf2x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32_v_f16mf2x7_tu(vfloat16mf2x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32_v_f16mf2x8_tu(vfloat16mf2x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32_v_f16m1x2_tu(vfloat16m1x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32_v_f16m1x3_tu(vfloat16m1x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32_v_f16m1x4_tu(vfloat16m1x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32_v_f16m1x5_tu(vfloat16m1x5_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32_v_f16m1x6_tu(vfloat16m1x6_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32_v_f16m1x7_tu(vfloat16m1x7_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32_v_f16m1x8_tu(vfloat16m1x8_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32_v_f16m2x2_tu(vfloat16m2x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei32_v_f16m2x3_tu(vfloat16m2x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32_v_f16m2x4_tu(vfloat16m2x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32_v_f16m4x2_tu(vfloat16m4x2_t vd,
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                                                const _Float16 *rs1,
                                                vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64_v_f16mf4x2_tu(vfloat16mf4x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64_v_f16mf4x3_tu(vfloat16mf4x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64_v_f16mf4x4_tu(vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64_v_f16mf4x5_tu(vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64_v_f16mf4x6_tu(vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei64_v_f16mf4x7_tu(vfloat16mf4x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64_v_f16mf4x8_tu(vfloat16mf4x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64_v_f16mf2x2_tu(vfloat16mf2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64_v_f16mf2x3_tu(vfloat16mf2x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64_v_f16mf2x4_tu(vfloat16mf2x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64_v_f16mf2x5_tu(vfloat16mf2x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64_v_f16mf2x6_tu(vfloat16mf2x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64_v_f16mf2x7_tu(vfloat16mf2x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64_v_f16mf2x8_tu(vfloat16mf2x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64_v_f16m1x2_tu(vfloat16m1x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64_v_f16m1x3_tu(vfloat16m1x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64_v_f16m1x4_tu(vfloat16m1x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei64_v_f16m1x5_tu(vfloat16m1x5_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64_v_f16m1x6_tu(vfloat16m1x6_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei64_v_f16m1x7_tu(vfloat16m1x7_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64_v_f16m1x8_tu(vfloat16m1x8_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64_v_f16m2x2_tu(vfloat16m2x2_t vd,
                                                 const _Float16 *rs1,
```

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                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64_v_f16m2x3_tu(vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64_v_f16m2x4_tu(vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8_v_f32mf2x2_tu(vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8_v_f32mf2x3_tu(vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8_v_f32mf2x4_tu(vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8_v_f32mf2x5_tu(vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei8_v_f32mf2x6_tu(vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8_v_f32mf2x7_tu(vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8_v_f32mf2x8_tu(vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8_v_f32m1x2_tu(vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8_v_f32m1x3_tu(vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8_v_f32m1x4_tu(vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8_v_f32m1x5_tu(vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8_v_f32m1x6_tu(vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8_v_f32m1x7_tu(vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8_v_f32m1x8_tu(vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8_v_f32m2x2_tu(vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8_v_f32m2x3_tu(vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8_v_f32m2x4_tu(vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8_v_f32m4x2_tu(vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16_v_f32mf2x2_tu(vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16_v_f32mf2x3_tu(vfloat32mf2x3_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
```

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vfloat32mf2x4_t __riscv_vluxseg4ei16_v_f32mf2x4_tu(vfloat32mf2x4_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16_v_f32mf2x5_tu(vfloat32mf2x5_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei16_v_f32mf2x6_tu(vfloat32mf2x6_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei16_v_f32mf2x7_tu(vfloat32mf2x7_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16_v_f32mf2x8_tu(vfloat32mf2x8_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16_v_f32m1x2_tu(vfloat32m1x2_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16_v_f32m1x3_tu(vfloat32m1x3_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16_v_f32m1x4_tu(vfloat32m1x4_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16_v_f32m1x5_tu(vfloat32m1x5_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16_v_f32m1x6_tu(vfloat32m1x6_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16_v_f32m1x7_tu(vfloat32m1x7_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16_v_f32m1x8_tu(vfloat32m1x8_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16_v_f32m2x2_tu(vfloat32m2x2_t vd,
                                                 const float *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16_v_f32m2x3_tu(vfloat32m2x3_t vd,
                                                 const float *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16_v_f32m2x4_tu(vfloat32m2x4_t vd,
                                                 const float *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16_v_f32m4x2_tu(vfloat32m4x2_t vd,
                                                 const float *rs1,
                                                 vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32_v_f32mf2x2_tu(vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32_v_f32mf2x3_tu(vfloat32mf2x3_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32_v_f32mf2x4_tu(vfloat32mf2x4_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32_v_f32mf2x5_tu(vfloat32mf2x5_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei32_v_f32mf2x6_tu(vfloat32mf2x6_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32_v_f32mf2x7_tu(vfloat32mf2x7_t vd,
                                                   const float *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32_v_f32mf2x8_tu(vfloat32mf2x8_t vd,
```

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                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei32_v_f32m1x2_tu(vfloat32m1x2_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32_v_f32m1x3_tu(vfloat32m1x3_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32_v_f32m1x4_tu(vfloat32m1x4_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32_v_f32m1x5_tu(vfloat32m1x5_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32_v_f32m1x6_tu(vfloat32m1x6_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32_v_f32m1x7_tu(vfloat32m1x7_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32_v_f32m1x8_tu(vfloat32m1x8_t vd,
                                                 const float *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32_v_f32m2x2_tu(vfloat32m2x2_t vd,
                                                 const float *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32_v_f32m2x3_tu(vfloat32m2x3_t vd,
                                                 const float *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32_v_f32m2x4_tu(vfloat32m2x4_t vd,
                                                 const float *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32_v_f32m4x2_tu(vfloat32m4x2_t vd,
                                                 const float *rs1,
                                                 vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64_v_f32mf2x2_tu(vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64_v_f32mf2x3_tu(vfloat32mf2x3_t vd,
                                                   const float *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64_v_f32mf2x4_tu(vfloat32mf2x4_t vd,
                                                   const float *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64_v_f32mf2x5_tu(vfloat32mf2x5_t vd,
                                                   const float *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei64_v_f32mf2x6_tu(vfloat32mf2x6_t vd,
                                                   const float *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64_v_f32mf2x7_tu(vfloat32mf2x7_t vd,
                                                   const float *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei64_v_f32mf2x8_tu(vfloat32mf2x8_t vd,
                                                   const float *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64_v_f32m1x2_tu(vfloat32m1x2_t vd,
                                                 const float *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei64_v_f32m1x3_tu(vfloat32m1x3_t vd,
                                                 const float *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64_v_f32m1x4_tu(vfloat32m1x4_t vd,
                                                 const float *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64_v_f32m1x5_tu(vfloat32m1x5_t vd,
                                                 const float *rs1,
```

```
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64_v_f32m1x6_tu(vfloat32m1x6_t vd,
                                                 const float *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64_v_f32m1x7_tu(vfloat32m1x7_t vd,
                                                 const float *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64_v_f32m1x8_tu(vfloat32m1x8_t vd,
                                                 const float *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64_v_f32m2x2_tu(vfloat32m2x2_t vd,
                                                 const float *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64_v_f32m2x3_tu(vfloat32m2x3_t vd,
                                                 const float *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei64_v_f32m2x4_tu(vfloat32m2x4_t vd,
                                                 const float *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei64_v_f32m4x2_tu(vfloat32m4x2_t vd,
                                                 const float *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8_v_f64m1x2_tu(vfloat64m1x2_t vd,
                                                const double *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei8_v_f64m1x3_tu(vfloat64m1x3_t vd,
                                                const double *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8_v_f64m1x4_tu(vfloat64m1x4_t vd,
                                                const double *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8_v_f64m1x5_tu(vfloat64m1x5_t vd,
                                                const double *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8_v_f64m1x6_tu(vfloat64m1x6_t vd,
                                                const double *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8_v_f64m1x7_tu(vfloat64m1x7_t vd,
                                                const double *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8_v_f64m1x8_tu(vfloat64m1x8_t vd,
                                                const double *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8_v_f64m2x2_tu(vfloat64m2x2_t vd,
                                                const double *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8_v_f64m2x3_tu(vfloat64m2x3_t vd,
                                                const double *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8_v_f64m2x4_tu(vfloat64m2x4_t vd,
                                                const double *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei8_v_f64m4x2_tu(vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16_v_f64m1x2_tu(vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16_v_f64m1x3_tu(vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16_v_f64m1x4_tu(vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16_v_f64m1x5_tu(vfloat64m1x5_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
```

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vfloat64m1x6_t __riscv_vluxseg6ei16_v_f64m1x6_tu(vfloat64m1x6_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16_v_f64m1x7_tu(vfloat64m1x7_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei16_v_f64m1x8_tu(vfloat64m1x8_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei16_v_f64m2x2_tu(vfloat64m2x2_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16_v_f64m2x3_tu(vfloat64m2x3_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16_v_f64m2x4_tu(vfloat64m2x4_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16_v_f64m4x2_tu(vfloat64m4x2_t vd,
                                                 const double *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32_v_f64m1x2_tu(vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei32_v_f64m1x3_tu(vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32_v_f64m1x4_tu(vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32_v_f64m1x5_tu(vfloat64m1x5_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32_v_f64m1x6_tu(vfloat64m1x6_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei32_v_f64m1x7_tu(vfloat64m1x7_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32_v_f64m1x8_tu(vfloat64m1x8_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32_v_f64m2x2_tu(vfloat64m2x2_t vd,
                                                 const double *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32_v_f64m2x3_tu(vfloat64m2x3_t vd,
                                                 const double *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32_v_f64m2x4_tu(vfloat64m2x4_t vd,
                                                 const double *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32_v_f64m4x2_tu(vfloat64m4x2_t vd,
                                                 const double *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64_v_f64m1x2_tu(vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64_v_f64m1x3_tu(vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei64_v_f64m1x4_tu(vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64_v_f64m1x5_tu(vfloat64m1x5_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64_v_f64m1x6_tu(vfloat64m1x6_t vd,
```

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                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64_v_f64m1x7_tu(vfloat64m1x7_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64_v_f64m1x8_tu(vfloat64m1x8_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64_v_f64m2x2_tu(vfloat64m2x2_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64_v_f64m2x3_tu(vfloat64m2x3_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64_v_f64m2x4_tu(vfloat64m2x4_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64_v_f64m4x2_tu(vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8_v_i8mf8x2_tu(vint8mf8x2_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8_v_i8mf8x3_tu(vint8mf8x3_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8_v_i8mf8x4_tu(vint8mf8x4_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8_v_i8mf8x5_tu(vint8mf8x5_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8_v_i8mf8x6_tu(vint8mf8x6_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8_v_i8mf8x7_tu(vint8mf8x7_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8_v_i8mf8x8_tu(vint8mf8x8_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8_v_i8mf4x2_tu(vint8mf4x2_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8_v_i8mf4x3_tu(vint8mf4x3_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8_v_i8mf4x4_tu(vint8mf4x4_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8_v_i8mf4x5_tu(vint8mf4x5_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei8_v_i8mf4x6_tu(vint8mf4x6_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8_v_i8mf4x7_tu(vint8mf4x7_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei8_v_i8mf4x8_tu(vint8mf4x8_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8_v_i8mf2x2_tu(vint8mf2x2_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8_v_i8mf2x3_tu(vint8mf2x3_t vd,
                                              const int8_t *rs1,
```

```
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8_v_i8mf2x4_tu(vint8mf2x4_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8_v_i8mf2x5_tu(vint8mf2x5_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei8_v_i8mf2x6_tu(vint8mf2x6_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8_v_i8mf2x7_tu(vint8mf2x7_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8_v_i8mf2x8_tu(vint8mf2x8_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8_v_i8m1x2_tu(vint8m1x2_t vd, const int8_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei8_v_i8m1x3_tu(vint8m1x3_t vd, const int8_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8_v_i8m1x4_tu(vint8m1x4_t vd, const int8_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei8_v_i8m1x5_tu(vint8m1x5_t vd, const int8_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8_v_i8m1x6_tu(vint8m1x6_t vd, const int8_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8_v_i8m1x7_tu(vint8m1x7_t vd, const int8_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8_v_i8m1x8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                             vuint8m1_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei8_v_i8m2x2_tu(vint8m2x2_t vd, const int8_t *rs1,
                                             vuint8m2_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8_v_i8m2x3_tu(vint8m2x3_t vd, const int8_t *rs1,
                                             vuint8m2_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8_v_i8m2x4_tu(vint8m2x4_t vd, const int8_t *rs1,
                                             vuint8m2_t rs2, size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8_v_i8m4x2_tu(vint8m4x2_t vd, const int8_t *rs1,
                                             vuint8m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16_v_i8mf8x2_tu(vint8mf8x2_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16_v_i8mf8x3_tu(vint8mf8x3_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16_v_i8mf8x4_tu(vint8mf8x4_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16_v_i8mf8x5_tu(vint8mf8x5_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16_v_i8mf8x6_tu(vint8mf8x6_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16_v_i8mf8x7_tu(vint8mf8x7_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16_v_i8mf8x8_tu(vint8mf8x8_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei16_v_i8mf4x2_tu(vint8mf4x2_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei16_v_i8mf4x3_tu(vint8mf4x3_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei16_v_i8mf4x4_tu(vint8mf4x4_t vd,
                                                const int8_t *rs1,
```

```
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei16_v_i8mf4x5_tu(vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei16_v_i8mf4x6_tu(vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16_v_i8mf4x7_tu(vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16_v_i8mf4x8_tu(vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16_v_i8mf2x2_tu(vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16_v_i8mf2x3_tu(vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei16_v_i8mf2x4_tu(vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16_v_i8mf2x5_tu(vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei16_v_i8mf2x6_tu(vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16_v_i8mf2x7_tu(vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei16_v_i8mf2x8_tu(vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16_v_i8m1x2_tu(vint8m1x2_t vd, const int8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16_v_i8m1x3_tu(vint8m1x3_t vd, const int8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16_v_i8m1x4_tu(vint8m1x4_t vd, const int8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16_v_i8m1x5_tu(vint8m1x5_t vd, const int8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16_v_i8m1x6_tu(vint8m1x6_t vd, const int8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei16_v_i8m1x7_tu(vint8m1x7_t vd, const int8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16_v_i8m1x8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                             vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16_v_i8m2x2_tu(vint8m2x2_t vd, const int8_t *rs1,
                                             vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16_v_i8m2x3_tu(vint8m2x3_t vd, const int8_t *rs1,
                                             vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16_v_i8m2x4_tu(vint8m2x4_t vd, const int8_t *rs1,
                                             vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16_v_i8m4x2_tu(vint8m4x2_t vd, const int8_t *rs1,
                                             vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei32_v_i8mf8x2_tu(vint8mf8x2_t vd,
                                               const int8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32_v_i8mf8x3_tu(vint8mf8x3_t vd,
                                               const int8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32_v_i8mf8x4_tu(vint8mf8x4_t vd,
                                               const int8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32_v_i8mf8x5_tu(vint8mf8x5_t vd,
                                               const int8_t *rs1,
```

```
                                                vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32_v_i8mf8x6_tu(vint8mf8x6_t vd,
                                                const int8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32_v_i8mf8x7_tu(vint8mf8x7_t vd,
                                                const int8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32_v_i8mf8x8_tu(vint8mf8x8_t vd,
                                                const int8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32_v_i8mf4x2_tu(vint8mf4x2_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32_v_i8mf4x3_tu(vint8mf4x3_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32_v_i8mf4x4_tu(vint8mf4x4_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32_v_i8mf4x5_tu(vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei32_v_i8mf4x6_tu(vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei32_v_i8mf4x7_tu(vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32_v_i8mf4x8_tu(vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei32_v_i8mf2x2_tu(vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32_v_i8mf2x3_tu(vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei32_v_i8mf2x4_tu(vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32_v_i8mf2x5_tu(vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32_v_i8mf2x6_tu(vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32_v_i8mf2x7_tu(vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei32_v_i8mf2x8_tu(vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32_v_i8m1x2_tu(vint8m1x2_t vd, const int8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei32_v_i8m1x3_tu(vint8m1x3_t vd, const int8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32_v_i8m1x4_tu(vint8m1x4_t vd, const int8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei32_v_i8m1x5_tu(vint8m1x5_t vd, const int8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei32_v_i8m1x6_tu(vint8m1x6_t vd, const int8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32_v_i8m1x7_tu(vint8m1x7_t vd, const int8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei32_v_i8m1x8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                             vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32_v_i8m2x2_tu(vint8m2x2_t vd, const int8_t *rs1,
```

```
                                                vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32_v_i8m2x3_tu(vint8m2x3_t vd, const int8_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32_v_i8m2x4_tu(vint8m2x4_t vd, const int8_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei64_v_i8mf8x2_tu(vint8mf8x2_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64_v_i8mf8x3_tu(vint8mf8x3_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64_v_i8mf8x4_tu(vint8mf8x4_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64_v_i8mf8x5_tu(vint8mf8x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64_v_i8mf8x6_tu(vint8mf8x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64_v_i8mf8x7_tu(vint8mf8x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64_v_i8mf8x8_tu(vint8mf8x8_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64_v_i8mf4x2_tu(vint8mf4x2_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64_v_i8mf4x3_tu(vint8mf4x3_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei64_v_i8mf4x4_tu(vint8mf4x4_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei64_v_i8mf4x5_tu(vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei64_v_i8mf4x6_tu(vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei64_v_i8mf4x7_tu(vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei64_v_i8mf4x8_tu(vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei64_v_i8mf2x2_tu(vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei64_v_i8mf2x3_tu(vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei64_v_i8mf2x4_tu(vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei64_v_i8mf2x5_tu(vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei64_v_i8mf2x6_tu(vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei64_v_i8mf2x7_tu(vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei64_v_i8mf2x8_tu(vint8mf2x8_t vd,
                                                const int8_t *rs1,
```

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                                                vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64_v_i8m1x2_tu(vint8m1x2_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64_v_i8m1x3_tu(vint8m1x3_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei64_v_i8m1x4_tu(vint8m1x4_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei64_v_i8m1x5_tu(vint8m1x5_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei64_v_i8m1x6_tu(vint8m1x6_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64_v_i8m1x7_tu(vint8m1x7_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64_v_i8m1x8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8_v_i16mf4x2_tu(vint16mf4x2_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8_v_i16mf4x3_tu(vint16mf4x3_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei8_v_i16mf4x4_tu(vint16mf4x4_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8_v_i16mf4x5_tu(vint16mf4x5_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8_v_i16mf4x6_tu(vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8_v_i16mf4x7_tu(vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8_v_i16mf4x8_tu(vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8_v_i16mf2x2_tu(vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8_v_i16mf2x3_tu(vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8_v_i16mf2x4_tu(vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8_v_i16mf2x5_tu(vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8_v_i16mf2x6_tu(vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8_v_i16mf2x7_tu(vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8_v_i16mf2x8_tu(vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8_v_i16m1x2_tu(vint16m1x2_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8_v_i16m1x3_tu(vint16m1x3_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8_v_i16m1x4_tu(vint16m1x4_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8_v_i16m1x5_tu(vint16m1x5_t vd,
```

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                                            const int16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8_v_i16m1x6_tu(vint16m1x6_t vd,
                                            const int16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8_v_i16m1x7_tu(vint16m1x7_t vd,
                                            const int16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8_v_i16m1x8_tu(vint16m1x8_t vd,
                                            const int16_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8_v_i16m2x2_tu(vint16m2x2_t vd,
                                            const int16_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei8_v_i16m2x3_tu(vint16m2x3_t vd,
                                            const int16_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8_v_i16m2x4_tu(vint16m2x4_t vd,
                                            const int16_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei8_v_i16m4x2_tu(vint16m4x2_t vd,
                                            const int16_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16_v_i16mf4x2_tu(vint16mf4x2_t vd,
                                               const int16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16_v_i16mf4x3_tu(vint16mf4x3_t vd,
                                               const int16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei16_v_i16mf4x4_tu(vint16mf4x4_t vd,
                                               const int16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16_v_i16mf4x5_tu(vint16mf4x5_t vd,
                                               const int16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16_v_i16mf4x6_tu(vint16mf4x6_t vd,
                                               const int16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16_v_i16mf4x7_tu(vint16mf4x7_t vd,
                                               const int16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16_v_i16mf4x8_tu(vint16mf4x8_t vd,
                                               const int16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei16_v_i16mf2x2_tu(vint16mf2x2_t vd,
                                               const int16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei16_v_i16mf2x3_tu(vint16mf2x3_t vd,
                                               const int16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16_v_i16mf2x4_tu(vint16mf2x4_t vd,
                                               const int16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16_v_i16mf2x5_tu(vint16mf2x5_t vd,
                                               const int16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16_v_i16mf2x6_tu(vint16mf2x6_t vd,
                                               const int16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16_v_i16mf2x7_tu(vint16mf2x7_t vd,
                                               const int16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16_v_i16mf2x8_tu(vint16mf2x8_t vd,
                                               const int16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16_v_i16m1x2_tu(vint16m1x2_t vd,
                                              const int16_t *rs1,
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                                                vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16_v_i16m1x3_tu(vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16_v_i16m1x4_tu(vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16_v_i16m1x5_tu(vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16_v_i16m1x6_tu(vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16_v_i16m1x7_tu(vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16_v_i16m1x8_tu(vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16_v_i16m2x2_tu(vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16_v_i16m2x3_tu(vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16_v_i16m2x4_tu(vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16_v_i16m4x2_tu(vint16m4x2_t vd,
                                               const int16_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32_v_i16mf4x2_tu(vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei32_v_i16mf4x3_tu(vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei32_v_i16mf4x4_tu(vint16mf4x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32_v_i16mf4x5_tu(vint16mf4x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32_v_i16mf4x6_tu(vint16mf4x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32_v_i16mf4x7_tu(vint16mf4x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32_v_i16mf4x8_tu(vint16mf4x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32_v_i16mf2x2_tu(vint16mf2x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32_v_i16mf2x3_tu(vint16mf2x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32_v_i16mf2x4_tu(vint16mf2x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32_v_i16mf2x5_tu(vint16mf2x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32_v_i16mf2x6_tu(vint16mf2x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
```

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vint16mf2x7_t __riscv_vloxseg7ei32_v_i16mf2x7_tu(vint16mf2x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32_v_i16mf2x8_tu(vint16mf2x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32_v_i16m1x2_tu(vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32_v_i16m1x3_tu(vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32_v_i16m1x4_tu(vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32_v_i16m1x5_tu(vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32_v_i16m1x6_tu(vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei32_v_i16m1x7_tu(vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32_v_i16m1x8_tu(vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32_v_i16m2x2_tu(vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32_v_i16m2x3_tu(vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32_v_i16m2x4_tu(vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32_v_i16m4x2_tu(vint16m4x2_t vd,
                                               const int16_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64_v_i16mf4x2_tu(vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64_v_i16mf4x3_tu(vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64_v_i16mf4x4_tu(vint16mf4x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64_v_i16mf4x5_tu(vint16mf4x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64_v_i16mf4x6_tu(vint16mf4x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64_v_i16mf4x7_tu(vint16mf4x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64_v_i16mf4x8_tu(vint16mf4x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64_v_i16mf2x2_tu(vint16mf2x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64_v_i16mf2x3_tu(vint16mf2x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64_v_i16mf2x4_tu(vint16mf2x4_t vd,
```

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                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64_v_i16mf2x5_tu(vint16mf2x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64_v_i16mf2x6_tu(vint16mf2x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64_v_i16mf2x7_tu(vint16mf2x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64_v_i16mf2x8_tu(vint16mf2x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei64_v_i16m1x2_tu(vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64_v_i16m1x3_tu(vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei64_v_i16m1x4_tu(vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64_v_i16m1x5_tu(vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64_v_i16m1x6_tu(vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64_v_i16m1x7_tu(vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64_v_i16m1x8_tu(vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64_v_i16m2x2_tu(vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64_v_i16m2x3_tu(vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64_v_i16m2x4_tu(vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8_v_i32mf2x2_tu(vint32mf2x2_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei8_v_i32mf2x3_tu(vint32mf2x3_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8_v_i32mf2x4_tu(vint32mf2x4_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8_v_i32mf2x5_tu(vint32mf2x5_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei8_v_i32mf2x6_tu(vint32mf2x6_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8_v_i32mf2x7_tu(vint32mf2x7_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8_v_i32mf2x8_tu(vint32mf2x8_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8_v_i32m1x2_tu(vint32m1x2_t vd,
                                              const int32_t *rs1,
```

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                                            vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei8_v_i32m1x3_tu(vint32m1x3_t vd,
                                            const int32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei8_v_i32m1x4_tu(vint32m1x4_t vd,
                                            const int32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8_v_i32m1x5_tu(vint32m1x5_t vd,
                                            const int32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei8_v_i32m1x6_tu(vint32m1x6_t vd,
                                            const int32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei8_v_i32m1x7_tu(vint32m1x7_t vd,
                                            const int32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei8_v_i32m1x8_tu(vint32m1x8_t vd,
                                            const int32_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8_v_i32m2x2_tu(vint32m2x2_t vd,
                                            const int32_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8_v_i32m2x3_tu(vint32m2x3_t vd,
                                            const int32_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei8_v_i32m2x4_tu(vint32m2x4_t vd,
                                            const int32_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8_v_i32m4x2_tu(vint32m4x2_t vd,
                                            const int32_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16_v_i32mf2x2_tu(vint32mf2x2_t vd,
                                               const int32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei16_v_i32mf2x3_tu(vint32mf2x3_t vd,
                                               const int32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei16_v_i32mf2x4_tu(vint32mf2x4_t vd,
                                               const int32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei16_v_i32mf2x5_tu(vint32mf2x5_t vd,
                                               const int32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16_v_i32mf2x6_tu(vint32mf2x6_t vd,
                                               const int32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16_v_i32mf2x7_tu(vint32mf2x7_t vd,
                                               const int32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16_v_i32mf2x8_tu(vint32mf2x8_t vd,
                                               const int32_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16_v_i32m1x2_tu(vint32m1x2_t vd,
                                             const int32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16_v_i32m1x3_tu(vint32m1x3_t vd,
                                             const int32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei16_v_i32m1x4_tu(vint32m1x4_t vd,
                                             const int32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16_v_i32m1x5_tu(vint32m1x5_t vd,
                                             const int32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16_v_i32m1x6_tu(vint32m1x6_t vd,
                                             const int32_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
```

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vint32m1x7_t __riscv_vloxseg7ei16_v_i32m1x7_tu(vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16_v_i32m1x8_tu(vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16_v_i32m2x2_tu(vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16_v_i32m2x3_tu(vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16_v_i32m2x4_tu(vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16_v_i32m4x2_tu(vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32_v_i32mf2x2_tu(vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei32_v_i32mf2x3_tu(vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32_v_i32mf2x4_tu(vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32_v_i32mf2x5_tu(vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32_v_i32mf2x6_tu(vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32_v_i32mf2x7_tu(vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32_v_i32mf2x8_tu(vint32mf2x8_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32_v_i32m1x2_tu(vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei32_v_i32m1x3_tu(vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32_v_i32m1x4_tu(vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32_v_i32m1x5_tu(vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei32_v_i32m1x6_tu(vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei32_v_i32m1x7_tu(vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32_v_i32m1x8_tu(vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32_v_i32m2x2_tu(vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32_v_i32m2x3_tu(vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32_v_i32m2x4_tu(vint32m2x4_t vd,
```

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                                            const int32_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32_v_i32m4x2_tu(vint32m4x2_t vd,
                                            const int32_t *rs1,
                                            vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei64_v_i32mf2x2_tu(vint32mf2x2_t vd,
                                              const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64_v_i32mf2x3_tu(vint32mf2x3_t vd,
                                              const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64_v_i32mf2x4_tu(vint32mf2x4_t vd,
                                              const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei64_v_i32mf2x5_tu(vint32mf2x5_t vd,
                                              const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64_v_i32mf2x6_tu(vint32mf2x6_t vd,
                                              const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei64_v_i32mf2x7_tu(vint32mf2x7_t vd,
                                              const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64_v_i32mf2x8_tu(vint32mf2x8_t vd,
                                              const int32_t *rs1,
                                              vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64_v_i32m1x2_tu(vint32m1x2_t vd,
                                            const int32_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64_v_i32m1x3_tu(vint32m1x3_t vd,
                                            const int32_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei64_v_i32m1x4_tu(vint32m1x4_t vd,
                                            const int32_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei64_v_i32m1x5_tu(vint32m1x5_t vd,
                                            const int32_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei64_v_i32m1x6_tu(vint32m1x6_t vd,
                                            const int32_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei64_v_i32m1x7_tu(vint32m1x7_t vd,
                                            const int32_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei64_v_i32m1x8_tu(vint32m1x8_t vd,
                                            const int32_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei64_v_i32m2x2_tu(vint32m2x2_t vd,
                                            const int32_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei64_v_i32m2x3_tu(vint32m2x3_t vd,
                                            const int32_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei64_v_i32m2x4_tu(vint32m2x4_t vd,
                                            const int32_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei64_v_i32m4x2_tu(vint32m4x2_t vd,
                                            const int32_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei8_v_i64m1x2_tu(vint64m1x2_t vd,
                                           const int64_t *rs1,
                                           vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8_v_i64m1x3_tu(vint64m1x3_t vd,
                                           const int64_t *rs1,
                                           vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8_v_i64m1x4_tu(vint64m1x4_t vd,
                                           const int64_t *rs1,
```

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                                                vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei8_v_i64m1x5_tu(vint64m1x5_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei8_v_i64m1x6_tu(vint64m1x6_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei8_v_i64m1x7_tu(vint64m1x7_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei8_v_i64m1x8_tu(vint64m1x8_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei8_v_i64m2x2_tu(vint64m2x2_t vd,
                                              const int64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei8_v_i64m2x3_tu(vint64m2x3_t vd,
                                              const int64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei8_v_i64m2x4_tu(vint64m2x4_t vd,
                                              const int64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei8_v_i64m4x2_tu(vint64m4x2_t vd,
                                              const int64_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16_v_i64m1x2_tu(vint64m1x2_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16_v_i64m1x3_tu(vint64m1x3_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16_v_i64m1x4_tu(vint64m1x4_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei16_v_i64m1x5_tu(vint64m1x5_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei16_v_i64m1x6_tu(vint64m1x6_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16_v_i64m1x7_tu(vint64m1x7_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16_v_i64m1x8_tu(vint64m1x8_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei16_v_i64m2x2_tu(vint64m2x2_t vd,
                                               const int64_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei16_v_i64m2x3_tu(vint64m2x3_t vd,
                                               const int64_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei16_v_i64m2x4_tu(vint64m2x4_t vd,
                                               const int64_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16_v_i64m4x2_tu(vint64m4x2_t vd,
                                               const int64_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32_v_i64m1x2_tu(vint64m1x2_t vd,
                                               const int64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32_v_i64m1x3_tu(vint64m1x3_t vd,
                                               const int64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32_v_i64m1x4_tu(vint64m1x4_t vd,
                                               const int64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
```

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vint64m1x5_t __riscv_vloxseg5ei32_v_i64m1x5_tu(vint64m1x5_t vd,
                                               const int64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei32_v_i64m1x6_tu(vint64m1x6_t vd,
                                               const int64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei32_v_i64m1x7_tu(vint64m1x7_t vd,
                                               const int64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32_v_i64m1x8_tu(vint64m1x8_t vd,
                                               const int64_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32_v_i64m2x2_tu(vint64m2x2_t vd,
                                               const int64_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32_v_i64m2x3_tu(vint64m2x3_t vd,
                                               const int64_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei32_v_i64m2x4_tu(vint64m2x4_t vd,
                                               const int64_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei32_v_i64m4x2_tu(vint64m4x2_t vd,
                                               const int64_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64_v_i64m1x2_tu(vint64m1x2_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64_v_i64m1x3_tu(vint64m1x3_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64_v_i64m1x4_tu(vint64m1x4_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64_v_i64m1x5_tu(vint64m1x5_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64_v_i64m1x6_tu(vint64m1x6_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64_v_i64m1x7_tu(vint64m1x7_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64_v_i64m1x8_tu(vint64m1x8_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64_v_i64m2x2_tu(vint64m2x2_t vd,
                                               const int64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei64_v_i64m2x3_tu(vint64m2x3_t vd,
                                               const int64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64_v_i64m2x4_tu(vint64m2x4_t vd,
                                               const int64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64_v_i64m4x2_tu(vint64m4x2_t vd,
                                               const int64_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8_v_i8mf8x2_tu(vint8mf8x2_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8_v_i8mf8x3_tu(vint8mf8x3_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8_v_i8mf8x4_tu(vint8mf8x4_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8_v_i8mf8x5_tu(vint8mf8x5_t vd,
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                                            const int8_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8_v_i8mf8x6_tu(vint8mf8x6_t vd,
                                            const int8_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8_v_i8mf8x7_tu(vint8mf8x7_t vd,
                                            const int8_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8_v_i8mf8x8_tu(vint8mf8x8_t vd,
                                            const int8_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8_v_i8mf4x2_tu(vint8mf4x2_t vd,
                                            const int8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei8_v_i8mf4x3_tu(vint8mf4x3_t vd,
                                            const int8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8_v_i8mf4x4_tu(vint8mf4x4_t vd,
                                            const int8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei8_v_i8mf4x5_tu(vint8mf4x5_t vd,
                                            const int8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8_v_i8mf4x6_tu(vint8mf4x6_t vd,
                                            const int8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8_v_i8mf4x7_tu(vint8mf4x7_t vd,
                                            const int8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8_v_i8mf4x8_tu(vint8mf4x8_t vd,
                                            const int8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8_v_i8mf2x2_tu(vint8mf2x2_t vd,
                                            const int8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei8_v_i8mf2x3_tu(vint8mf2x3_t vd,
                                            const int8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8_v_i8mf2x4_tu(vint8mf2x4_t vd,
                                            const int8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8_v_i8mf2x5_tu(vint8mf2x5_t vd,
                                            const int8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8_v_i8mf2x6_tu(vint8mf2x6_t vd,
                                            const int8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei8_v_i8mf2x7_tu(vint8mf2x7_t vd,
                                            const int8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8_v_i8mf2x8_tu(vint8mf2x8_t vd,
                                            const int8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8_v_i8m1x2_tu(vint8m1x2_t vd, const int8_t *rs1,
                                          vuint8m1_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8_v_i8m1x3_tu(vint8m1x3_t vd, const int8_t *rs1,
                                          vuint8m1_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei8_v_i8m1x4_tu(vint8m1x4_t vd, const int8_t *rs1,
                                          vuint8m1_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8_v_i8m1x5_tu(vint8m1x5_t vd, const int8_t *rs1,
                                          vuint8m1_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8_v_i8m1x6_tu(vint8m1x6_t vd, const int8_t *rs1,
                                          vuint8m1_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8_v_i8m1x7_tu(vint8m1x7_t vd, const int8_t *rs1,
                                          vuint8m1_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8_v_i8m1x8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                          vuint8m1_t rs2, size_t vl);
```

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vint8m2x2_t __riscv_vluxseg2ei8_v_i8m2x2_tu(vint8m2x2_t vd, const int8_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8_v_i8m2x3_tu(vint8m2x3_t vd, const int8_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8_v_i8m2x4_tu(vint8m2x4_t vd, const int8_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8_v_i8m4x2_tu(vint8m4x2_t vd, const int8_t *rs1,
                                            vuint8m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16_v_i8mf8x2_tu(vint8mf8x2_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16_v_i8mf8x3_tu(vint8mf8x3_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16_v_i8mf8x4_tu(vint8mf8x4_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16_v_i8mf8x5_tu(vint8mf8x5_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16_v_i8mf8x6_tu(vint8mf8x6_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei16_v_i8mf8x7_tu(vint8mf8x7_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei16_v_i8mf8x8_tu(vint8mf8x8_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16_v_i8mf4x2_tu(vint8mf4x2_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16_v_i8mf4x3_tu(vint8mf4x3_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16_v_i8mf4x4_tu(vint8mf4x4_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16_v_i8mf4x5_tu(vint8mf4x5_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16_v_i8mf4x6_tu(vint8mf4x6_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16_v_i8mf4x7_tu(vint8mf4x7_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16_v_i8mf4x8_tu(vint8mf4x8_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16_v_i8mf2x2_tu(vint8mf2x2_t vd,
                                               const int8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16_v_i8mf2x3_tu(vint8mf2x3_t vd,
                                               const int8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16_v_i8mf2x4_tu(vint8mf2x4_t vd,
                                               const int8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16_v_i8mf2x5_tu(vint8mf2x5_t vd,
                                               const int8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16_v_i8mf2x6_tu(vint8mf2x6_t vd,
                                               const int8_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16_v_i8mf2x7_tu(vint8mf2x7_t vd,
                                               const int8_t *rs1,
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                                            vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16_v_i8mf2x8_tu(vint8mf2x8_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16_v_i8m1x2_tu(vint8m1x2_t vd, const int8_t *rs1,
                                           vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16_v_i8m1x3_tu(vint8m1x3_t vd, const int8_t *rs1,
                                           vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei16_v_i8m1x4_tu(vint8m1x4_t vd, const int8_t *rs1,
                                           vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei16_v_i8m1x5_tu(vint8m1x5_t vd, const int8_t *rs1,
                                           vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16_v_i8m1x6_tu(vint8m1x6_t vd, const int8_t *rs1,
                                           vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16_v_i8m1x7_tu(vint8m1x7_t vd, const int8_t *rs1,
                                           vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16_v_i8m1x8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                           vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16_v_i8m2x2_tu(vint8m2x2_t vd, const int8_t *rs1,
                                           vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16_v_i8m2x3_tu(vint8m2x3_t vd, const int8_t *rs1,
                                           vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16_v_i8m2x4_tu(vint8m2x4_t vd, const int8_t *rs1,
                                           vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16_v_i8m4x2_tu(vint8m4x2_t vd, const int8_t *rs1,
                                           vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei32_v_i8mf8x2_tu(vint8mf8x2_t vd,
                                             const int8_t *rs1,
                                             vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32_v_i8mf8x3_tu(vint8mf8x3_t vd,
                                             const int8_t *rs1,
                                             vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32_v_i8mf8x4_tu(vint8mf8x4_t vd,
                                             const int8_t *rs1,
                                             vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32_v_i8mf8x5_tu(vint8mf8x5_t vd,
                                             const int8_t *rs1,
                                             vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32_v_i8mf8x6_tu(vint8mf8x6_t vd,
                                             const int8_t *rs1,
                                             vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32_v_i8mf8x7_tu(vint8mf8x7_t vd,
                                             const int8_t *rs1,
                                             vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32_v_i8mf8x8_tu(vint8mf8x8_t vd,
                                             const int8_t *rs1,
                                             vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32_v_i8mf4x2_tu(vint8mf4x2_t vd,
                                             const int8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32_v_i8mf4x3_tu(vint8mf4x3_t vd,
                                             const int8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32_v_i8mf4x4_tu(vint8mf4x4_t vd,
                                             const int8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei32_v_i8mf4x5_tu(vint8mf4x5_t vd,
                                             const int8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei32_v_i8mf4x6_tu(vint8mf4x6_t vd,
                                             const int8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei32_v_i8mf4x7_tu(vint8mf4x7_t vd,
                                             const int8_t *rs1,
                                             vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei32_v_i8mf4x8_tu(vint8mf4x8_t vd,
                                             const int8_t *rs1,
```

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                                            vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei32_v_i8mf2x2_tu(vint8mf2x2_t vd,
                                            const int8_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei32_v_i8mf2x3_tu(vint8mf2x3_t vd,
                                            const int8_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei32_v_i8mf2x4_tu(vint8mf2x4_t vd,
                                            const int8_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei32_v_i8mf2x5_tu(vint8mf2x5_t vd,
                                            const int8_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei32_v_i8mf2x6_tu(vint8mf2x6_t vd,
                                            const int8_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32_v_i8mf2x7_tu(vint8mf2x7_t vd,
                                            const int8_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei32_v_i8mf2x8_tu(vint8mf2x8_t vd,
                                            const int8_t *rs1,
                                            vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32_v_i8m1x2_tu(vint8m1x2_t vd, const int8_t *rs1,
                                           vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei32_v_i8m1x3_tu(vint8m1x3_t vd, const int8_t *rs1,
                                           vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32_v_i8m1x4_tu(vint8m1x4_t vd, const int8_t *rs1,
                                           vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32_v_i8m1x5_tu(vint8m1x5_t vd, const int8_t *rs1,
                                           vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32_v_i8m1x6_tu(vint8m1x6_t vd, const int8_t *rs1,
                                           vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei32_v_i8m1x7_tu(vint8m1x7_t vd, const int8_t *rs1,
                                           vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32_v_i8m1x8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                           vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32_v_i8m2x2_tu(vint8m2x2_t vd, const int8_t *rs1,
                                           vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32_v_i8m2x3_tu(vint8m2x3_t vd, const int8_t *rs1,
                                           vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32_v_i8m2x4_tu(vint8m2x4_t vd, const int8_t *rs1,
                                           vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64_v_i8mf8x2_tu(vint8mf8x2_t vd,
                                            const int8_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64_v_i8mf8x3_tu(vint8mf8x3_t vd,
                                            const int8_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64_v_i8mf8x4_tu(vint8mf8x4_t vd,
                                            const int8_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64_v_i8mf8x5_tu(vint8mf8x5_t vd,
                                            const int8_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64_v_i8mf8x6_tu(vint8mf8x6_t vd,
                                            const int8_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64_v_i8mf8x7_tu(vint8mf8x7_t vd,
                                            const int8_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64_v_i8mf8x8_tu(vint8mf8x8_t vd,
                                            const int8_t *rs1,
                                            vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64_v_i8mf4x2_tu(vint8mf4x2_t vd,
                                            const int8_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64_v_i8mf4x3_tu(vint8mf4x3_t vd,
```

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                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei64_v_i8mf4x4_tu(vint8mf4x4_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei64_v_i8mf4x5_tu(vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64_v_i8mf4x6_tu(vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei64_v_i8mf4x7_tu(vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei64_v_i8mf4x8_tu(vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei64_v_i8mf2x2_tu(vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei64_v_i8mf2x3_tu(vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei64_v_i8mf2x4_tu(vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei64_v_i8mf2x5_tu(vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei64_v_i8mf2x6_tu(vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei64_v_i8mf2x7_tu(vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei64_v_i8mf2x8_tu(vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64_v_i8m1x2_tu(vint8m1x2_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64_v_i8m1x3_tu(vint8m1x3_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64_v_i8m1x4_tu(vint8m1x4_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64_v_i8m1x5_tu(vint8m1x5_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64_v_i8m1x6_tu(vint8m1x6_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64_v_i8m1x7_tu(vint8m1x7_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei64_v_i8m1x8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                             vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8_v_i16mf4x2_tu(vint16mf4x2_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8_v_i16mf4x3_tu(vint16mf4x3_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8_v_i16mf4x4_tu(vint16mf4x4_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8_v_i16mf4x5_tu(vint16mf4x5_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8_v_i16mf4x6_tu(vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
```

```
vint16mf4x7_t __riscv_vluxseg7ei8_v_i16mf4x7_tu(vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei8_v_i16mf4x8_tu(vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8_v_i16mf2x2_tu(vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8_v_i16mf2x3_tu(vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8_v_i16mf2x4_tu(vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8_v_i16mf2x5_tu(vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8_v_i16mf2x6_tu(vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8_v_i16mf2x7_tu(vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8_v_i16mf2x8_tu(vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8_v_i16m1x2_tu(vint16m1x2_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8_v_i16m1x3_tu(vint16m1x3_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8_v_i16m1x4_tu(vint16m1x4_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8_v_i16m1x5_tu(vint16m1x5_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8_v_i16m1x6_tu(vint16m1x6_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei8_v_i16m1x7_tu(vint16m1x7_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8_v_i16m1x8_tu(vint16m1x8_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei8_v_i16m2x2_tu(vint16m2x2_t vd,
                                              const int16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8_v_i16m2x3_tu(vint16m2x3_t vd,
                                              const int16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8_v_i16m2x4_tu(vint16m2x4_t vd,
                                              const int16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8_v_i16m4x2_tu(vint16m4x2_t vd,
                                              const int16_t *rs1,
                                              vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16_v_i16mf4x2_tu(vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16_v_i16mf4x3_tu(vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16_v_i16mf4x4_tu(vint16mf4x4_t vd,
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                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16_v_i16mf4x5_tu(vint16mf4x5_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16_v_i16mf4x6_tu(vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei16_v_i16mf4x7_tu(vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei16_v_i16mf4x8_tu(vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16_v_i16mf2x2_tu(vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16_v_i16mf2x3_tu(vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16_v_i16mf2x4_tu(vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16_v_i16mf2x5_tu(vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16_v_i16mf2x6_tu(vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16_v_i16mf2x7_tu(vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16_v_i16mf2x8_tu(vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16_v_i16m1x2_tu(vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16_v_i16m1x3_tu(vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16_v_i16m1x4_tu(vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16_v_i16m1x5_tu(vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16_v_i16m1x6_tu(vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16_v_i16m1x7_tu(vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16_v_i16m1x8_tu(vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16_v_i16m2x2_tu(vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16_v_i16m2x3_tu(vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei16_v_i16m2x4_tu(vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei16_v_i16m4x2_tu(vint16m4x2_t vd,
                                               const int16_t *rs1,
```

```
                                                vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32_v_i16mf4x2_tu(vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32_v_i16mf4x3_tu(vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32_v_i16mf4x4_tu(vint16mf4x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32_v_i16mf4x5_tu(vint16mf4x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32_v_i16mf4x6_tu(vint16mf4x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32_v_i16mf4x7_tu(vint16mf4x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32_v_i16mf4x8_tu(vint16mf4x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei32_v_i16mf2x2_tu(vint16mf2x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32_v_i16mf2x3_tu(vint16mf2x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32_v_i16mf2x4_tu(vint16mf2x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32_v_i16mf2x5_tu(vint16mf2x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32_v_i16mf2x6_tu(vint16mf2x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei32_v_i16mf2x7_tu(vint16mf2x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32_v_i16mf2x8_tu(vint16mf2x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32_v_i16m1x2_tu(vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32_v_i16m1x3_tu(vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei32_v_i16m1x4_tu(vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32_v_i16m1x5_tu(vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32_v_i16m1x6_tu(vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32_v_i16m1x7_tu(vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32_v_i16m1x8_tu(vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32_v_i16m2x2_tu(vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
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vint16m2x3_t __riscv_vluxseg3ei32_v_i16m2x3_tu(vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32_v_i16m2x4_tu(vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32_v_i16m4x2_tu(vint16m4x2_t vd,
                                               const int16_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64_v_i16mf4x2_tu(vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64_v_i16mf4x3_tu(vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64_v_i16mf4x4_tu(vint16mf4x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64_v_i16mf4x5_tu(vint16mf4x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64_v_i16mf4x6_tu(vint16mf4x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64_v_i16mf4x7_tu(vint16mf4x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64_v_i16mf4x8_tu(vint16mf4x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64_v_i16mf2x2_tu(vint16mf2x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei64_v_i16mf2x3_tu(vint16mf2x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64_v_i16mf2x4_tu(vint16mf2x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64_v_i16mf2x5_tu(vint16mf2x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei64_v_i16mf2x6_tu(vint16mf2x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64_v_i16mf2x7_tu(vint16mf2x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei64_v_i16mf2x8_tu(vint16mf2x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64_v_i16m1x2_tu(vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64_v_i16m1x3_tu(vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64_v_i16m1x4_tu(vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64_v_i16m1x5_tu(vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64_v_i16m1x6_tu(vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64_v_i16m1x7_tu(vint16m1x7_t vd,
```

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                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64_v_i16m1x8_tu(vint16m1x8_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64_v_i16m2x2_tu(vint16m2x2_t vd,
                                                const int16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei64_v_i16m2x3_tu(vint16m2x3_t vd,
                                                const int16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64_v_i16m2x4_tu(vint16m2x4_t vd,
                                                const int16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8_v_i32mf2x2_tu(vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8_v_i32mf2x3_tu(vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8_v_i32mf2x4_tu(vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8_v_i32mf2x5_tu(vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8_v_i32mf2x6_tu(vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8_v_i32mf2x7_tu(vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8_v_i32mf2x8_tu(vint32mf2x8_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8_v_i32m1x2_tu(vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8_v_i32m1x3_tu(vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8_v_i32m1x4_tu(vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8_v_i32m1x5_tu(vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8_v_i32m1x6_tu(vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8_v_i32m1x7_tu(vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8_v_i32m1x8_tu(vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8_v_i32m2x2_tu(vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8_v_i32m2x3_tu(vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei8_v_i32m2x4_tu(vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei8_v_i32m4x2_tu(vint32m4x2_t vd,
                                               const int32_t *rs1,
```

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                                                vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16_v_i32mf2x2_tu(vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16_v_i32mf2x3_tu(vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16_v_i32mf2x4_tu(vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei16_v_i32mf2x5_tu(vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16_v_i32mf2x6_tu(vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei16_v_i32mf2x7_tu(vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16_v_i32mf2x8_tu(vint32mf2x8_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16_v_i32m1x2_tu(vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16_v_i32m1x3_tu(vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16_v_i32m1x4_tu(vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16_v_i32m1x5_tu(vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16_v_i32m1x6_tu(vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16_v_i32m1x7_tu(vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16_v_i32m1x8_tu(vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16_v_i32m2x2_tu(vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16_v_i32m2x3_tu(vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei16_v_i32m2x4_tu(vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16_v_i32m4x2_tu(vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32_v_i32mf2x2_tu(vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32_v_i32mf2x3_tu(vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32_v_i32mf2x4_tu(vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32_v_i32mf2x5_tu(vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
```

```
vint32mf2x6_t __riscv_vluxseg6ei32_v_i32mf2x6_tu(vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32_v_i32mf2x7_tu(vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32_v_i32mf2x8_tu(vint32mf2x8_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32_v_i32m1x2_tu(vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32_v_i32m1x3_tu(vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32_v_i32m1x4_tu(vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32_v_i32m1x5_tu(vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32_v_i32m1x6_tu(vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32_v_i32m1x7_tu(vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32_v_i32m1x8_tu(vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei32_v_i32m2x2_tu(vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32_v_i32m2x3_tu(vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32_v_i32m2x4_tu(vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32_v_i32m4x2_tu(vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei64_v_i32mf2x2_tu(vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64_v_i32mf2x3_tu(vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei64_v_i32mf2x4_tu(vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64_v_i32mf2x5_tu(vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64_v_i32mf2x6_tu(vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64_v_i32mf2x7_tu(vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei64_v_i32mf2x8_tu(vint32mf2x8_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64_v_i32m1x2_tu(vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64_v_i32m1x3_tu(vint32m1x3_t vd,
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                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64_v_i32m1x4_tu(vint32m1x4_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64_v_i32m1x5_tu(vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei64_v_i32m1x6_tu(vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64_v_i32m1x7_tu(vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64_v_i32m1x8_tu(vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64_v_i32m2x2_tu(vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64_v_i32m2x3_tu(vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64_v_i32m2x4_tu(vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei64_v_i32m4x2_tu(vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8_v_i64m1x2_tu(vint64m1x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8_v_i64m1x3_tu(vint64m1x3_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8_v_i64m1x4_tu(vint64m1x4_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8_v_i64m1x5_tu(vint64m1x5_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8_v_i64m1x6_tu(vint64m1x6_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8_v_i64m1x7_tu(vint64m1x7_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8_v_i64m1x8_tu(vint64m1x8_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8_v_i64m2x2_tu(vint64m2x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8_v_i64m2x3_tu(vint64m2x3_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8_v_i64m2x4_tu(vint64m2x4_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei8_v_i64m4x2_tu(vint64m4x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei16_v_i64m1x2_tu(vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei16_v_i64m1x3_tu(vint64m1x3_t vd,
                                                const int64_t *rs1,
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                                                vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16_v_i64m1x4_tu(vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16_v_i64m1x5_tu(vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16_v_i64m1x6_tu(vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16_v_i64m1x7_tu(vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16_v_i64m1x8_tu(vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16_v_i64m2x2_tu(vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16_v_i64m2x3_tu(vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16_v_i64m2x4_tu(vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16_v_i64m4x2_tu(vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32_v_i64m1x2_tu(vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32_v_i64m1x3_tu(vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32_v_i64m1x4_tu(vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32_v_i64m1x5_tu(vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32_v_i64m1x6_tu(vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32_v_i64m1x7_tu(vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32_v_i64m1x8_tu(vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei32_v_i64m2x2_tu(vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32_v_i64m2x3_tu(vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32_v_i64m2x4_tu(vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32_v_i64m4x2_tu(vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64_v_i64m1x2_tu(vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64_v_i64m1x3_tu(vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
```

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vint64m1x4_t __riscv_vluxseg4ei64_v_i64m1x4_tu(vint64m1x4_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64_v_i64m1x5_tu(vint64m1x5_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64_v_i64m1x6_tu(vint64m1x6_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64_v_i64m1x7_tu(vint64m1x7_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64_v_i64m1x8_tu(vint64m1x8_t vd,
                                               const int64_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64_v_i64m2x2_tu(vint64m2x2_t vd,
                                               const int64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64_v_i64m2x3_tu(vint64m2x3_t vd,
                                               const int64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64_v_i64m2x4_tu(vint64m2x4_t vd,
                                               const int64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64_v_i64m4x2_tu(vint64m4x2_t vd,
                                               const int64_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8_v_u8mf8x2_tu(vuint8mf8x2_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei8_v_u8mf8x3_tu(vuint8mf8x3_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8_v_u8mf8x4_tu(vuint8mf8x4_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8_v_u8mf8x5_tu(vuint8mf8x5_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8_v_u8mf8x6_tu(vuint8mf8x6_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei8_v_u8mf8x7_tu(vuint8mf8x7_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8_v_u8mf8x8_tu(vuint8mf8x8_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei8_v_u8mf4x2_tu(vuint8mf4x2_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8_v_u8mf4x3_tu(vuint8mf4x3_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8_v_u8mf4x4_tu(vuint8mf4x4_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8_v_u8mf4x5_tu(vuint8mf4x5_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8_v_u8mf4x6_tu(vuint8mf4x6_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8_v_u8mf4x7_tu(vuint8mf4x7_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8_v_u8mf4x8_tu(vuint8mf4x8_t vd,
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                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8_v_u8mf2x2_tu(vuint8mf2x2_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8_v_u8mf2x3_tu(vuint8mf2x3_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei8_v_u8mf2x4_tu(vuint8mf2x4_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8_v_u8mf2x5_tu(vuint8mf2x5_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8_v_u8mf2x6_tu(vuint8mf2x6_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8_v_u8mf2x7_tu(vuint8mf2x7_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8_v_u8mf2x8_tu(vuint8mf2x8_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8_v_u8m1x2_tu(vuint8m1x2_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei8_v_u8m1x3_tu(vuint8m1x3_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8_v_u8m1x4_tu(vuint8m1x4_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8_v_u8m1x5_tu(vuint8m1x5_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8_v_u8m1x6_tu(vuint8m1x6_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8_v_u8m1x7_tu(vuint8m1x7_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8_v_u8m1x8_tu(vuint8m1x8_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8_v_u8m2x2_tu(vuint8m2x2_t vd,
                                          const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8_v_u8m2x3_tu(vuint8m2x3_t vd,
                                          const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8_v_u8m2x4_tu(vuint8m2x4_t vd,
                                          const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8_v_u8m4x2_tu(vuint8m4x2_t vd,
                                          const uint8_t *rs1, vuint8m4_t rs2,
                                          size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16_v_u8mf8x2_tu(vuint8mf8x2_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16_v_u8mf8x3_tu(vuint8mf8x3_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei16_v_u8mf8x4_tu(vuint8mf8x4_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei16_v_u8mf8x5_tu(vuint8mf8x5_t vd,
                                             const uint8_t *rs1,
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                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16_v_u8mf8x6_tu(vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16_v_u8mf8x7_tu(vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16_v_u8mf8x8_tu(vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16_v_u8mf4x2_tu(vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei16_v_u8mf4x3_tu(vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16_v_u8mf4x4_tu(vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16_v_u8mf4x5_tu(vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16_v_u8mf4x6_tu(vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16_v_u8mf4x7_tu(vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16_v_u8mf4x8_tu(vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16_v_u8mf2x2_tu(vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16_v_u8mf2x3_tu(vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16_v_u8mf2x4_tu(vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16_v_u8mf2x5_tu(vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16_v_u8mf2x6_tu(vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16_v_u8mf2x7_tu(vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei16_v_u8mf2x8_tu(vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16_v_u8m1x2_tu(vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16_v_u8m1x3_tu(vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16_v_u8m1x4_tu(vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16_v_u8m1x5_tu(vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16_v_u8m1x6_tu(vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
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vuint8m1x7_t __riscv_vloxseg7ei16_v_u8m1x7_tu(vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16_v_u8m1x8_tu(vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16_v_u8m2x2_tu(vuint8m2x2_t vd,
                                              const uint8_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16_v_u8m2x3_tu(vuint8m2x3_t vd,
                                              const uint8_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16_v_u8m2x4_tu(vuint8m2x4_t vd,
                                              const uint8_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16_v_u8m4x2_tu(vuint8m4x2_t vd,
                                              const uint8_t *rs1,
                                              vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32_v_u8mf8x2_tu(vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32_v_u8mf8x3_tu(vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32_v_u8mf8x4_tu(vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32_v_u8mf8x5_tu(vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32_v_u8mf8x6_tu(vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei32_v_u8mf8x7_tu(vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32_v_u8mf8x8_tu(vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32_v_u8mf4x2_tu(vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei32_v_u8mf4x3_tu(vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32_v_u8mf4x4_tu(vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei32_v_u8mf4x5_tu(vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32_v_u8mf4x6_tu(vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32_v_u8mf4x7_tu(vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32_v_u8mf4x8_tu(vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32_v_u8mf2x2_tu(vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32_v_u8mf2x3_tu(vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32_v_u8mf2x4_tu(vuint8mf2x4_t vd,
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                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32_v_u8mf2x5_tu(vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32_v_u8mf2x6_tu(vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei32_v_u8mf2x7_tu(vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32_v_u8mf2x8_tu(vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32_v_u8m1x2_tu(vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei32_v_u8m1x3_tu(vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32_v_u8m1x4_tu(vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32_v_u8m1x5_tu(vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei32_v_u8m1x6_tu(vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32_v_u8m1x7_tu(vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32_v_u8m1x8_tu(vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32_v_u8m2x2_tu(vuint8m2x2_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32_v_u8m2x3_tu(vuint8m2x3_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32_v_u8m2x4_tu(vuint8m2x4_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64_v_u8mf8x2_tu(vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64_v_u8mf8x3_tu(vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64_v_u8mf8x4_tu(vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64_v_u8mf8x5_tu(vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64_v_u8mf8x6_tu(vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64_v_u8mf8x7_tu(vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei64_v_u8mf8x8_tu(vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei64_v_u8mf4x2_tu(vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
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                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64_v_u8mf4x3_tu(vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64_v_u8mf4x4_tu(vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei64_v_u8mf4x5_tu(vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64_v_u8mf4x6_tu(vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei64_v_u8mf4x7_tu(vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64_v_u8mf4x8_tu(vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64_v_u8mf2x2_tu(vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64_v_u8mf2x3_tu(vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64_v_u8mf2x4_tu(vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64_v_u8mf2x5_tu(vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64_v_u8mf2x6_tu(vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64_v_u8mf2x7_tu(vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64_v_u8mf2x8_tu(vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64_v_u8m1x2_tu(vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64_v_u8m1x3_tu(vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64_v_u8m1x4_tu(vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei64_v_u8m1x5_tu(vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64_v_u8m1x6_tu(vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64_v_u8m1x7_tu(vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64_v_u8m1x8_tu(vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8_v_u16mf4x2_tu(vuint16mf4x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8_v_u16mf4x3_tu(vuint16mf4x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
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vuint16mf4x4_t __riscv_vloxseg4ei8_v_u16mf4x4_tu(vuint16mf4x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8_v_u16mf4x5_tu(vuint16mf4x5_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8_v_u16mf4x6_tu(vuint16mf4x6_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8_v_u16mf4x7_tu(vuint16mf4x7_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8_v_u16mf4x8_tu(vuint16mf4x8_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8_v_u16mf2x2_tu(vuint16mf2x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8_v_u16mf2x3_tu(vuint16mf2x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8_v_u16mf2x4_tu(vuint16mf2x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8_v_u16mf2x5_tu(vuint16mf2x5_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8_v_u16mf2x6_tu(vuint16mf2x6_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8_v_u16mf2x7_tu(vuint16mf2x7_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8_v_u16mf2x8_tu(vuint16mf2x8_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8_v_u16m1x2_tu(vuint16m1x2_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8_v_u16m1x3_tu(vuint16m1x3_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei8_v_u16m1x4_tu(vuint16m1x4_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8_v_u16m1x5_tu(vuint16m1x5_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei8_v_u16m1x6_tu(vuint16m1x6_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8_v_u16m1x7_tu(vuint16m1x7_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8_v_u16m1x8_tu(vuint16m1x8_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8_v_u16m2x2_tu(vuint16m2x2_t vd,
                                               const uint16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8_v_u16m2x3_tu(vuint16m2x3_t vd,
                                               const uint16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8_v_u16m2x4_tu(vuint16m2x4_t vd,
                                               const uint16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8_v_u16m4x2_tu(vuint16m4x2_t vd,
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                                            const uint16_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16_v_u16mf4x2_tu(vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16_v_u16mf4x3_tu(vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei16_v_u16mf4x4_tu(vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16_v_u16mf4x5_tu(vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16_v_u16mf4x6_tu(vuint16mf4x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16_v_u16mf4x7_tu(vuint16mf4x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16_v_u16mf4x8_tu(vuint16mf4x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16_v_u16mf2x2_tu(vuint16mf2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16_v_u16mf2x3_tu(vuint16mf2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16_v_u16mf2x4_tu(vuint16mf2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16_v_u16mf2x5_tu(vuint16mf2x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16_v_u16mf2x6_tu(vuint16mf2x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16_v_u16mf2x7_tu(vuint16mf2x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16_v_u16mf2x8_tu(vuint16mf2x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16_v_u16m1x2_tu(vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei16_v_u16m1x3_tu(vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16_v_u16m1x4_tu(vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16_v_u16m1x5_tu(vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16_v_u16m1x6_tu(vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16_v_u16m1x7_tu(vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei16_v_u16m1x8_tu(vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei16_v_u16m2x2_tu(vuint16m2x2_t vd,
                                                const uint16_t *rs1,
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                                                vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16_v_u16m2x3_tu(vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16_v_u16m2x4_tu(vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei16_v_u16m4x2_tu(vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32_v_u16mf4x2_tu(vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei32_v_u16mf4x3_tu(vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32_v_u16mf4x4_tu(vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32_v_u16mf4x5_tu(vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32_v_u16mf4x6_tu(vuint16mf4x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32_v_u16mf4x7_tu(vuint16mf4x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32_v_u16mf4x8_tu(vuint16mf4x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32_v_u16mf2x2_tu(vuint16mf2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32_v_u16mf2x3_tu(vuint16mf2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32_v_u16mf2x4_tu(vuint16mf2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32_v_u16mf2x5_tu(vuint16mf2x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32_v_u16mf2x6_tu(vuint16mf2x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32_v_u16mf2x7_tu(vuint16mf2x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei32_v_u16mf2x8_tu(vuint16mf2x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32_v_u16m1x2_tu(vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32_v_u16m1x3_tu(vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei32_v_u16m1x4_tu(vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32_v_u16m1x5_tu(vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32_v_u16m1x6_tu(vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
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vuint16m1x7_t __riscv_vloxseg7ei32_v_u16m1x7_tu(vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32_v_u16m1x8_tu(vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32_v_u16m2x2_tu(vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei32_v_u16m2x3_tu(vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32_v_u16m2x4_tu(vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32_v_u16m4x2_tu(vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64_v_u16mf4x2_tu(vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64_v_u16mf4x3_tu(vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64_v_u16mf4x4_tu(vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64_v_u16mf4x5_tu(vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64_v_u16mf4x6_tu(vuint16mf4x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64_v_u16mf4x7_tu(vuint16mf4x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64_v_u16mf4x8_tu(vuint16mf4x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64_v_u16mf2x2_tu(vuint16mf2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei64_v_u16mf2x3_tu(vuint16mf2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64_v_u16mf2x4_tu(vuint16mf2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei64_v_u16mf2x5_tu(vuint16mf2x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64_v_u16mf2x6_tu(vuint16mf2x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64_v_u16mf2x7_tu(vuint16mf2x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64_v_u16mf2x8_tu(vuint16mf2x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64_v_u16m1x2_tu(vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64_v_u16m1x3_tu(vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64_v_u16m1x4_tu(vuint16m1x4_t vd,
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                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64_v_u16m1x5_tu(vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64_v_u16m1x6_tu(vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei64_v_u16m1x7_tu(vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei64_v_u16m1x8_tu(vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64_v_u16m2x2_tu(vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64_v_u16m2x3_tu(vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64_v_u16m2x4_tu(vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8_v_u32mf2x2_tu(vuint32mf2x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8_v_u32mf2x3_tu(vuint32mf2x3_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8_v_u32mf2x4_tu(vuint32mf2x4_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8_v_u32mf2x5_tu(vuint32mf2x5_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8_v_u32mf2x6_tu(vuint32mf2x6_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8_v_u32mf2x7_tu(vuint32mf2x7_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8_v_u32mf2x8_tu(vuint32mf2x8_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8_v_u32m1x2_tu(vuint32m1x2_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8_v_u32m1x3_tu(vuint32m1x3_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8_v_u32m1x4_tu(vuint32m1x4_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8_v_u32m1x5_tu(vuint32m1x5_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8_v_u32m1x6_tu(vuint32m1x6_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8_v_u32m1x7_tu(vuint32m1x7_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei8_v_u32m1x8_tu(vuint32m1x8_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei8_v_u32m2x2_tu(vuint32m2x2_t vd,
                                               const uint32_t *rs1,
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                                                vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8_v_u32m2x3_tu(vuint32m2x3_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei8_v_u32m2x4_tu(vuint32m2x4_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8_v_u32m4x2_tu(vuint32m4x2_t vd,
                                               const uint32_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16_v_u32mf2x2_tu(vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei16_v_u32mf2x3_tu(vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16_v_u32mf2x4_tu(vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei16_v_u32mf2x5_tu(vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16_v_u32mf2x6_tu(vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16_v_u32mf2x7_tu(vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16_v_u32mf2x8_tu(vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16_v_u32m1x2_tu(vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16_v_u32m1x3_tu(vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16_v_u32m1x4_tu(vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16_v_u32m1x5_tu(vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16_v_u32m1x6_tu(vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16_v_u32m1x7_tu(vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei16_v_u32m1x8_tu(vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16_v_u32m2x2_tu(vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16_v_u32m2x3_tu(vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16_v_u32m2x4_tu(vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16_v_u32m4x2_tu(vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei32_v_u32mf2x2_tu(vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
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vuint32mf2x3_t __riscv_vloxseg3ei32_v_u32mf2x3_tu(vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei32_v_u32mf2x4_tu(vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32_v_u32mf2x5_tu(vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32_v_u32mf2x6_tu(vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32_v_u32mf2x7_tu(vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32_v_u32mf2x8_tu(vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32_v_u32m1x2_tu(vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32_v_u32m1x3_tu(vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32_v_u32m1x4_tu(vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei32_v_u32m1x5_tu(vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32_v_u32m1x6_tu(vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32_v_u32m1x7_tu(vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32_v_u32m1x8_tu(vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32_v_u32m2x2_tu(vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei32_v_u32m2x3_tu(vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei32_v_u32m2x4_tu(vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei32_v_u32m4x2_tu(vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64_v_u32mf2x2_tu(vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64_v_u32mf2x3_tu(vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64_v_u32mf2x4_tu(vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64_v_u32mf2x5_tu(vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64_v_u32mf2x6_tu(vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64_v_u32mf2x7_tu(vuint32mf2x7_t vd,
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                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64_v_u32mf2x8_tu(vuint32mf2x8_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64_v_u32m1x2_tu(vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei64_v_u32m1x3_tu(vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64_v_u32m1x4_tu(vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64_v_u32m1x5_tu(vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64_v_u32m1x6_tu(vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64_v_u32m1x7_tu(vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64_v_u32m1x8_tu(vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64_v_u32m2x2_tu(vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei64_v_u32m2x3_tu(vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64_v_u32m2x4_tu(vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64_v_u32m4x2_tu(vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8_v_u64m1x2_tu(vuint64m1x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8_v_u64m1x3_tu(vuint64m1x3_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8_v_u64m1x4_tu(vuint64m1x4_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8_v_u64m1x5_tu(vuint64m1x5_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei8_v_u64m1x6_tu(vuint64m1x6_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8_v_u64m1x7_tu(vuint64m1x7_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8_v_u64m1x8_tu(vuint64m1x8_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8_v_u64m2x2_tu(vuint64m2x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei8_v_u64m2x3_tu(vuint64m2x3_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei8_v_u64m2x4_tu(vuint64m2x4_t vd,
                                               const uint64_t *rs1,
```

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                                                vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8_v_u64m4x2_tu(vuint64m4x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16_v_u64m1x2_tu(vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16_v_u64m1x3_tu(vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16_v_u64m1x4_tu(vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei16_v_u64m1x5_tu(vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16_v_u64m1x6_tu(vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16_v_u64m1x7_tu(vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16_v_u64m1x8_tu(vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16_v_u64m2x2_tu(vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16_v_u64m2x3_tu(vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16_v_u64m2x4_tu(vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16_v_u64m4x2_tu(vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32_v_u64m1x2_tu(vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei32_v_u64m1x3_tu(vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32_v_u64m1x4_tu(vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32_v_u64m1x5_tu(vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei32_v_u64m1x6_tu(vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32_v_u64m1x7_tu(vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32_v_u64m1x8_tu(vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei32_v_u64m2x2_tu(vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32_v_u64m2x3_tu(vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32_v_u64m2x4_tu(vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
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vuint64m4x2_t __riscv_vloxseg2ei32_v_u64m4x2_tu(vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64_v_u64m1x2_tu(vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64_v_u64m1x3_tu(vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64_v_u64m1x4_tu(vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64_v_u64m1x5_tu(vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64_v_u64m1x6_tu(vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64_v_u64m1x7_tu(vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64_v_u64m1x8_tu(vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64_v_u64m2x2_tu(vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64_v_u64m2x3_tu(vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64_v_u64m2x4_tu(vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64_v_u64m4x2_tu(vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8_v_u8mf8x2_tu(vuint8mf8x2_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8_v_u8mf8x3_tu(vuint8mf8x3_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei8_v_u8mf8x4_tu(vuint8mf8x4_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8_v_u8mf8x5_tu(vuint8mf8x5_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei8_v_u8mf8x6_tu(vuint8mf8x6_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8_v_u8mf8x7_tu(vuint8mf8x7_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8_v_u8mf8x8_tu(vuint8mf8x8_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8_v_u8mf4x2_tu(vuint8mf4x2_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8_v_u8mf4x3_tu(vuint8mf4x3_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8_v_u8mf4x4_tu(vuint8mf4x4_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8_v_u8mf4x5_tu(vuint8mf4x5_t vd,
```

```
                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8_v_u8mf4x6_tu(vuint8mf4x6_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8_v_u8mf4x7_tu(vuint8mf4x7_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei8_v_u8mf4x8_tu(vuint8mf4x8_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8_v_u8mf2x2_tu(vuint8mf2x2_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8_v_u8mf2x3_tu(vuint8mf2x3_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8_v_u8mf2x4_tu(vuint8mf2x4_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8_v_u8mf2x5_tu(vuint8mf2x5_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8_v_u8mf2x6_tu(vuint8mf2x6_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8_v_u8mf2x7_tu(vuint8mf2x7_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8_v_u8mf2x8_tu(vuint8mf2x8_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8_v_u8m1x2_tu(vuint8m1x2_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8_v_u8m1x3_tu(vuint8m1x3_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8_v_u8m1x4_tu(vuint8m1x4_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8_v_u8m1x5_tu(vuint8m1x5_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8_v_u8m1x6_tu(vuint8m1x6_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8_v_u8m1x7_tu(vuint8m1x7_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei8_v_u8m1x8_tu(vuint8m1x8_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8_v_u8m2x2_tu(vuint8m2x2_t vd,
                                          const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8_v_u8m2x3_tu(vuint8m2x3_t vd,
                                          const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8_v_u8m2x4_tu(vuint8m2x4_t vd,
                                          const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei8_v_u8m4x2_tu(vuint8m4x2_t vd,
                                          const uint8_t *rs1, vuint8m4_t rs2,
                                          size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei16_v_u8mf8x2_tu(vuint8mf8x2_t vd,
                                             const uint8_t *rs1,
```

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                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16_v_u8mf8x3_tu(vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16_v_u8mf8x4_tu(vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16_v_u8mf8x5_tu(vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16_v_u8mf8x6_tu(vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16_v_u8mf8x7_tu(vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16_v_u8mf8x8_tu(vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16_v_u8mf4x2_tu(vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16_v_u8mf4x3_tu(vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16_v_u8mf4x4_tu(vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16_v_u8mf4x5_tu(vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16_v_u8mf4x6_tu(vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16_v_u8mf4x7_tu(vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16_v_u8mf4x8_tu(vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16_v_u8mf2x2_tu(vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16_v_u8mf2x3_tu(vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16_v_u8mf2x4_tu(vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei16_v_u8mf2x5_tu(vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16_v_u8mf2x6_tu(vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16_v_u8mf2x7_tu(vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei16_v_u8mf2x8_tu(vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16_v_u8m1x2_tu(vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16_v_u8m1x3_tu(vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
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vuint8m1x4_t __riscv_vluxseg4ei16_v_u8m1x4_tu(vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16_v_u8m1x5_tu(vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16_v_u8m1x6_tu(vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16_v_u8m1x7_tu(vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16_v_u8m1x8_tu(vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16_v_u8m2x2_tu(vuint8m2x2_t vd,
                                              const uint8_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16_v_u8m2x3_tu(vuint8m2x3_t vd,
                                              const uint8_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16_v_u8m2x4_tu(vuint8m2x4_t vd,
                                              const uint8_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16_v_u8m4x2_tu(vuint8m4x2_t vd,
                                              const uint8_t *rs1,
                                              vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32_v_u8mf8x2_tu(vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32_v_u8mf8x3_tu(vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32_v_u8mf8x4_tu(vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32_v_u8mf8x5_tu(vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32_v_u8mf8x6_tu(vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei32_v_u8mf8x7_tu(vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32_v_u8mf8x8_tu(vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei32_v_u8mf4x2_tu(vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32_v_u8mf4x3_tu(vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32_v_u8mf4x4_tu(vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei32_v_u8mf4x5_tu(vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei32_v_u8mf4x6_tu(vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei32_v_u8mf4x7_tu(vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei32_v_u8mf4x8_tu(vuint8mf4x8_t vd,
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                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32_v_u8mf2x2_tu(vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32_v_u8mf2x3_tu(vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei32_v_u8mf2x4_tu(vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32_v_u8mf2x5_tu(vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32_v_u8mf2x6_tu(vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei32_v_u8mf2x7_tu(vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei32_v_u8mf2x8_tu(vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32_v_u8m1x2_tu(vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32_v_u8m1x3_tu(vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32_v_u8m1x4_tu(vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32_v_u8m1x5_tu(vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32_v_u8m1x6_tu(vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32_v_u8m1x7_tu(vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32_v_u8m1x8_tu(vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32_v_u8m2x2_tu(vuint8m2x2_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32_v_u8m2x3_tu(vuint8m2x3_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei32_v_u8m2x4_tu(vuint8m2x4_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64_v_u8mf8x2_tu(vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64_v_u8mf8x3_tu(vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64_v_u8mf8x4_tu(vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei64_v_u8mf8x5_tu(vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei64_v_u8mf8x6_tu(vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
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                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64_v_u8mf8x7_tu(vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64_v_u8mf8x8_tu(vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64_v_u8mf4x2_tu(vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64_v_u8mf4x3_tu(vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64_v_u8mf4x4_tu(vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64_v_u8mf4x5_tu(vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64_v_u8mf4x6_tu(vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64_v_u8mf4x7_tu(vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64_v_u8mf4x8_tu(vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64_v_u8mf2x2_tu(vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64_v_u8mf2x3_tu(vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64_v_u8mf2x4_tu(vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64_v_u8mf2x5_tu(vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64_v_u8mf2x6_tu(vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64_v_u8mf2x7_tu(vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64_v_u8mf2x8_tu(vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei64_v_u8m1x2_tu(vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64_v_u8m1x3_tu(vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64_v_u8m1x4_tu(vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei64_v_u8m1x5_tu(vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64_v_u8m1x6_tu(vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64_v_u8m1x7_tu(vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
```

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vuint8m1x8_t __riscv_vluxseg8ei64_v_u8m1x8_tu(vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8_v_u16mf4x2_tu(vuint16mf4x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8_v_u16mf4x3_tu(vuint16mf4x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8_v_u16mf4x4_tu(vuint16mf4x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8_v_u16mf4x5_tu(vuint16mf4x5_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei8_v_u16mf4x6_tu(vuint16mf4x6_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei8_v_u16mf4x7_tu(vuint16mf4x7_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8_v_u16mf4x8_tu(vuint16mf4x8_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8_v_u16mf2x2_tu(vuint16mf2x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8_v_u16mf2x3_tu(vuint16mf2x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8_v_u16mf2x4_tu(vuint16mf2x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8_v_u16mf2x5_tu(vuint16mf2x5_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei8_v_u16mf2x6_tu(vuint16mf2x6_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei8_v_u16mf2x7_tu(vuint16mf2x7_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei8_v_u16mf2x8_tu(vuint16mf2x8_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8_v_u16m1x2_tu(vuint16m1x2_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei8_v_u16m1x3_tu(vuint16m1x3_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei8_v_u16m1x4_tu(vuint16m1x4_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei8_v_u16m1x5_tu(vuint16m1x5_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei8_v_u16m1x6_tu(vuint16m1x6_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei8_v_u16m1x7_tu(vuint16m1x7_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei8_v_u16m1x8_tu(vuint16m1x8_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei8_v_u16m2x2_tu(vuint16m2x2_t vd,
```

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                                            const uint16_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei8_v_u16m2x3_tu(vuint16m2x3_t vd,
                                            const uint16_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8_v_u16m2x4_tu(vuint16m2x4_t vd,
                                            const uint16_t *rs1,
                                            vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei8_v_u16m4x2_tu(vuint16m4x2_t vd,
                                            const uint16_t *rs1,
                                            vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16_v_u16mf4x2_tu(vuint16mf4x2_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16_v_u16mf4x3_tu(vuint16mf4x3_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16_v_u16mf4x4_tu(vuint16mf4x4_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei16_v_u16mf4x5_tu(vuint16mf4x5_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei16_v_u16mf4x6_tu(vuint16mf4x6_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei16_v_u16mf4x7_tu(vuint16mf4x7_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei16_v_u16mf4x8_tu(vuint16mf4x8_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei16_v_u16mf2x2_tu(vuint16mf2x2_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei16_v_u16mf2x3_tu(vuint16mf2x3_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei16_v_u16mf2x4_tu(vuint16mf2x4_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei16_v_u16mf2x5_tu(vuint16mf2x5_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei16_v_u16mf2x6_tu(vuint16mf2x6_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei16_v_u16mf2x7_tu(vuint16mf2x7_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei16_v_u16mf2x8_tu(vuint16mf2x8_t vd,
                                               const uint16_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16_v_u16m1x2_tu(vuint16m1x2_t vd,
                                             const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei16_v_u16m1x3_tu(vuint16m1x3_t vd,
                                             const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16_v_u16m1x4_tu(vuint16m1x4_t vd,
                                             const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei16_v_u16m1x5_tu(vuint16m1x5_t vd,
                                             const uint16_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei16_v_u16m1x6_tu(vuint16m1x6_t vd,
                                             const uint16_t *rs1,
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                                                vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16_v_u16m1x7_tu(vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16_v_u16m1x8_tu(vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16_v_u16m2x2_tu(vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16_v_u16m2x3_tu(vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei16_v_u16m2x4_tu(vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei16_v_u16m4x2_tu(vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32_v_u16mf4x2_tu(vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32_v_u16mf4x3_tu(vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32_v_u16mf4x4_tu(vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32_v_u16mf4x5_tu(vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32_v_u16mf4x6_tu(vuint16mf4x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32_v_u16mf4x7_tu(vuint16mf4x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32_v_u16mf4x8_tu(vuint16mf4x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32_v_u16mf2x2_tu(vuint16mf2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32_v_u16mf2x3_tu(vuint16mf2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32_v_u16mf2x4_tu(vuint16mf2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei32_v_u16mf2x5_tu(vuint16mf2x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32_v_u16mf2x6_tu(vuint16mf2x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32_v_u16mf2x7_tu(vuint16mf2x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32_v_u16mf2x8_tu(vuint16mf2x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32_v_u16m1x2_tu(vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32_v_u16m1x3_tu(vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
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vuint16m1x4_t __riscv_vluxseg4ei32_v_u16m1x4_tu(vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32_v_u16m1x5_tu(vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32_v_u16m1x6_tu(vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32_v_u16m1x7_tu(vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32_v_u16m1x8_tu(vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32_v_u16m2x2_tu(vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32_v_u16m2x3_tu(vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32_v_u16m2x4_tu(vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32_v_u16m4x2_tu(vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64_v_u16mf4x2_tu(vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64_v_u16mf4x3_tu(vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64_v_u16mf4x4_tu(vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64_v_u16mf4x5_tu(vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64_v_u16mf4x6_tu(vuint16mf4x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei64_v_u16mf4x7_tu(vuint16mf4x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64_v_u16mf4x8_tu(vuint16mf4x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei64_v_u16mf2x2_tu(vuint16mf2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64_v_u16mf2x3_tu(vuint16mf2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64_v_u16mf2x4_tu(vuint16mf2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64_v_u16mf2x5_tu(vuint16mf2x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64_v_u16mf2x6_tu(vuint16mf2x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei64_v_u16mf2x7_tu(vuint16mf2x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64_v_u16mf2x8_tu(vuint16mf2x8_t vd,
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                                                const uint16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei64_v_u16m1x2_tu(vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64_v_u16m1x3_tu(vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei64_v_u16m1x4_tu(vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64_v_u16m1x5_tu(vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64_v_u16m1x6_tu(vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64_v_u16m1x7_tu(vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64_v_u16m1x8_tu(vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64_v_u16m2x2_tu(vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64_v_u16m2x3_tu(vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64_v_u16m2x4_tu(vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8_v_u32mf2x2_tu(vuint32mf2x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8_v_u32mf2x3_tu(vuint32mf2x3_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8_v_u32mf2x4_tu(vuint32mf2x4_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8_v_u32mf2x5_tu(vuint32mf2x5_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8_v_u32mf2x6_tu(vuint32mf2x6_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8_v_u32mf2x7_tu(vuint32mf2x7_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8_v_u32mf2x8_tu(vuint32mf2x8_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8_v_u32m1x2_tu(vuint32m1x2_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8_v_u32m1x3_tu(vuint32m1x3_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8_v_u32m1x4_tu(vuint32m1x4_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei8_v_u32m1x5_tu(vuint32m1x5_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei8_v_u32m1x6_tu(vuint32m1x6_t vd,
                                               const uint32_t *rs1,
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                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8_v_u32m1x7_tu(vuint32m1x7_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8_v_u32m1x8_tu(vuint32m1x8_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8_v_u32m2x2_tu(vuint32m2x2_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8_v_u32m2x3_tu(vuint32m2x3_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8_v_u32m2x4_tu(vuint32m2x4_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8_v_u32m4x2_tu(vuint32m4x2_t vd,
                                               const uint32_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16_v_u32mf2x2_tu(vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16_v_u32mf2x3_tu(vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16_v_u32mf2x4_tu(vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16_v_u32mf2x5_tu(vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16_v_u32mf2x6_tu(vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16_v_u32mf2x7_tu(vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16_v_u32mf2x8_tu(vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16_v_u32m1x2_tu(vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16_v_u32m1x3_tu(vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16_v_u32m1x4_tu(vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei16_v_u32m1x5_tu(vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16_v_u32m1x6_tu(vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei16_v_u32m1x7_tu(vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16_v_u32m1x8_tu(vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16_v_u32m2x2_tu(vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16_v_u32m2x3_tu(vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
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vuint32m2x4_t __riscv_vluxseg4ei16_v_u32m2x4_tu(vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei16_v_u32m4x2_tu(vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32_v_u32mf2x2_tu(vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32_v_u32mf2x3_tu(vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32_v_u32mf2x4_tu(vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32_v_u32mf2x5_tu(vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32_v_u32mf2x6_tu(vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32_v_u32mf2x7_tu(vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32_v_u32mf2x8_tu(vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32_v_u32m1x2_tu(vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32_v_u32m1x3_tu(vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32_v_u32m1x4_tu(vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32_v_u32m1x5_tu(vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32_v_u32m1x6_tu(vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei32_v_u32m1x7_tu(vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32_v_u32m1x8_tu(vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei32_v_u32m2x2_tu(vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32_v_u32m2x3_tu(vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32_v_u32m2x4_tu(vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32_v_u32m4x2_tu(vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64_v_u32mf2x2_tu(vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei64_v_u32mf2x3_tu(vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64_v_u32mf2x4_tu(vuint32mf2x4_t vd,
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                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64_v_u32mf2x5_tu(vuint32mf2x5_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64_v_u32mf2x6_tu(vuint32mf2x6_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei64_v_u32mf2x7_tu(vuint32mf2x7_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64_v_u32mf2x8_tu(vuint32mf2x8_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64_v_u32m1x2_tu(vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64_v_u32m1x3_tu(vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64_v_u32m1x4_tu(vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei64_v_u32m1x5_tu(vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64_v_u32m1x6_tu(vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei64_v_u32m1x7_tu(vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei64_v_u32m1x8_tu(vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64_v_u32m2x2_tu(vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64_v_u32m2x3_tu(vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei64_v_u32m2x4_tu(vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64_v_u32m4x2_tu(vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8_v_u64m1x2_tu(vuint64m1x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8_v_u64m1x3_tu(vuint64m1x3_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8_v_u64m1x4_tu(vuint64m1x4_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8_v_u64m1x5_tu(vuint64m1x5_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8_v_u64m1x6_tu(vuint64m1x6_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei8_v_u64m1x7_tu(vuint64m1x7_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei8_v_u64m1x8_tu(vuint64m1x8_t vd,
                                               const uint64_t *rs1,
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                                                vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8_v_u64m2x2_tu(vuint64m2x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8_v_u64m2x3_tu(vuint64m2x3_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei8_v_u64m2x4_tu(vuint64m2x4_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8_v_u64m4x2_tu(vuint64m4x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16_v_u64m1x2_tu(vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16_v_u64m1x3_tu(vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16_v_u64m1x4_tu(vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16_v_u64m1x5_tu(vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei16_v_u64m1x6_tu(vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16_v_u64m1x7_tu(vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16_v_u64m1x8_tu(vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16_v_u64m2x2_tu(vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16_v_u64m2x3_tu(vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16_v_u64m2x4_tu(vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16_v_u64m4x2_tu(vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32_v_u64m1x2_tu(vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei32_v_u64m1x3_tu(vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32_v_u64m1x4_tu(vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32_v_u64m1x5_tu(vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32_v_u64m1x6_tu(vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32_v_u64m1x7_tu(vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32_v_u64m1x8_tu(vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
```

```
vuint64m2x2_t __riscv_vluxseg2ei32_v_u64m2x2_tu(vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32_v_u64m2x3_tu(vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32_v_u64m2x4_tu(vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei32_v_u64m4x2_tu(vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64_v_u64m1x2_tu(vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64_v_u64m1x3_tu(vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64_v_u64m1x4_tu(vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64_v_u64m1x5_tu(vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64_v_u64m1x6_tu(vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64_v_u64m1x7_tu(vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64_v_u64m1x8_tu(vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei64_v_u64m2x2_tu(vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64_v_u64m2x3_tu(vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64_v_u64m2x4_tu(vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei64_v_u64m4x2_tu(vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vloxseg2ei8_v_f16mf4x2_tum(vbool64_t vm,
                                                   vfloat16mf4x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei8_v_f16mf4x3_tum(vbool64_t vm,
                                                   vfloat16mf4x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei8_v_f16mf4x4_tum(vbool64_t vm,
                                                   vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8_v_f16mf4x5_tum(vbool64_t vm,
                                                   vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8_v_f16mf4x6_tum(vbool64_t vm,
                                                   vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8_v_f16mf4x7_tum(vbool64_t vm,
```

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                                                vfloat16mf4x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8_v_f16mf4x8_tum(vbool64_t vm,
                                                vfloat16mf4x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8_v_f16mf2x2_tum(vbool32_t vm,
                                                vfloat16mf2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8_v_f16mf2x3_tum(vbool32_t vm,
                                                vfloat16mf2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8_v_f16mf2x4_tum(vbool32_t vm,
                                                vfloat16mf2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8_v_f16mf2x5_tum(vbool32_t vm,
                                                vfloat16mf2x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8_v_f16mf2x6_tum(vbool32_t vm,
                                                vfloat16mf2x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8_v_f16mf2x7_tum(vbool32_t vm,
                                                vfloat16mf2x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8_v_f16mf2x8_tum(vbool32_t vm,
                                                vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8_v_f16m1x2_tum(vbool16_t vm,
                                                vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8_v_f16m1x3_tum(vbool16_t vm,
                                                vfloat16m1x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8_v_f16m1x4_tum(vbool16_t vm,
                                                vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8_v_f16m1x5_tum(vbool16_t vm,
                                                vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8_v_f16m1x6_tum(vbool16_t vm,
                                                vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei8_v_f16m1x7_tum(vbool16_t vm,
                                                vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8_v_f16m1x8_tum(vbool16_t vm,
                                                vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8_v_f16m2x2_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8_v_f16m2x3_tum(vbool8_t vm, vfloat16m2x3_t vd,
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                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8_v_f16m2x4_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8_v_f16m4x2_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16_v_f16mf4x2_tum(vbool64_t vm,
                                                    vfloat16mf4x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16_v_f16mf4x3_tum(vbool64_t vm,
                                                    vfloat16mf4x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16_v_f16mf4x4_tum(vbool64_t vm,
                                                    vfloat16mf4x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16_v_f16mf4x5_tum(vbool64_t vm,
                                                    vfloat16mf4x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16_v_f16mf4x6_tum(vbool64_t vm,
                                                    vfloat16mf4x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16_v_f16mf4x7_tum(vbool64_t vm,
                                                    vfloat16mf4x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16_v_f16mf4x8_tum(vbool64_t vm,
                                                    vfloat16mf4x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16_v_f16mf2x2_tum(vbool32_t vm,
                                                    vfloat16mf2x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16_v_f16mf2x3_tum(vbool32_t vm,
                                                    vfloat16mf2x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16_v_f16mf2x4_tum(vbool32_t vm,
                                                    vfloat16mf2x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16_v_f16mf2x5_tum(vbool32_t vm,
                                                    vfloat16mf2x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei16_v_f16mf2x6_tum(vbool32_t vm,
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
```

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                                                    size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16_v_f16mf2x7_tum(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16_v_f16mf2x8_tum(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei16_v_f16m1x2_tum(vbool16_t vm,
                                                  vfloat16m1x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16_v_f16m1x3_tum(vbool16_t vm,
                                                  vfloat16m1x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei16_v_f16m1x4_tum(vbool16_t vm,
                                                  vfloat16m1x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16_v_f16m1x5_tum(vbool16_t vm,
                                                  vfloat16m1x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16_v_f16m1x6_tum(vbool16_t vm,
                                                  vfloat16m1x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16_v_f16m1x7_tum(vbool16_t vm,
                                                  vfloat16m1x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16_v_f16m1x8_tum(vbool16_t vm,
                                                  vfloat16m1x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16_v_f16m2x2_tum(vbool8_t vm,
                                                  vfloat16m2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16_v_f16m2x3_tum(vbool8_t vm,
                                                  vfloat16m2x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16_v_f16m2x4_tum(vbool8_t vm,
                                                  vfloat16m2x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16_v_f16m4x2_tum(vbool4_t vm,
                                                  vfloat16m4x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei32_v_f16mf4x2_tum(vbool64_t vm,
                                                    vfloat16mf4x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32_v_f16mf4x3_tum(vbool64_t vm,
                                                    vfloat16mf4x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32_v_f16mf4x4_tum(vbool64_t vm,
                                                    vfloat16mf4x4_t vd,
```

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                                                    const _Float16 *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32_v_f16mf4x5_tum(vbool64_t vm,
                                                    vfloat16mf4x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32_v_f16mf4x6_tum(vbool64_t vm,
                                                    vfloat16mf4x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32_v_f16mf4x7_tum(vbool64_t vm,
                                                    vfloat16mf4x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32_v_f16mf4x8_tum(vbool64_t vm,
                                                    vfloat16mf4x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32_v_f16mf2x2_tum(vbool32_t vm,
                                                    vfloat16mf2x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32_v_f16mf2x3_tum(vbool32_t vm,
                                                    vfloat16mf2x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32_v_f16mf2x4_tum(vbool32_t vm,
                                                    vfloat16mf2x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32_v_f16mf2x5_tum(vbool32_t vm,
                                                    vfloat16mf2x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32_v_f16mf2x6_tum(vbool32_t vm,
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32_v_f16mf2x7_tum(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32_v_f16mf2x8_tum(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32_v_f16m1x2_tum(vbool16_t vm,
                                                  vfloat16m1x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32_v_f16m1x3_tum(vbool16_t vm,
                                                  vfloat16m1x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei32_v_f16m1x4_tum(vbool16_t vm,
                                                  vfloat16m1x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32_v_f16m1x5_tum(vbool16_t vm,
                                                  vfloat16m1x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
```

```
vfloat16m1x6_t __riscv_vloxseg6ei32_v_f16m1x6_tum(vbool16_t vm,
                                                  vfloat16m1x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei32_v_f16m1x7_tum(vbool16_t vm,
                                                  vfloat16m1x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32_v_f16m1x8_tum(vbool16_t vm,
                                                  vfloat16m1x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32_v_f16m2x2_tum(vbool8_t vm,
                                                  vfloat16m2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32_v_f16m2x3_tum(vbool8_t vm,
                                                  vfloat16m2x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32_v_f16m2x4_tum(vbool8_t vm,
                                                  vfloat16m2x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32_v_f16m4x2_tum(vbool4_t vm,
                                                  vfloat16m4x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64_v_f16mf4x2_tum(vbool64_t vm,
                                                    vfloat16mf4x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei64_v_f16mf4x3_tum(vbool64_t vm,
                                                    vfloat16mf4x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64_v_f16mf4x4_tum(vbool64_t vm,
                                                    vfloat16mf4x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64_v_f16mf4x5_tum(vbool64_t vm,
                                                    vfloat16mf4x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64_v_f16mf4x6_tum(vbool64_t vm,
                                                    vfloat16mf4x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64_v_f16mf4x7_tum(vbool64_t vm,
                                                    vfloat16mf4x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64_v_f16mf4x8_tum(vbool64_t vm,
                                                    vfloat16mf4x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64_v_f16mf2x2_tum(vbool32_t vm,
                                                    vfloat16mf2x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64_v_f16mf2x3_tum(vbool32_t vm,
                                                    vfloat16mf2x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64_v_f16mf2x4_tum(vbool32_t vm,
                                                    vfloat16mf2x4_t vd,
                                                    const _Float16 *rs1,
```

```
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64_v_f16mf2x5_tum(vbool32_t vm,
                                                    vfloat16mf2x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei64_v_f16mf2x6_tum(vbool32_t vm,
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64_v_f16mf2x7_tum(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64_v_f16mf2x8_tum(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64_v_f16m1x2_tum(vbool16_t vm,
                                                  vfloat16m1x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64_v_f16m1x3_tum(vbool16_t vm,
                                                  vfloat16m1x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei64_v_f16m1x4_tum(vbool16_t vm,
                                                  vfloat16m1x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64_v_f16m1x5_tum(vbool16_t vm,
                                                  vfloat16m1x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64_v_f16m1x6_tum(vbool16_t vm,
                                                  vfloat16m1x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64_v_f16m1x7_tum(vbool16_t vm,
                                                  vfloat16m1x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64_v_f16m1x8_tum(vbool16_t vm,
                                                  vfloat16m1x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64_v_f16m2x2_tum(vbool8_t vm,
                                                  vfloat16m2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64_v_f16m2x3_tum(vbool8_t vm,
                                                  vfloat16m2x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64_v_f16m2x4_tum(vbool8_t vm,
                                                  vfloat16m2x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8_v_f32mf2x2_tum(vbool64_t vm,
                                                   vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8_v_f32mf2x3_tum(vbool64_t vm,
                                                   vfloat32mf2x3_t vd,
                                                   const float *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8_v_f32mf2x4_tum(vbool64_t vm,
                                                   vfloat32mf2x4_t vd,
```

```
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8_v_f32mf2x5_tum(vbool64_t vm,
                                                vfloat32mf2x5_t vd,
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei8_v_f32mf2x6_tum(vbool64_t vm,
                                                vfloat32mf2x6_t vd,
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8_v_f32mf2x7_tum(vbool64_t vm,
                                                vfloat32mf2x7_t vd,
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8_v_f32mf2x8_tum(vbool64_t vm,
                                                vfloat32mf2x8_t vd,
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei8_v_f32m1x2_tum(vbool32_t vm,
                                                vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8_v_f32m1x3_tum(vbool32_t vm,
                                                vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei8_v_f32m1x4_tum(vbool32_t vm,
                                                vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8_v_f32m1x5_tum(vbool32_t vm,
                                                vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8_v_f32m1x6_tum(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8_v_f32m1x7_tum(vbool32_t vm,
                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8_v_f32m1x8_tum(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8_v_f32m2x2_tum(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8_v_f32m2x3_tum(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8_v_f32m2x4_tum(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8_v_f32m4x2_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei16_v_f32mf2x2_tum(vbool64_t vm,
                                                   vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16_v_f32mf2x3_tum(vbool64_t vm,
```

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                                                    vfloat32mf2x3_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16_v_f32mf2x4_tum(vbool64_t vm,
                                                    vfloat32mf2x4_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16_v_f32mf2x5_tum(vbool64_t vm,
                                                    vfloat32mf2x5_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16_v_f32mf2x6_tum(vbool64_t vm,
                                                    vfloat32mf2x6_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16_v_f32mf2x7_tum(vbool64_t vm,
                                                    vfloat32mf2x7_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16_v_f32mf2x8_tum(vbool64_t vm,
                                                    vfloat32mf2x8_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16_v_f32m1x2_tum(vbool32_t vm,
                                                  vfloat32m1x2_t vd,
                                                  const float *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16_v_f32m1x3_tum(vbool32_t vm,
                                                  vfloat32m1x3_t vd,
                                                  const float *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16_v_f32m1x4_tum(vbool32_t vm,
                                                  vfloat32m1x4_t vd,
                                                  const float *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16_v_f32m1x5_tum(vbool32_t vm,
                                                  vfloat32m1x5_t vd,
                                                  const float *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16_v_f32m1x6_tum(vbool32_t vm,
                                                  vfloat32m1x6_t vd,
                                                  const float *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16_v_f32m1x7_tum(vbool32_t vm,
                                                  vfloat32m1x7_t vd,
                                                  const float *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16_v_f32m1x8_tum(vbool32_t vm,
                                                  vfloat32m1x8_t vd,
                                                  const float *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16_v_f32m2x2_tum(vbool16_t vm,
                                                  vfloat32m2x2_t vd,
                                                  const float *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16_v_f32m2x3_tum(vbool16_t vm,
                                                  vfloat32m2x3_t vd,
                                                  const float *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei16_v_f32m2x4_tum(vbool16_t vm,
                                                  vfloat32m2x4_t vd,
```

```
                                                const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16_v_f32m4x2_tum(vbool8_t vm,
                                                vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei32_v_f32mf2x2_tum(vbool64_t vm,
                                                  vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei32_v_f32mf2x3_tum(vbool64_t vm,
                                                  vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei32_v_f32mf2x4_tum(vbool64_t vm,
                                                  vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32_v_f32mf2x5_tum(vbool64_t vm,
                                                  vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32_v_f32mf2x6_tum(vbool64_t vm,
                                                  vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32_v_f32mf2x7_tum(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32_v_f32mf2x8_tum(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32_v_f32m1x2_tum(vbool32_t vm,
                                                vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32_v_f32m1x3_tum(vbool32_t vm,
                                                vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32_v_f32m1x4_tum(vbool32_t vm,
                                                vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32_v_f32m1x5_tum(vbool32_t vm,
                                                vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32_v_f32m1x6_tum(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei32_v_f32m1x7_tum(vbool32_t vm,
                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32_v_f32m1x8_tum(vbool32_t vm,
                                                vfloat32m1x8_t vd,
```

```
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32_v_f32m2x2_tum(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32_v_f32m2x3_tum(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32_v_f32m2x4_tum(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32_v_f32m4x2_tum(vbool8_t vm,
                                                vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei64_v_f32mf2x2_tum(vbool64_t vm,
                                                  vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64_v_f32mf2x3_tum(vbool64_t vm,
                                                  vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64_v_f32mf2x4_tum(vbool64_t vm,
                                                  vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64_v_f32mf2x5_tum(vbool64_t vm,
                                                  vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64_v_f32mf2x6_tum(vbool64_t vm,
                                                  vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64_v_f32mf2x7_tum(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64_v_f32mf2x8_tum(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64_v_f32m1x2_tum(vbool32_t vm,
                                                vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64_v_f32m1x3_tum(vbool32_t vm,
                                                vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64_v_f32m1x4_tum(vbool32_t vm,
                                                vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64_v_f32m1x5_tum(vbool32_t vm,
                                                vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64_v_f32m1x6_tum(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64_v_f32m1x7_tum(vbool32_t vm,
```

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                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64_v_f32m1x8_tum(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64_v_f32m2x2_tum(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64_v_f32m2x3_tum(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64_v_f32m2x4_tum(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64_v_f32m4x2_tum(vbool8_t vm,
                                                vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8_v_f64m1x2_tum(vbool64_t vm,
                                               vfloat64m1x2_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8_v_f64m1x3_tum(vbool64_t vm,
                                               vfloat64m1x3_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei8_v_f64m1x4_tum(vbool64_t vm,
                                               vfloat64m1x4_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8_v_f64m1x5_tum(vbool64_t vm,
                                               vfloat64m1x5_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei8_v_f64m1x6_tum(vbool64_t vm,
                                               vfloat64m1x6_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8_v_f64m1x7_tum(vbool64_t vm,
                                               vfloat64m1x7_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei8_v_f64m1x8_tum(vbool64_t vm,
                                               vfloat64m1x8_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8_v_f64m2x2_tum(vbool32_t vm,
                                               vfloat64m2x2_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8_v_f64m2x3_tum(vbool32_t vm,
                                               vfloat64m2x3_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8_v_f64m2x4_tum(vbool32_t vm,
                                               vfloat64m2x4_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8_v_f64m4x2_tum(vbool16_t vm,
                                               vfloat64m4x2_t vd,
                                               const double *rs1,
                                               vuint8mf2_t rs2, size_t vl);
```

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vfloat64m1x2_t __riscv_vloxseg2ei16_v_f64m1x2_tum(vbool64_t vm,
                                                  vfloat64m1x2_t vd,
                                                  const double *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16_v_f64m1x3_tum(vbool64_t vm,
                                                  vfloat64m1x3_t vd,
                                                  const double *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei16_v_f64m1x4_tum(vbool64_t vm,
                                                  vfloat64m1x4_t vd,
                                                  const double *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16_v_f64m1x5_tum(vbool64_t vm,
                                                  vfloat64m1x5_t vd,
                                                  const double *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16_v_f64m1x6_tum(vbool64_t vm,
                                                  vfloat64m1x6_t vd,
                                                  const double *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16_v_f64m1x7_tum(vbool64_t vm,
                                                  vfloat64m1x7_t vd,
                                                  const double *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16_v_f64m1x8_tum(vbool64_t vm,
                                                  vfloat64m1x8_t vd,
                                                  const double *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16_v_f64m2x2_tum(vbool32_t vm,
                                                  vfloat64m2x2_t vd,
                                                  const double *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16_v_f64m2x3_tum(vbool32_t vm,
                                                  vfloat64m2x3_t vd,
                                                  const double *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16_v_f64m2x4_tum(vbool32_t vm,
                                                  vfloat64m2x4_t vd,
                                                  const double *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16_v_f64m4x2_tum(vbool16_t vm,
                                                  vfloat64m4x2_t vd,
                                                  const double *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32_v_f64m1x2_tum(vbool64_t vm,
                                                  vfloat64m1x2_t vd,
                                                  const double *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32_v_f64m1x3_tum(vbool64_t vm,
                                                  vfloat64m1x3_t vd,
                                                  const double *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32_v_f64m1x4_tum(vbool64_t vm,
                                                  vfloat64m1x4_t vd,
                                                  const double *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32_v_f64m1x5_tum(vbool64_t vm,
                                                  vfloat64m1x5_t vd,
                                                  const double *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32_v_f64m1x6_tum(vbool64_t vm,
                                                  vfloat64m1x6_t vd,
                                                  const double *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32_v_f64m1x7_tum(vbool64_t vm,
                                                  vfloat64m1x7_t vd,
                                                  const double *rs1,
```

```
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32_v_f64m1x8_tum(vbool64_t vm,
                                                vfloat64m1x8_t vd,
                                                const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei32_v_f64m2x2_tum(vbool32_t vm,
                                                vfloat64m2x2_t vd,
                                                const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32_v_f64m2x3_tum(vbool32_t vm,
                                                vfloat64m2x3_t vd,
                                                const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei32_v_f64m2x4_tum(vbool32_t vm,
                                                vfloat64m2x4_t vd,
                                                const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei32_v_f64m4x2_tum(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei64_v_f64m1x2_tum(vbool64_t vm,
                                                vfloat64m1x2_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64_v_f64m1x3_tum(vbool64_t vm,
                                                vfloat64m1x3_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64_v_f64m1x4_tum(vbool64_t vm,
                                                vfloat64m1x4_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64_v_f64m1x5_tum(vbool64_t vm,
                                                vfloat64m1x5_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64_v_f64m1x6_tum(vbool64_t vm,
                                                vfloat64m1x6_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64_v_f64m1x7_tum(vbool64_t vm,
                                                vfloat64m1x7_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64_v_f64m1x8_tum(vbool64_t vm,
                                                vfloat64m1x8_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64_v_f64m2x2_tum(vbool32_t vm,
                                                vfloat64m2x2_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64_v_f64m2x3_tum(vbool32_t vm,
                                                vfloat64m2x3_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64_v_f64m2x4_tum(vbool32_t vm,
                                                vfloat64m2x4_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64_v_f64m4x2_tum(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8_v_f16mf4x2_tum(vbool64_t vm,
                                                 vfloat16mf4x2_t vd,
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                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8_v_f16mf4x3_tum(vbool64_t vm,
                                                vfloat16mf4x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei8_v_f16mf4x4_tum(vbool64_t vm,
                                                vfloat16mf4x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8_v_f16mf4x5_tum(vbool64_t vm,
                                                vfloat16mf4x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8_v_f16mf4x6_tum(vbool64_t vm,
                                                vfloat16mf4x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei8_v_f16mf4x7_tum(vbool64_t vm,
                                                vfloat16mf4x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8_v_f16mf4x8_tum(vbool64_t vm,
                                                vfloat16mf4x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8_v_f16mf2x2_tum(vbool32_t vm,
                                                vfloat16mf2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8_v_f16mf2x3_tum(vbool32_t vm,
                                                vfloat16mf2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8_v_f16mf2x4_tum(vbool32_t vm,
                                                vfloat16mf2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8_v_f16mf2x5_tum(vbool32_t vm,
                                                vfloat16mf2x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8_v_f16mf2x6_tum(vbool32_t vm,
                                                vfloat16mf2x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8_v_f16mf2x7_tum(vbool32_t vm,
                                                vfloat16mf2x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8_v_f16mf2x8_tum(vbool32_t vm,
                                                vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8_v_f16m1x2_tum(vbool16_t vm,
                                                vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8_v_f16m1x3_tum(vbool16_t vm,
                                                vfloat16m1x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8_v_f16m1x4_tum(vbool16_t vm,
                                                vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8_v_f16m1x5_tum(vbool16_t vm,
```

```
                                                vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8_v_f16m1x6_tum(vbool16_t vm,
                                                vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8_v_f16m1x7_tum(vbool16_t vm,
                                                vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8_v_f16m1x8_tum(vbool16_t vm,
                                                vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8_v_f16m2x2_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8_v_f16m2x3_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8_v_f16m2x4_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8_v_f16m4x2_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei16_v_f16mf4x2_tum(vbool64_t vm,
                                                    vfloat16mf4x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16_v_f16mf4x3_tum(vbool64_t vm,
                                                    vfloat16mf4x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei16_v_f16mf4x4_tum(vbool64_t vm,
                                                    vfloat16mf4x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16_v_f16mf4x5_tum(vbool64_t vm,
                                                    vfloat16mf4x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16_v_f16mf4x6_tum(vbool64_t vm,
                                                    vfloat16mf4x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16_v_f16mf4x7_tum(vbool64_t vm,
                                                    vfloat16mf4x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16_v_f16mf4x8_tum(vbool64_t vm,
                                                    vfloat16mf4x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16_v_f16mf2x2_tum(vbool32_t vm,
                                                    vfloat16mf2x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
```

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vfloat16mf2x3_t __riscv_vluxseg3ei16_v_f16mf2x3_tum(vbool32_t vm,
                                                    vfloat16mf2x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16_v_f16mf2x4_tum(vbool32_t vm,
                                                    vfloat16mf2x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16_v_f16mf2x5_tum(vbool32_t vm,
                                                    vfloat16mf2x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei16_v_f16mf2x6_tum(vbool32_t vm,
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16_v_f16mf2x7_tum(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16_v_f16mf2x8_tum(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16_v_f16m1x2_tum(vbool16_t vm,
                                                  vfloat16m1x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16_v_f16m1x3_tum(vbool16_t vm,
                                                  vfloat16m1x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16_v_f16m1x4_tum(vbool16_t vm,
                                                  vfloat16m1x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16_v_f16m1x5_tum(vbool16_t vm,
                                                  vfloat16m1x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei16_v_f16m1x6_tum(vbool16_t vm,
                                                  vfloat16m1x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16_v_f16m1x7_tum(vbool16_t vm,
                                                  vfloat16m1x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16_v_f16m1x8_tum(vbool16_t vm,
                                                  vfloat16m1x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16_v_f16m2x2_tum(vbool8_t vm,
                                                  vfloat16m2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16_v_f16m2x3_tum(vbool8_t vm,
                                                  vfloat16m2x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16_v_f16m2x4_tum(vbool8_t vm,
```

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                                                vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16_v_f16m4x2_tum(vbool4_t vm,
                                                vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32_v_f16mf4x2_tum(vbool64_t vm,
                                                  vfloat16mf4x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32_v_f16mf4x3_tum(vbool64_t vm,
                                                  vfloat16mf4x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei32_v_f16mf4x4_tum(vbool64_t vm,
                                                  vfloat16mf4x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32_v_f16mf4x5_tum(vbool64_t vm,
                                                  vfloat16mf4x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei32_v_f16mf4x6_tum(vbool64_t vm,
                                                  vfloat16mf4x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei32_v_f16mf4x7_tum(vbool64_t vm,
                                                  vfloat16mf4x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei32_v_f16mf4x8_tum(vbool64_t vm,
                                                  vfloat16mf4x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32_v_f16mf2x2_tum(vbool32_t vm,
                                                  vfloat16mf2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32_v_f16mf2x3_tum(vbool32_t vm,
                                                  vfloat16mf2x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32_v_f16mf2x4_tum(vbool32_t vm,
                                                  vfloat16mf2x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32_v_f16mf2x5_tum(vbool32_t vm,
                                                  vfloat16mf2x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32_v_f16mf2x6_tum(vbool32_t vm,
                                                  vfloat16mf2x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32_v_f16mf2x7_tum(vbool32_t vm,
                                                  vfloat16mf2x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32_v_f16mf2x8_tum(vbool32_t vm,
```

```
                                                vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32_v_f16m1x2_tum(vbool16_t vm,
                                                  vfloat16m1x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32_v_f16m1x3_tum(vbool16_t vm,
                                                  vfloat16m1x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32_v_f16m1x4_tum(vbool16_t vm,
                                                  vfloat16m1x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32_v_f16m1x5_tum(vbool16_t vm,
                                                  vfloat16m1x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32_v_f16m1x6_tum(vbool16_t vm,
                                                  vfloat16m1x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32_v_f16m1x7_tum(vbool16_t vm,
                                                  vfloat16m1x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32_v_f16m1x8_tum(vbool16_t vm,
                                                  vfloat16m1x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32_v_f16m2x2_tum(vbool8_t vm,
                                                  vfloat16m2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei32_v_f16m2x3_tum(vbool8_t vm,
                                                  vfloat16m2x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32_v_f16m2x4_tum(vbool8_t vm,
                                                  vfloat16m2x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32_v_f16m4x2_tum(vbool4_t vm,
                                                  vfloat16m4x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64_v_f16mf4x2_tum(vbool64_t vm,
                                                    vfloat16mf4x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64_v_f16mf4x3_tum(vbool64_t vm,
                                                    vfloat16mf4x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64_v_f16mf4x4_tum(vbool64_t vm,
                                                    vfloat16mf4x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64_v_f16mf4x5_tum(vbool64_t vm,
                                                    vfloat16mf4x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64_v_f16mf4x6_tum(vbool64_t vm,
                                                    vfloat16mf4x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
```

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vfloat16mf4x7_t __riscv_vluxseg7ei64_v_f16mf4x7_tum(vbool64_t vm,
                                                    vfloat16mf4x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64_v_f16mf4x8_tum(vbool64_t vm,
                                                    vfloat16mf4x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64_v_f16mf2x2_tum(vbool32_t vm,
                                                    vfloat16mf2x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64_v_f16mf2x3_tum(vbool32_t vm,
                                                    vfloat16mf2x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64_v_f16mf2x4_tum(vbool32_t vm,
                                                    vfloat16mf2x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64_v_f16mf2x5_tum(vbool32_t vm,
                                                    vfloat16mf2x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64_v_f16mf2x6_tum(vbool32_t vm,
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64_v_f16mf2x7_tum(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64_v_f16mf2x8_tum(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64_v_f16m1x2_tum(vbool16_t vm,
                                                  vfloat16m1x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64_v_f16m1x3_tum(vbool16_t vm,
                                                  vfloat16m1x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64_v_f16m1x4_tum(vbool16_t vm,
                                                  vfloat16m1x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei64_v_f16m1x5_tum(vbool16_t vm,
                                                  vfloat16m1x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64_v_f16m1x6_tum(vbool16_t vm,
                                                  vfloat16m1x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei64_v_f16m1x7_tum(vbool16_t vm,
                                                  vfloat16m1x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64_v_f16m1x8_tum(vbool16_t vm,
                                                  vfloat16m1x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64_v_f16m2x2_tum(vbool8_t vm,
                                                  vfloat16m2x2_t vd,
                                                  const _Float16 *rs1,
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                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64_v_f16m2x3_tum(vbool8_t vm,
                                                vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64_v_f16m2x4_tum(vbool8_t vm,
                                                vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8_v_f32mf2x2_tum(vbool64_t vm,
                                                vfloat32mf2x2_t vd,
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8_v_f32mf2x3_tum(vbool64_t vm,
                                                vfloat32mf2x3_t vd,
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8_v_f32mf2x4_tum(vbool64_t vm,
                                                vfloat32mf2x4_t vd,
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8_v_f32mf2x5_tum(vbool64_t vm,
                                                vfloat32mf2x5_t vd,
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei8_v_f32mf2x6_tum(vbool64_t vm,
                                                vfloat32mf2x6_t vd,
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8_v_f32mf2x7_tum(vbool64_t vm,
                                                vfloat32mf2x7_t vd,
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8_v_f32mf2x8_tum(vbool64_t vm,
                                                vfloat32mf2x8_t vd,
                                                const float *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8_v_f32m1x2_tum(vbool32_t vm,
                                               vfloat32m1x2_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8_v_f32m1x3_tum(vbool32_t vm,
                                               vfloat32m1x3_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8_v_f32m1x4_tum(vbool32_t vm,
                                               vfloat32m1x4_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8_v_f32m1x5_tum(vbool32_t vm,
                                               vfloat32m1x5_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8_v_f32m1x6_tum(vbool32_t vm,
                                               vfloat32m1x6_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8_v_f32m1x7_tum(vbool32_t vm,
                                               vfloat32m1x7_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8_v_f32m1x8_tum(vbool32_t vm,
                                               vfloat32m1x8_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8_v_f32m2x2_tum(vbool16_t vm,
                                               vfloat32m2x2_t vd,
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                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8_v_f32m2x3_tum(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8_v_f32m2x4_tum(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8_v_f32m4x2_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16_v_f32mf2x2_tum(vbool64_t vm,
                                                   vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16_v_f32mf2x3_tum(vbool64_t vm,
                                                   vfloat32mf2x3_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei16_v_f32mf2x4_tum(vbool64_t vm,
                                                   vfloat32mf2x4_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16_v_f32mf2x5_tum(vbool64_t vm,
                                                   vfloat32mf2x5_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei16_v_f32mf2x6_tum(vbool64_t vm,
                                                   vfloat32mf2x6_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei16_v_f32mf2x7_tum(vbool64_t vm,
                                                   vfloat32mf2x7_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16_v_f32mf2x8_tum(vbool64_t vm,
                                                   vfloat32mf2x8_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16_v_f32m1x2_tum(vbool32_t vm,
                                                  vfloat32m1x2_t vd,
                                                  const float *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16_v_f32m1x3_tum(vbool32_t vm,
                                                  vfloat32m1x3_t vd,
                                                  const float *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16_v_f32m1x4_tum(vbool32_t vm,
                                                  vfloat32m1x4_t vd,
                                                  const float *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16_v_f32m1x5_tum(vbool32_t vm,
                                                  vfloat32m1x5_t vd,
                                                  const float *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16_v_f32m1x6_tum(vbool32_t vm,
                                                  vfloat32m1x6_t vd,
                                                  const float *rs1,
```

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                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16_v_f32m1x7_tum(vbool32_t vm,
                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16_v_f32m1x8_tum(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16_v_f32m2x2_tum(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16_v_f32m2x3_tum(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16_v_f32m2x4_tum(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16_v_f32m4x2_tum(vbool8_t vm,
                                                vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32_v_f32mf2x2_tum(vbool64_t vm,
                                                  vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32_v_f32mf2x3_tum(vbool64_t vm,
                                                  vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32_v_f32mf2x4_tum(vbool64_t vm,
                                                  vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32_v_f32mf2x5_tum(vbool64_t vm,
                                                  vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei32_v_f32mf2x6_tum(vbool64_t vm,
                                                  vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32_v_f32mf2x7_tum(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32_v_f32mf2x8_tum(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei32_v_f32m1x2_tum(vbool32_t vm,
                                                vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32_v_f32m1x3_tum(vbool32_t vm,
                                                vfloat32m1x3_t vd,
                                                const float *rs1,
```

```
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32_v_f32m1x4_tum(vbool32_t vm,
                                                vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32_v_f32m1x5_tum(vbool32_t vm,
                                                vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32_v_f32m1x6_tum(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32_v_f32m1x7_tum(vbool32_t vm,
                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32_v_f32m1x8_tum(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32_v_f32m2x2_tum(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32_v_f32m2x3_tum(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32_v_f32m2x4_tum(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32_v_f32m4x2_tum(vbool8_t vm,
                                                vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64_v_f32mf2x2_tum(vbool64_t vm,
                                                  vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64_v_f32mf2x3_tum(vbool64_t vm,
                                                  vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64_v_f32mf2x4_tum(vbool64_t vm,
                                                  vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64_v_f32mf2x5_tum(vbool64_t vm,
                                                  vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei64_v_f32mf2x6_tum(vbool64_t vm,
                                                  vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64_v_f32mf2x7_tum(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei64_v_f32mf2x8_tum(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64_v_f32m1x2_tum(vbool32_t vm,
                                                vfloat32m1x2_t vd,
```

```
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei64_v_f32m1x3_tum(vbool32_t vm,
                                                vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64_v_f32m1x4_tum(vbool32_t vm,
                                                vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64_v_f32m1x5_tum(vbool32_t vm,
                                                vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64_v_f32m1x6_tum(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64_v_f32m1x7_tum(vbool32_t vm,
                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64_v_f32m1x8_tum(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64_v_f32m2x2_tum(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64_v_f32m2x3_tum(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei64_v_f32m2x4_tum(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei64_v_f32m4x2_tum(vbool8_t vm,
                                                vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8_v_f64m1x2_tum(vbool64_t vm,
                                               vfloat64m1x2_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei8_v_f64m1x3_tum(vbool64_t vm,
                                               vfloat64m1x3_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8_v_f64m1x4_tum(vbool64_t vm,
                                               vfloat64m1x4_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8_v_f64m1x5_tum(vbool64_t vm,
                                               vfloat64m1x5_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8_v_f64m1x6_tum(vbool64_t vm,
                                               vfloat64m1x6_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8_v_f64m1x7_tum(vbool64_t vm,
                                               vfloat64m1x7_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8_v_f64m1x8_tum(vbool64_t vm,
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                                                vfloat64m1x8_t vd,
                                                const double *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8_v_f64m2x2_tum(vbool32_t vm,
                                                vfloat64m2x2_t vd,
                                                const double *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8_v_f64m2x3_tum(vbool32_t vm,
                                                vfloat64m2x3_t vd,
                                                const double *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8_v_f64m2x4_tum(vbool32_t vm,
                                                vfloat64m2x4_t vd,
                                                const double *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei8_v_f64m4x2_tum(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16_v_f64m1x2_tum(vbool64_t vm,
                                                 vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16_v_f64m1x3_tum(vbool64_t vm,
                                                 vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16_v_f64m1x4_tum(vbool64_t vm,
                                                 vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16_v_f64m1x5_tum(vbool64_t vm,
                                                 vfloat64m1x5_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei16_v_f64m1x6_tum(vbool64_t vm,
                                                 vfloat64m1x6_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16_v_f64m1x7_tum(vbool64_t vm,
                                                 vfloat64m1x7_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei16_v_f64m1x8_tum(vbool64_t vm,
                                                 vfloat64m1x8_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei16_v_f64m2x2_tum(vbool32_t vm,
                                                 vfloat64m2x2_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16_v_f64m2x3_tum(vbool32_t vm,
                                                 vfloat64m2x3_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16_v_f64m2x4_tum(vbool32_t vm,
                                                 vfloat64m2x4_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16_v_f64m4x2_tum(vbool16_t vm,
                                                 vfloat64m4x2_t vd,
                                                 const double *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32_v_f64m1x2_tum(vbool64_t vm,
                                                 vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
```

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vfloat64m1x3_t __riscv_vluxseg3ei32_v_f64m1x3_tum(vbool64_t vm,
                                                  vfloat64m1x3_t vd,
                                                  const double *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32_v_f64m1x4_tum(vbool64_t vm,
                                                  vfloat64m1x4_t vd,
                                                  const double *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32_v_f64m1x5_tum(vbool64_t vm,
                                                  vfloat64m1x5_t vd,
                                                  const double *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32_v_f64m1x6_tum(vbool64_t vm,
                                                  vfloat64m1x6_t vd,
                                                  const double *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei32_v_f64m1x7_tum(vbool64_t vm,
                                                  vfloat64m1x7_t vd,
                                                  const double *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32_v_f64m1x8_tum(vbool64_t vm,
                                                  vfloat64m1x8_t vd,
                                                  const double *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32_v_f64m2x2_tum(vbool32_t vm,
                                                  vfloat64m2x2_t vd,
                                                  const double *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32_v_f64m2x3_tum(vbool32_t vm,
                                                  vfloat64m2x3_t vd,
                                                  const double *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32_v_f64m2x4_tum(vbool32_t vm,
                                                  vfloat64m2x4_t vd,
                                                  const double *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32_v_f64m4x2_tum(vbool16_t vm,
                                                  vfloat64m4x2_t vd,
                                                  const double *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64_v_f64m1x2_tum(vbool64_t vm,
                                                  vfloat64m1x2_t vd,
                                                  const double *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64_v_f64m1x3_tum(vbool64_t vm,
                                                  vfloat64m1x3_t vd,
                                                  const double *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei64_v_f64m1x4_tum(vbool64_t vm,
                                                  vfloat64m1x4_t vd,
                                                  const double *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64_v_f64m1x5_tum(vbool64_t vm,
                                                  vfloat64m1x5_t vd,
                                                  const double *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64_v_f64m1x6_tum(vbool64_t vm,
                                                  vfloat64m1x6_t vd,
                                                  const double *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64_v_f64m1x7_tum(vbool64_t vm,
                                                  vfloat64m1x7_t vd,
                                                  const double *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64_v_f64m1x8_tum(vbool64_t vm,
                                                  vfloat64m1x8_t vd,
                                                  const double *rs1,
```

```
                                                vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64_v_f64m2x2_tum(vbool32_t vm,
                                                vfloat64m2x2_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64_v_f64m2x3_tum(vbool32_t vm,
                                                vfloat64m2x3_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64_v_f64m2x4_tum(vbool32_t vm,
                                                vfloat64m2x4_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64_v_f64m4x2_tum(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8_v_i8mf8x2_tum(vbool64_t vm, vint8mf8x2_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8_v_i8mf8x3_tum(vbool64_t vm, vint8mf8x3_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8_v_i8mf8x4_tum(vbool64_t vm, vint8mf8x4_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8_v_i8mf8x5_tum(vbool64_t vm, vint8mf8x5_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8_v_i8mf8x6_tum(vbool64_t vm, vint8mf8x6_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8_v_i8mf8x7_tum(vbool64_t vm, vint8mf8x7_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8_v_i8mf8x8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8_v_i8mf4x2_tum(vbool32_t vm, vint8mf4x2_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8_v_i8mf4x3_tum(vbool32_t vm, vint8mf4x3_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8_v_i8mf4x4_tum(vbool32_t vm, vint8mf4x4_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8_v_i8mf4x5_tum(vbool32_t vm, vint8mf4x5_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei8_v_i8mf4x6_tum(vbool32_t vm, vint8mf4x6_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8_v_i8mf4x7_tum(vbool32_t vm, vint8mf4x7_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei8_v_i8mf4x8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8_v_i8mf2x2_tum(vbool16_t vm, vint8mf2x2_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8_v_i8mf2x3_tum(vbool16_t vm, vint8mf2x3_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8_v_i8mf2x4_tum(vbool16_t vm, vint8mf2x4_t vd,
                                               const int8_t *rs1,
```

```
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8_v_i8mf2x5_tum(vbool16_t vm, vint8mf2x5_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei8_v_i8mf2x6_tum(vbool16_t vm, vint8mf2x6_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8_v_i8mf2x7_tum(vbool16_t vm, vint8mf2x7_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8_v_i8mf2x8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8_v_i8m1x2_tum(vbool8_t vm, vint8m1x2_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x3_t __riscv_vloxseg3ei8_v_i8m1x3_tum(vbool8_t vm, vint8m1x3_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8_v_i8m1x4_tum(vbool8_t vm, vint8m1x4_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x5_t __riscv_vloxseg5ei8_v_i8m1x5_tum(vbool8_t vm, vint8m1x5_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8_v_i8m1x6_tum(vbool8_t vm, vint8m1x6_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8_v_i8m1x7_tum(vbool8_t vm, vint8m1x7_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8_v_i8m1x8_tum(vbool8_t vm, vint8m1x8_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m2x2_t __riscv_vloxseg2ei8_v_i8m2x2_tum(vbool4_t vm, vint8m2x2_t vd,
                                             const int8_t *rs1, vuint8m2_t rs2,
                                             size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8_v_i8m2x3_tum(vbool4_t vm, vint8m2x3_t vd,
                                             const int8_t *rs1, vuint8m2_t rs2,
                                             size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8_v_i8m2x4_tum(vbool4_t vm, vint8m2x4_t vd,
                                             const int8_t *rs1, vuint8m2_t rs2,
                                             size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8_v_i8m4x2_tum(vbool2_t vm, vint8m4x2_t vd,
                                             const int8_t *rs1, vuint8m4_t rs2,
                                             size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16_v_i8mf8x2_tum(vbool64_t vm, vint8mf8x2_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16_v_i8mf8x3_tum(vbool64_t vm, vint8mf8x3_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16_v_i8mf8x4_tum(vbool64_t vm, vint8mf8x4_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16_v_i8mf8x5_tum(vbool64_t vm, vint8mf8x5_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16_v_i8mf8x6_tum(vbool64_t vm, vint8mf8x6_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16_v_i8mf8x7_tum(vbool64_t vm, vint8mf8x7_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16_v_i8mf8x8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
```

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vint8mf4x2_t __riscv_vloxseg2ei16_v_i8mf4x2_tum(vbool32_t vm, vint8mf4x2_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei16_v_i8mf4x3_tum(vbool32_t vm, vint8mf4x3_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei16_v_i8mf4x4_tum(vbool32_t vm, vint8mf4x4_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei16_v_i8mf4x5_tum(vbool32_t vm, vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei16_v_i8mf4x6_tum(vbool32_t vm, vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16_v_i8mf4x7_tum(vbool32_t vm, vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16_v_i8mf4x8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16_v_i8mf2x2_tum(vbool16_t vm, vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16_v_i8mf2x3_tum(vbool16_t vm, vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei16_v_i8mf2x4_tum(vbool16_t vm, vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16_v_i8mf2x5_tum(vbool16_t vm, vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei16_v_i8mf2x6_tum(vbool16_t vm, vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16_v_i8mf2x7_tum(vbool16_t vm, vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei16_v_i8mf2x8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16_v_i8m1x2_tum(vbool8_t vm, vint8m1x2_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16_v_i8m1x3_tum(vbool8_t vm, vint8m1x3_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16_v_i8m1x4_tum(vbool8_t vm, vint8m1x4_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16_v_i8m1x5_tum(vbool8_t vm, vint8m1x5_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16_v_i8m1x6_tum(vbool8_t vm, vint8m1x6_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei16_v_i8m1x7_tum(vbool8_t vm, vint8m1x7_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16_v_i8m1x8_tum(vbool8_t vm, vint8m1x8_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16_v_i8m2x2_tum(vbool4_t vm, vint8m2x2_t vd,
                                              const int8_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16_v_i8m2x3_tum(vbool4_t vm, vint8m2x3_t vd,
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                                            const int8_t *rs1,
                                            vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16_v_i8m2x4_tum(vbool4_t vm, vint8m2x4_t vd,
                                            const int8_t *rs1,
                                            vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16_v_i8m4x2_tum(vbool2_t vm, vint8m4x2_t vd,
                                            const int8_t *rs1,
                                            vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei32_v_i8mf8x2_tum(vbool64_t vm, vint8mf8x2_t vd,
                                              const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32_v_i8mf8x3_tum(vbool64_t vm, vint8mf8x3_t vd,
                                              const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32_v_i8mf8x4_tum(vbool64_t vm, vint8mf8x4_t vd,
                                              const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32_v_i8mf8x5_tum(vbool64_t vm, vint8mf8x5_t vd,
                                              const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32_v_i8mf8x6_tum(vbool64_t vm, vint8mf8x6_t vd,
                                              const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32_v_i8mf8x7_tum(vbool64_t vm, vint8mf8x7_t vd,
                                              const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32_v_i8mf8x8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                              const int8_t *rs1,
                                              vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32_v_i8mf4x2_tum(vbool32_t vm, vint8mf4x2_t vd,
                                              const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32_v_i8mf4x3_tum(vbool32_t vm, vint8mf4x3_t vd,
                                              const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32_v_i8mf4x4_tum(vbool32_t vm, vint8mf4x4_t vd,
                                              const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32_v_i8mf4x5_tum(vbool32_t vm, vint8mf4x5_t vd,
                                              const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei32_v_i8mf4x6_tum(vbool32_t vm, vint8mf4x6_t vd,
                                              const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei32_v_i8mf4x7_tum(vbool32_t vm, vint8mf4x7_t vd,
                                              const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32_v_i8mf4x8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                              const int8_t *rs1,
                                              vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei32_v_i8mf2x2_tum(vbool16_t vm, vint8mf2x2_t vd,
                                              const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32_v_i8mf2x3_tum(vbool16_t vm, vint8mf2x3_t vd,
                                              const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei32_v_i8mf2x4_tum(vbool16_t vm, vint8mf2x4_t vd,
                                              const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32_v_i8mf2x5_tum(vbool16_t vm, vint8mf2x5_t vd,
                                              const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32_v_i8mf2x6_tum(vbool16_t vm, vint8mf2x6_t vd,
                                              const int8_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32_v_i8mf2x7_tum(vbool16_t vm, vint8mf2x7_t vd,
                                              const int8_t *rs1,
```

```
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei32_v_i8mf2x8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32_v_i8m1x2_tum(vbool8_t vm, vint8m1x2_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei32_v_i8m1x3_tum(vbool8_t vm, vint8m1x3_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32_v_i8m1x4_tum(vbool8_t vm, vint8m1x4_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei32_v_i8m1x5_tum(vbool8_t vm, vint8m1x5_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei32_v_i8m1x6_tum(vbool8_t vm, vint8m1x6_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32_v_i8m1x7_tum(vbool8_t vm, vint8m1x7_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei32_v_i8m1x8_tum(vbool8_t vm, vint8m1x8_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32_v_i8m2x2_tum(vbool4_t vm, vint8m2x2_t vd,
                                              const int8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32_v_i8m2x3_tum(vbool4_t vm, vint8m2x3_t vd,
                                              const int8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32_v_i8m2x4_tum(vbool4_t vm, vint8m2x4_t vd,
                                              const int8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei64_v_i8mf8x2_tum(vbool64_t vm, vint8mf8x2_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64_v_i8mf8x3_tum(vbool64_t vm, vint8mf8x3_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64_v_i8mf8x4_tum(vbool64_t vm, vint8mf8x4_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64_v_i8mf8x5_tum(vbool64_t vm, vint8mf8x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64_v_i8mf8x6_tum(vbool64_t vm, vint8mf8x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64_v_i8mf8x7_tum(vbool64_t vm, vint8mf8x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64_v_i8mf8x8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64_v_i8mf4x2_tum(vbool32_t vm, vint8mf4x2_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64_v_i8mf4x3_tum(vbool32_t vm, vint8mf4x3_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei64_v_i8mf4x4_tum(vbool32_t vm, vint8mf4x4_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei64_v_i8mf4x5_tum(vbool32_t vm, vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
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vint8mf4x6_t __riscv_vloxseg6ei64_v_i8mf4x6_tum(vbool32_t vm, vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei64_v_i8mf4x7_tum(vbool32_t vm, vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei64_v_i8mf4x8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei64_v_i8mf2x2_tum(vbool16_t vm, vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei64_v_i8mf2x3_tum(vbool16_t vm, vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei64_v_i8mf2x4_tum(vbool16_t vm, vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei64_v_i8mf2x5_tum(vbool16_t vm, vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei64_v_i8mf2x6_tum(vbool16_t vm, vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei64_v_i8mf2x7_tum(vbool16_t vm, vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei64_v_i8mf2x8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64_v_i8m1x2_tum(vbool8_t vm, vint8m1x2_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64_v_i8m1x3_tum(vbool8_t vm, vint8m1x3_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei64_v_i8m1x4_tum(vbool8_t vm, vint8m1x4_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei64_v_i8m1x5_tum(vbool8_t vm, vint8m1x5_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei64_v_i8m1x6_tum(vbool8_t vm, vint8m1x6_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64_v_i8m1x7_tum(vbool8_t vm, vint8m1x7_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64_v_i8m1x8_tum(vbool8_t vm, vint8m1x8_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8_v_i16mf4x2_tum(vbool64_t vm, vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8_v_i16mf4x3_tum(vbool64_t vm, vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei8_v_i16mf4x4_tum(vbool64_t vm, vint16mf4x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8_v_i16mf4x5_tum(vbool64_t vm, vint16mf4x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8_v_i16mf4x6_tum(vbool64_t vm, vint16mf4x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8_v_i16mf4x7_tum(vbool64_t vm, vint16mf4x7_t vd,
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                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8_v_i16mf4x8_tum(vbool64_t vm, vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8_v_i16mf2x2_tum(vbool32_t vm, vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8_v_i16mf2x3_tum(vbool32_t vm, vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8_v_i16mf2x4_tum(vbool32_t vm, vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8_v_i16mf2x5_tum(vbool32_t vm, vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8_v_i16mf2x6_tum(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8_v_i16mf2x7_tum(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8_v_i16mf2x8_tum(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8_v_i16m1x2_tum(vbool16_t vm, vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8_v_i16m1x3_tum(vbool16_t vm, vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8_v_i16m1x4_tum(vbool16_t vm, vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8_v_i16m1x5_tum(vbool16_t vm, vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8_v_i16m1x6_tum(vbool16_t vm, vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8_v_i16m1x7_tum(vbool16_t vm, vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8_v_i16m1x8_tum(vbool16_t vm, vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8_v_i16m2x2_tum(vbool8_t vm, vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei8_v_i16m2x3_tum(vbool8_t vm, vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8_v_i16m2x4_tum(vbool8_t vm, vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei8_v_i16m4x2_tum(vbool4_t vm, vint16m4x2_t vd,
                                               const int16_t *rs1,
                                               vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16_v_i16mf4x2_tum(vbool64_t vm,
                                                  vint16mf4x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16_v_i16mf4x3_tum(vbool64_t vm,
                                                  vint16mf4x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
```

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vint16mf4x4_t __riscv_vloxseg4ei16_v_i16mf4x4_tum(vbool64_t vm,
                                                  vint16mf4x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16_v_i16mf4x5_tum(vbool64_t vm,
                                                  vint16mf4x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16_v_i16mf4x6_tum(vbool64_t vm,
                                                  vint16mf4x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16_v_i16mf4x7_tum(vbool64_t vm,
                                                  vint16mf4x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16_v_i16mf4x8_tum(vbool64_t vm,
                                                  vint16mf4x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei16_v_i16mf2x2_tum(vbool32_t vm,
                                                  vint16mf2x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei16_v_i16mf2x3_tum(vbool32_t vm,
                                                  vint16mf2x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16_v_i16mf2x4_tum(vbool32_t vm,
                                                  vint16mf2x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16_v_i16mf2x5_tum(vbool32_t vm,
                                                  vint16mf2x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16_v_i16mf2x6_tum(vbool32_t vm,
                                                  vint16mf2x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16_v_i16mf2x7_tum(vbool32_t vm,
                                                  vint16mf2x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16_v_i16mf2x8_tum(vbool32_t vm,
                                                  vint16mf2x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16_v_i16m1x2_tum(vbool16_t vm, vint16m1x2_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16_v_i16m1x3_tum(vbool16_t vm, vint16m1x3_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16_v_i16m1x4_tum(vbool16_t vm, vint16m1x4_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16_v_i16m1x5_tum(vbool16_t vm, vint16m1x5_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16_v_i16m1x6_tum(vbool16_t vm, vint16m1x6_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16_v_i16m1x7_tum(vbool16_t vm, vint16m1x7_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16_v_i16m1x8_tum(vbool16_t vm, vint16m1x8_t vd,
```

```
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16_v_i16m2x2_tum(vbool8_t vm, vint16m2x2_t vd,
                                                const int16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16_v_i16m2x3_tum(vbool8_t vm, vint16m2x3_t vd,
                                                const int16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16_v_i16m2x4_tum(vbool8_t vm, vint16m2x4_t vd,
                                                const int16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16_v_i16m4x2_tum(vbool4_t vm, vint16m4x2_t vd,
                                                const int16_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32_v_i16mf4x2_tum(vbool64_t vm,
                                                  vint16mf4x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei32_v_i16mf4x3_tum(vbool64_t vm,
                                                  vint16mf4x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei32_v_i16mf4x4_tum(vbool64_t vm,
                                                  vint16mf4x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32_v_i16mf4x5_tum(vbool64_t vm,
                                                  vint16mf4x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32_v_i16mf4x6_tum(vbool64_t vm,
                                                  vint16mf4x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32_v_i16mf4x7_tum(vbool64_t vm,
                                                  vint16mf4x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32_v_i16mf4x8_tum(vbool64_t vm,
                                                  vint16mf4x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32_v_i16mf2x2_tum(vbool32_t vm,
                                                  vint16mf2x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32_v_i16mf2x3_tum(vbool32_t vm,
                                                  vint16mf2x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32_v_i16mf2x4_tum(vbool32_t vm,
                                                  vint16mf2x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32_v_i16mf2x5_tum(vbool32_t vm,
                                                  vint16mf2x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32_v_i16mf2x6_tum(vbool32_t vm,
                                                  vint16mf2x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei32_v_i16mf2x7_tum(vbool32_t vm,
                                                  vint16mf2x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32_v_i16mf2x8_tum(vbool32_t vm,
```

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                                                vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32_v_i16m1x2_tum(vbool16_t vm, vint16m1x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32_v_i16m1x3_tum(vbool16_t vm, vint16m1x3_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32_v_i16m1x4_tum(vbool16_t vm, vint16m1x4_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32_v_i16m1x5_tum(vbool16_t vm, vint16m1x5_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32_v_i16m1x6_tum(vbool16_t vm, vint16m1x6_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei32_v_i16m1x7_tum(vbool16_t vm, vint16m1x7_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32_v_i16m1x8_tum(vbool16_t vm, vint16m1x8_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32_v_i16m2x2_tum(vbool8_t vm, vint16m2x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32_v_i16m2x3_tum(vbool8_t vm, vint16m2x3_t vd,
                                                const int16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32_v_i16m2x4_tum(vbool8_t vm, vint16m2x4_t vd,
                                                const int16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32_v_i16m4x2_tum(vbool4_t vm, vint16m4x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64_v_i16mf4x2_tum(vbool64_t vm,
                                                  vint16mf4x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64_v_i16mf4x3_tum(vbool64_t vm,
                                                  vint16mf4x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64_v_i16mf4x4_tum(vbool64_t vm,
                                                  vint16mf4x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64_v_i16mf4x5_tum(vbool64_t vm,
                                                  vint16mf4x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64_v_i16mf4x6_tum(vbool64_t vm,
                                                  vint16mf4x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64_v_i16mf4x7_tum(vbool64_t vm,
                                                  vint16mf4x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64_v_i16mf4x8_tum(vbool64_t vm,
                                                  vint16mf4x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64_v_i16mf2x2_tum(vbool32_t vm,
                                                  vint16mf2x2_t vd,
                                                  const int16_t *rs1,
```

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                                                vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64_v_i16mf2x3_tum(vbool32_t vm,
                                                vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64_v_i16mf2x4_tum(vbool32_t vm,
                                                vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64_v_i16mf2x5_tum(vbool32_t vm,
                                                vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64_v_i16mf2x6_tum(vbool32_t vm,
                                                vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64_v_i16mf2x7_tum(vbool32_t vm,
                                                vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64_v_i16mf2x8_tum(vbool32_t vm,
                                                vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei64_v_i16m1x2_tum(vbool16_t vm, vint16m1x2_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64_v_i16m1x3_tum(vbool16_t vm, vint16m1x3_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei64_v_i16m1x4_tum(vbool16_t vm, vint16m1x4_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64_v_i16m1x5_tum(vbool16_t vm, vint16m1x5_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64_v_i16m1x6_tum(vbool16_t vm, vint16m1x6_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64_v_i16m1x7_tum(vbool16_t vm, vint16m1x7_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64_v_i16m1x8_tum(vbool16_t vm, vint16m1x8_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64_v_i16m2x2_tum(vbool8_t vm, vint16m2x2_t vd,
                                                const int16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64_v_i16m2x3_tum(vbool8_t vm, vint16m2x3_t vd,
                                                const int16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64_v_i16m2x4_tum(vbool8_t vm, vint16m2x4_t vd,
                                                const int16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8_v_i32mf2x2_tum(vbool64_t vm, vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei8_v_i32mf2x3_tum(vbool64_t vm, vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8_v_i32mf2x4_tum(vbool64_t vm, vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8_v_i32mf2x5_tum(vbool64_t vm, vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
```

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vint32mf2x6_t __riscv_vloxseg6ei8_v_i32mf2x6_tum(vbool64_t vm, vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8_v_i32mf2x7_tum(vbool64_t vm, vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8_v_i32mf2x8_tum(vbool64_t vm, vint32mf2x8_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8_v_i32m1x2_tum(vbool32_t vm, vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei8_v_i32m1x3_tum(vbool32_t vm, vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei8_v_i32m1x4_tum(vbool32_t vm, vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8_v_i32m1x5_tum(vbool32_t vm, vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei8_v_i32m1x6_tum(vbool32_t vm, vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei8_v_i32m1x7_tum(vbool32_t vm, vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei8_v_i32m1x8_tum(vbool32_t vm, vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8_v_i32m2x2_tum(vbool16_t vm, vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8_v_i32m2x3_tum(vbool16_t vm, vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei8_v_i32m2x4_tum(vbool16_t vm, vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8_v_i32m4x2_tum(vbool8_t vm, vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16_v_i32mf2x2_tum(vbool64_t vm,
                                                  vint32mf2x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei16_v_i32mf2x3_tum(vbool64_t vm,
                                                  vint32mf2x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei16_v_i32mf2x4_tum(vbool64_t vm,
                                                  vint32mf2x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei16_v_i32mf2x5_tum(vbool64_t vm,
                                                  vint32mf2x5_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16_v_i32mf2x6_tum(vbool64_t vm,
                                                  vint32mf2x6_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16_v_i32mf2x7_tum(vbool64_t vm,
                                                  vint32mf2x7_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16_v_i32mf2x8_tum(vbool64_t vm,
```

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                                                vint32mf2x8_t vd,
                                                const int32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16_v_i32m1x2_tum(vbool32_t vm, vint32m1x2_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16_v_i32m1x3_tum(vbool32_t vm, vint32m1x3_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei16_v_i32m1x4_tum(vbool32_t vm, vint32m1x4_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16_v_i32m1x5_tum(vbool32_t vm, vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16_v_i32m1x6_tum(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei16_v_i32m1x7_tum(vbool32_t vm, vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16_v_i32m1x8_tum(vbool32_t vm, vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16_v_i32m2x2_tum(vbool16_t vm, vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16_v_i32m2x3_tum(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16_v_i32m2x4_tum(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16_v_i32m4x2_tum(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32_v_i32mf2x2_tum(vbool64_t vm,
                                                  vint32mf2x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei32_v_i32mf2x3_tum(vbool64_t vm,
                                                  vint32mf2x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32_v_i32mf2x4_tum(vbool64_t vm,
                                                  vint32mf2x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32_v_i32mf2x5_tum(vbool64_t vm,
                                                  vint32mf2x5_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32_v_i32mf2x6_tum(vbool64_t vm,
                                                  vint32mf2x6_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32_v_i32mf2x7_tum(vbool64_t vm,
                                                  vint32mf2x7_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32_v_i32mf2x8_tum(vbool64_t vm,
                                                  vint32mf2x8_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32_v_i32m1x2_tum(vbool32_t vm, vint32m1x2_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
```

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vint32m1x3_t __riscv_vloxseg3ei32_v_i32m1x3_tum(vbool32_t vm, vint32m1x3_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32_v_i32m1x4_tum(vbool32_t vm, vint32m1x4_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32_v_i32m1x5_tum(vbool32_t vm, vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei32_v_i32m1x6_tum(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei32_v_i32m1x7_tum(vbool32_t vm, vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32_v_i32m1x8_tum(vbool32_t vm, vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32_v_i32m2x2_tum(vbool16_t vm, vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32_v_i32m2x3_tum(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32_v_i32m2x4_tum(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32_v_i32m4x2_tum(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei64_v_i32mf2x2_tum(vbool64_t vm,
                                                  vint32mf2x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64_v_i32mf2x3_tum(vbool64_t vm,
                                                  vint32mf2x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64_v_i32mf2x4_tum(vbool64_t vm,
                                                  vint32mf2x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei64_v_i32mf2x5_tum(vbool64_t vm,
                                                  vint32mf2x5_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64_v_i32mf2x6_tum(vbool64_t vm,
                                                  vint32mf2x6_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei64_v_i32mf2x7_tum(vbool64_t vm,
                                                  vint32mf2x7_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64_v_i32mf2x8_tum(vbool64_t vm,
                                                  vint32mf2x8_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64_v_i32m1x2_tum(vbool32_t vm, vint32m1x2_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64_v_i32m1x3_tum(vbool32_t vm, vint32m1x3_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei64_v_i32m1x4_tum(vbool32_t vm, vint32m1x4_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
```

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vint32m1x5_t __riscv_vloxseg5ei64_v_i32m1x5_tum(vbool32_t vm, vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei64_v_i32m1x6_tum(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei64_v_i32m1x7_tum(vbool32_t vm, vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei64_v_i32m1x8_tum(vbool32_t vm, vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei64_v_i32m2x2_tum(vbool16_t vm, vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei64_v_i32m2x3_tum(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei64_v_i32m2x4_tum(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei64_v_i32m4x2_tum(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei8_v_i64m1x2_tum(vbool64_t vm, vint64m1x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8_v_i64m1x3_tum(vbool64_t vm, vint64m1x3_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8_v_i64m1x4_tum(vbool64_t vm, vint64m1x4_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei8_v_i64m1x5_tum(vbool64_t vm, vint64m1x5_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei8_v_i64m1x6_tum(vbool64_t vm, vint64m1x6_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei8_v_i64m1x7_tum(vbool64_t vm, vint64m1x7_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei8_v_i64m1x8_tum(vbool64_t vm, vint64m1x8_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei8_v_i64m2x2_tum(vbool32_t vm, vint64m2x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei8_v_i64m2x3_tum(vbool32_t vm, vint64m2x3_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei8_v_i64m2x4_tum(vbool32_t vm, vint64m2x4_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei8_v_i64m4x2_tum(vbool16_t vm, vint64m4x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16_v_i64m1x2_tum(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16_v_i64m1x3_tum(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16_v_i64m1x4_tum(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei16_v_i64m1x5_tum(vbool64_t vm, vint64m1x5_t vd,
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                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei16_v_i64m1x6_tum(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16_v_i64m1x7_tum(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16_v_i64m1x8_tum(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei16_v_i64m2x2_tum(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei16_v_i64m2x3_tum(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei16_v_i64m2x4_tum(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16_v_i64m4x2_tum(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32_v_i64m1x2_tum(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32_v_i64m1x3_tum(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32_v_i64m1x4_tum(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei32_v_i64m1x5_tum(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei32_v_i64m1x6_tum(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei32_v_i64m1x7_tum(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32_v_i64m1x8_tum(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32_v_i64m2x2_tum(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32_v_i64m2x3_tum(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei32_v_i64m2x4_tum(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei32_v_i64m4x2_tum(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64_v_i64m1x2_tum(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64_v_i64m1x3_tum(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64_v_i64m1x4_tum(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64_v_i64m1x5_tum(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
```

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                                                vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64_v_i64m1x6_tum(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64_v_i64m1x7_tum(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64_v_i64m1x8_tum(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64_v_i64m2x2_tum(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei64_v_i64m2x3_tum(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64_v_i64m2x4_tum(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64_v_i64m4x2_tum(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8_v_i8mf8x2_tum(vbool64_t vm, vint8mf8x2_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8_v_i8mf8x3_tum(vbool64_t vm, vint8mf8x3_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8_v_i8mf8x4_tum(vbool64_t vm, vint8mf8x4_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8_v_i8mf8x5_tum(vbool64_t vm, vint8mf8x5_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8_v_i8mf8x6_tum(vbool64_t vm, vint8mf8x6_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8_v_i8mf8x7_tum(vbool64_t vm, vint8mf8x7_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8_v_i8mf8x8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                               const int8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8_v_i8mf4x2_tum(vbool32_t vm, vint8mf4x2_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei8_v_i8mf4x3_tum(vbool32_t vm, vint8mf4x3_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8_v_i8mf4x4_tum(vbool32_t vm, vint8mf4x4_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei8_v_i8mf4x5_tum(vbool32_t vm, vint8mf4x5_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8_v_i8mf4x6_tum(vbool32_t vm, vint8mf4x6_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8_v_i8mf4x7_tum(vbool32_t vm, vint8mf4x7_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8_v_i8mf4x8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                               const int8_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8_v_i8mf2x2_tum(vbool16_t vm, vint8mf2x2_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
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vint8mf2x3_t __riscv_vluxseg3ei8_v_i8mf2x3_tum(vbool16_t vm, vint8mf2x3_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8_v_i8mf2x4_tum(vbool16_t vm, vint8mf2x4_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8_v_i8mf2x5_tum(vbool16_t vm, vint8mf2x5_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8_v_i8mf2x6_tum(vbool16_t vm, vint8mf2x6_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei8_v_i8mf2x7_tum(vbool16_t vm, vint8mf2x7_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8_v_i8mf2x8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                               const int8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8_v_i8m1x2_tum(vbool8_t vm, vint8m1x2_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8_v_i8m1x3_tum(vbool8_t vm, vint8m1x3_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x4_t __riscv_vluxseg4ei8_v_i8m1x4_tum(vbool8_t vm, vint8m1x4_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8_v_i8m1x5_tum(vbool8_t vm, vint8m1x5_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8_v_i8m1x6_tum(vbool8_t vm, vint8m1x6_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8_v_i8m1x7_tum(vbool8_t vm, vint8m1x7_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8_v_i8m1x8_tum(vbool8_t vm, vint8m1x8_t vd,
                                             const int8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vint8m2x2_t __riscv_vluxseg2ei8_v_i8m2x2_tum(vbool4_t vm, vint8m2x2_t vd,
                                             const int8_t *rs1, vuint8m2_t rs2,
                                             size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8_v_i8m2x3_tum(vbool4_t vm, vint8m2x3_t vd,
                                             const int8_t *rs1, vuint8m2_t rs2,
                                             size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8_v_i8m2x4_tum(vbool4_t vm, vint8m2x4_t vd,
                                             const int8_t *rs1, vuint8m2_t rs2,
                                             size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8_v_i8m4x2_tum(vbool2_t vm, vint8m4x2_t vd,
                                             const int8_t *rs1, vuint8m4_t rs2,
                                             size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16_v_i8mf8x2_tum(vbool64_t vm, vint8mf8x2_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16_v_i8mf8x3_tum(vbool64_t vm, vint8mf8x3_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16_v_i8mf8x4_tum(vbool64_t vm, vint8mf8x4_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16_v_i8mf8x5_tum(vbool64_t vm, vint8mf8x5_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16_v_i8mf8x6_tum(vbool64_t vm, vint8mf8x6_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei16_v_i8mf8x7_tum(vbool64_t vm, vint8mf8x7_t vd,
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                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei16_v_i8mf8x8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                                const int8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16_v_i8mf4x2_tum(vbool32_t vm, vint8mf4x2_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16_v_i8mf4x3_tum(vbool32_t vm, vint8mf4x3_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16_v_i8mf4x4_tum(vbool32_t vm, vint8mf4x4_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16_v_i8mf4x5_tum(vbool32_t vm, vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16_v_i8mf4x6_tum(vbool32_t vm, vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16_v_i8mf4x7_tum(vbool32_t vm, vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16_v_i8mf4x8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16_v_i8mf2x2_tum(vbool16_t vm, vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16_v_i8mf2x3_tum(vbool16_t vm, vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16_v_i8mf2x4_tum(vbool16_t vm, vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16_v_i8mf2x5_tum(vbool16_t vm, vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16_v_i8mf2x6_tum(vbool16_t vm, vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16_v_i8mf2x7_tum(vbool16_t vm, vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16_v_i8mf2x8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16_v_i8m1x2_tum(vbool8_t vm, vint8m1x2_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16_v_i8m1x3_tum(vbool8_t vm, vint8m1x3_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei16_v_i8m1x4_tum(vbool8_t vm, vint8m1x4_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei16_v_i8m1x5_tum(vbool8_t vm, vint8m1x5_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16_v_i8m1x6_tum(vbool8_t vm, vint8m1x6_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16_v_i8m1x7_tum(vbool8_t vm, vint8m1x7_t vd,
                                              const int8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16_v_i8m1x8_tum(vbool8_t vm, vint8m1x8_t vd,
                                              const int8_t *rs1,
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                                                vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16_v_i8m2x2_tum(vbool4_t vm, vint8m2x2_t vd,
                                                const int8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16_v_i8m2x3_tum(vbool4_t vm, vint8m2x3_t vd,
                                                const int8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16_v_i8m2x4_tum(vbool4_t vm, vint8m2x4_t vd,
                                                const int8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16_v_i8m4x2_tum(vbool2_t vm, vint8m4x2_t vd,
                                                const int8_t *rs1,
                                                vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei32_v_i8mf8x2_tum(vbool64_t vm, vint8mf8x2_t vd,
                                                  const int8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32_v_i8mf8x3_tum(vbool64_t vm, vint8mf8x3_t vd,
                                                  const int8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32_v_i8mf8x4_tum(vbool64_t vm, vint8mf8x4_t vd,
                                                  const int8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32_v_i8mf8x5_tum(vbool64_t vm, vint8mf8x5_t vd,
                                                  const int8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32_v_i8mf8x6_tum(vbool64_t vm, vint8mf8x6_t vd,
                                                  const int8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32_v_i8mf8x7_tum(vbool64_t vm, vint8mf8x7_t vd,
                                                  const int8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32_v_i8mf8x8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                                  const int8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32_v_i8mf4x2_tum(vbool32_t vm, vint8mf4x2_t vd,
                                                  const int8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32_v_i8mf4x3_tum(vbool32_t vm, vint8mf4x3_t vd,
                                                  const int8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32_v_i8mf4x4_tum(vbool32_t vm, vint8mf4x4_t vd,
                                                  const int8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei32_v_i8mf4x5_tum(vbool32_t vm, vint8mf4x5_t vd,
                                                  const int8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei32_v_i8mf4x6_tum(vbool32_t vm, vint8mf4x6_t vd,
                                                  const int8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei32_v_i8mf4x7_tum(vbool32_t vm, vint8mf4x7_t vd,
                                                  const int8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei32_v_i8mf4x8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                                  const int8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei32_v_i8mf2x2_tum(vbool16_t vm, vint8mf2x2_t vd,
                                                  const int8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei32_v_i8mf2x3_tum(vbool16_t vm, vint8mf2x3_t vd,
                                                  const int8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei32_v_i8mf2x4_tum(vbool16_t vm, vint8mf2x4_t vd,
                                                  const int8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei32_v_i8mf2x5_tum(vbool16_t vm, vint8mf2x5_t vd,
                                                  const int8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
```

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vint8mf2x6_t __riscv_vluxseg6ei32_v_i8mf2x6_tum(vbool16_t vm, vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32_v_i8mf2x7_tum(vbool16_t vm, vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei32_v_i8mf2x8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32_v_i8m1x2_tum(vbool8_t vm, vint8m1x2_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei32_v_i8m1x3_tum(vbool8_t vm, vint8m1x3_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32_v_i8m1x4_tum(vbool8_t vm, vint8m1x4_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32_v_i8m1x5_tum(vbool8_t vm, vint8m1x5_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32_v_i8m1x6_tum(vbool8_t vm, vint8m1x6_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei32_v_i8m1x7_tum(vbool8_t vm, vint8m1x7_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32_v_i8m1x8_tum(vbool8_t vm, vint8m1x8_t vd,
                                              const int8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32_v_i8m2x2_tum(vbool4_t vm, vint8m2x2_t vd,
                                              const int8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32_v_i8m2x3_tum(vbool4_t vm, vint8m2x3_t vd,
                                              const int8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32_v_i8m2x4_tum(vbool4_t vm, vint8m2x4_t vd,
                                              const int8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64_v_i8mf8x2_tum(vbool64_t vm, vint8mf8x2_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64_v_i8mf8x3_tum(vbool64_t vm, vint8mf8x3_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64_v_i8mf8x4_tum(vbool64_t vm, vint8mf8x4_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64_v_i8mf8x5_tum(vbool64_t vm, vint8mf8x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64_v_i8mf8x6_tum(vbool64_t vm, vint8mf8x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64_v_i8mf8x7_tum(vbool64_t vm, vint8mf8x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64_v_i8mf8x8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                                const int8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64_v_i8mf4x2_tum(vbool32_t vm, vint8mf4x2_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64_v_i8mf4x3_tum(vbool32_t vm, vint8mf4x3_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei64_v_i8mf4x4_tum(vbool32_t vm, vint8mf4x4_t vd,
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                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei64_v_i8mf4x5_tum(vbool32_t vm, vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64_v_i8mf4x6_tum(vbool32_t vm, vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei64_v_i8mf4x7_tum(vbool32_t vm, vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei64_v_i8mf4x8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei64_v_i8mf2x2_tum(vbool16_t vm, vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei64_v_i8mf2x3_tum(vbool16_t vm, vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei64_v_i8mf2x4_tum(vbool16_t vm, vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei64_v_i8mf2x5_tum(vbool16_t vm, vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei64_v_i8mf2x6_tum(vbool16_t vm, vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei64_v_i8mf2x7_tum(vbool16_t vm, vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei64_v_i8mf2x8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64_v_i8m1x2_tum(vbool8_t vm, vint8m1x2_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64_v_i8m1x3_tum(vbool8_t vm, vint8m1x3_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64_v_i8m1x4_tum(vbool8_t vm, vint8m1x4_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64_v_i8m1x5_tum(vbool8_t vm, vint8m1x5_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64_v_i8m1x6_tum(vbool8_t vm, vint8m1x6_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64_v_i8m1x7_tum(vbool8_t vm, vint8m1x7_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei64_v_i8m1x8_tum(vbool8_t vm, vint8m1x8_t vd,
                                              const int8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8_v_i16mf4x2_tum(vbool64_t vm, vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8_v_i16mf4x3_tum(vbool64_t vm, vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8_v_i16mf4x4_tum(vbool64_t vm, vint16mf4x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8_v_i16mf4x5_tum(vbool64_t vm, vint16mf4x5_t vd,
                                                 const int16_t *rs1,
```

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                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8_v_i16mf4x6_tum(vbool64_t vm, vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei8_v_i16mf4x7_tum(vbool64_t vm, vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei8_v_i16mf4x8_tum(vbool64_t vm, vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8_v_i16mf2x2_tum(vbool32_t vm, vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8_v_i16mf2x3_tum(vbool32_t vm, vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8_v_i16mf2x4_tum(vbool32_t vm, vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8_v_i16mf2x5_tum(vbool32_t vm, vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8_v_i16mf2x6_tum(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8_v_i16mf2x7_tum(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8_v_i16mf2x8_tum(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8_v_i16m1x2_tum(vbool16_t vm, vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8_v_i16m1x3_tum(vbool16_t vm, vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8_v_i16m1x4_tum(vbool16_t vm, vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8_v_i16m1x5_tum(vbool16_t vm, vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8_v_i16m1x6_tum(vbool16_t vm, vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei8_v_i16m1x7_tum(vbool16_t vm, vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8_v_i16m1x8_tum(vbool16_t vm, vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei8_v_i16m2x2_tum(vbool8_t vm, vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8_v_i16m2x3_tum(vbool8_t vm, vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8_v_i16m2x4_tum(vbool8_t vm, vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8_v_i16m4x2_tum(vbool4_t vm, vint16m4x2_t vd,
                                               const int16_t *rs1,
                                               vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16_v_i16mf4x2_tum(vbool64_t vm,
                                                  vint16mf4x2_t vd,
                                                  const int16_t *rs1,
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                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16_v_i16mf4x3_tum(vbool64_t vm,
                                                vint16mf4x3_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16_v_i16mf4x4_tum(vbool64_t vm,
                                                vint16mf4x4_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16_v_i16mf4x5_tum(vbool64_t vm,
                                                vint16mf4x5_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16_v_i16mf4x6_tum(vbool64_t vm,
                                                vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei16_v_i16mf4x7_tum(vbool64_t vm,
                                                vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei16_v_i16mf4x8_tum(vbool64_t vm,
                                                vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16_v_i16mf2x2_tum(vbool32_t vm,
                                                vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16_v_i16mf2x3_tum(vbool32_t vm,
                                                vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16_v_i16mf2x4_tum(vbool32_t vm,
                                                vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16_v_i16mf2x5_tum(vbool32_t vm,
                                                vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16_v_i16mf2x6_tum(vbool32_t vm,
                                                vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16_v_i16mf2x7_tum(vbool32_t vm,
                                                vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16_v_i16mf2x8_tum(vbool32_t vm,
                                                vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16_v_i16m1x2_tum(vbool16_t vm, vint16m1x2_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16_v_i16m1x3_tum(vbool16_t vm, vint16m1x3_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16_v_i16m1x4_tum(vbool16_t vm, vint16m1x4_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16_v_i16m1x5_tum(vbool16_t vm, vint16m1x5_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16_v_i16m1x6_tum(vbool16_t vm, vint16m1x6_t vd,
                                                const int16_t *rs1,
```

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                                                vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16_v_i16m1x7_tum(vbool16_t vm, vint16m1x7_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16_v_i16m1x8_tum(vbool16_t vm, vint16m1x8_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16_v_i16m2x2_tum(vbool8_t vm, vint16m2x2_t vd,
                                                const int16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16_v_i16m2x3_tum(vbool8_t vm, vint16m2x3_t vd,
                                                const int16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei16_v_i16m2x4_tum(vbool8_t vm, vint16m2x4_t vd,
                                                const int16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei16_v_i16m4x2_tum(vbool4_t vm, vint16m4x2_t vd,
                                                const int16_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32_v_i16mf4x2_tum(vbool64_t vm,
                                                  vint16mf4x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32_v_i16mf4x3_tum(vbool64_t vm,
                                                  vint16mf4x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32_v_i16mf4x4_tum(vbool64_t vm,
                                                  vint16mf4x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32_v_i16mf4x5_tum(vbool64_t vm,
                                                  vint16mf4x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32_v_i16mf4x6_tum(vbool64_t vm,
                                                  vint16mf4x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32_v_i16mf4x7_tum(vbool64_t vm,
                                                  vint16mf4x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32_v_i16mf4x8_tum(vbool64_t vm,
                                                  vint16mf4x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei32_v_i16mf2x2_tum(vbool32_t vm,
                                                  vint16mf2x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32_v_i16mf2x3_tum(vbool32_t vm,
                                                  vint16mf2x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32_v_i16mf2x4_tum(vbool32_t vm,
                                                  vint16mf2x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32_v_i16mf2x5_tum(vbool32_t vm,
                                                  vint16mf2x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32_v_i16mf2x6_tum(vbool32_t vm,
                                                  vint16mf2x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
```

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vint16mf2x7_t __riscv_vluxseg7ei32_v_i16mf2x7_tum(vbool32_t vm,
                                                  vint16mf2x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32_v_i16mf2x8_tum(vbool32_t vm,
                                                  vint16mf2x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32_v_i16m1x2_tum(vbool16_t vm, vint16m1x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32_v_i16m1x3_tum(vbool16_t vm, vint16m1x3_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei32_v_i16m1x4_tum(vbool16_t vm, vint16m1x4_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32_v_i16m1x5_tum(vbool16_t vm, vint16m1x5_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32_v_i16m1x6_tum(vbool16_t vm, vint16m1x6_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32_v_i16m1x7_tum(vbool16_t vm, vint16m1x7_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32_v_i16m1x8_tum(vbool16_t vm, vint16m1x8_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32_v_i16m2x2_tum(vbool8_t vm, vint16m2x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei32_v_i16m2x3_tum(vbool8_t vm, vint16m2x3_t vd,
                                                const int16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32_v_i16m2x4_tum(vbool8_t vm, vint16m2x4_t vd,
                                                const int16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32_v_i16m4x2_tum(vbool4_t vm, vint16m4x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64_v_i16mf4x2_tum(vbool64_t vm,
                                                  vint16mf4x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64_v_i16mf4x3_tum(vbool64_t vm,
                                                  vint16mf4x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64_v_i16mf4x4_tum(vbool64_t vm,
                                                  vint16mf4x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64_v_i16mf4x5_tum(vbool64_t vm,
                                                  vint16mf4x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64_v_i16mf4x6_tum(vbool64_t vm,
                                                  vint16mf4x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64_v_i16mf4x7_tum(vbool64_t vm,
                                                  vint16mf4x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64_v_i16mf4x8_tum(vbool64_t vm,
                                                  vint16mf4x8_t vd,
```

```
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64_v_i16mf2x2_tum(vbool32_t vm,
                                                vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei64_v_i16mf2x3_tum(vbool32_t vm,
                                                vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64_v_i16mf2x4_tum(vbool32_t vm,
                                                vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64_v_i16mf2x5_tum(vbool32_t vm,
                                                vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei64_v_i16mf2x6_tum(vbool32_t vm,
                                                vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64_v_i16mf2x7_tum(vbool32_t vm,
                                                vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei64_v_i16mf2x8_tum(vbool32_t vm,
                                                vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64_v_i16m1x2_tum(vbool16_t vm, vint16m1x2_t vd,
                                              const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64_v_i16m1x3_tum(vbool16_t vm, vint16m1x3_t vd,
                                              const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64_v_i16m1x4_tum(vbool16_t vm, vint16m1x4_t vd,
                                              const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64_v_i16m1x5_tum(vbool16_t vm, vint16m1x5_t vd,
                                              const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64_v_i16m1x6_tum(vbool16_t vm, vint16m1x6_t vd,
                                              const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64_v_i16m1x7_tum(vbool16_t vm, vint16m1x7_t vd,
                                              const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64_v_i16m1x8_tum(vbool16_t vm, vint16m1x8_t vd,
                                              const int16_t *rs1,
                                              vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64_v_i16m2x2_tum(vbool8_t vm, vint16m2x2_t vd,
                                              const int16_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei64_v_i16m2x3_tum(vbool8_t vm, vint16m2x3_t vd,
                                              const int16_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64_v_i16m2x4_tum(vbool8_t vm, vint16m2x4_t vd,
                                              const int16_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8_v_i32mf2x2_tum(vbool64_t vm, vint32mf2x2_t vd,
                                               const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8_v_i32mf2x3_tum(vbool64_t vm, vint32mf2x3_t vd,
                                               const int32_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8_v_i32mf2x4_tum(vbool64_t vm, vint32mf2x4_t vd,
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                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8_v_i32mf2x5_tum(vbool64_t vm, vint32mf2x5_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8_v_i32mf2x6_tum(vbool64_t vm, vint32mf2x6_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8_v_i32mf2x7_tum(vbool64_t vm, vint32mf2x7_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8_v_i32mf2x8_tum(vbool64_t vm, vint32mf2x8_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8_v_i32m1x2_tum(vbool32_t vm, vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8_v_i32m1x3_tum(vbool32_t vm, vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8_v_i32m1x4_tum(vbool32_t vm, vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8_v_i32m1x5_tum(vbool32_t vm, vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8_v_i32m1x6_tum(vbool32_t vm, vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8_v_i32m1x7_tum(vbool32_t vm, vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8_v_i32m1x8_tum(vbool32_t vm, vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8_v_i32m2x2_tum(vbool16_t vm, vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8_v_i32m2x3_tum(vbool16_t vm, vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei8_v_i32m2x4_tum(vbool16_t vm, vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei8_v_i32m4x2_tum(vbool8_t vm, vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16_v_i32mf2x2_tum(vbool64_t vm,
                                                  vint32mf2x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16_v_i32mf2x3_tum(vbool64_t vm,
                                                  vint32mf2x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16_v_i32mf2x4_tum(vbool64_t vm,
                                                  vint32mf2x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei16_v_i32mf2x5_tum(vbool64_t vm,
                                                  vint32mf2x5_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16_v_i32mf2x6_tum(vbool64_t vm,
                                                  vint32mf2x6_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
```

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vint32mf2x7_t __riscv_vluxseg7ei16_v_i32mf2x7_tum(vbool64_t vm,
                                                  vint32mf2x7_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16_v_i32mf2x8_tum(vbool64_t vm,
                                                  vint32mf2x8_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16_v_i32m1x2_tum(vbool32_t vm, vint32m1x2_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16_v_i32m1x3_tum(vbool32_t vm, vint32m1x3_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16_v_i32m1x4_tum(vbool32_t vm, vint32m1x4_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16_v_i32m1x5_tum(vbool32_t vm, vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16_v_i32m1x6_tum(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16_v_i32m1x7_tum(vbool32_t vm, vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16_v_i32m1x8_tum(vbool32_t vm, vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16_v_i32m2x2_tum(vbool16_t vm, vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16_v_i32m2x3_tum(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei16_v_i32m2x4_tum(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16_v_i32m4x2_tum(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32_v_i32mf2x2_tum(vbool64_t vm,
                                                  vint32mf2x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32_v_i32mf2x3_tum(vbool64_t vm,
                                                  vint32mf2x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32_v_i32mf2x4_tum(vbool64_t vm,
                                                  vint32mf2x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32_v_i32mf2x5_tum(vbool64_t vm,
                                                  vint32mf2x5_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei32_v_i32mf2x6_tum(vbool64_t vm,
                                                  vint32mf2x6_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32_v_i32mf2x7_tum(vbool64_t vm,
                                                  vint32mf2x7_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32_v_i32mf2x8_tum(vbool64_t vm,
                                                  vint32mf2x8_t vd,
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                                                const int32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32_v_i32m1x2_tum(vbool32_t vm, vint32m1x2_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32_v_i32m1x3_tum(vbool32_t vm, vint32m1x3_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32_v_i32m1x4_tum(vbool32_t vm, vint32m1x4_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32_v_i32m1x5_tum(vbool32_t vm, vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32_v_i32m1x6_tum(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32_v_i32m1x7_tum(vbool32_t vm, vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32_v_i32m1x8_tum(vbool32_t vm, vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei32_v_i32m2x2_tum(vbool16_t vm, vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32_v_i32m2x3_tum(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32_v_i32m2x4_tum(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32_v_i32m4x2_tum(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei64_v_i32mf2x2_tum(vbool64_t vm,
                                                  vint32mf2x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64_v_i32mf2x3_tum(vbool64_t vm,
                                                  vint32mf2x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei64_v_i32mf2x4_tum(vbool64_t vm,
                                                  vint32mf2x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64_v_i32mf2x5_tum(vbool64_t vm,
                                                  vint32mf2x5_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64_v_i32mf2x6_tum(vbool64_t vm,
                                                  vint32mf2x6_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64_v_i32mf2x7_tum(vbool64_t vm,
                                                  vint32mf2x7_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei64_v_i32mf2x8_tum(vbool64_t vm,
                                                  vint32mf2x8_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64_v_i32m1x2_tum(vbool32_t vm, vint32m1x2_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64_v_i32m1x3_tum(vbool32_t vm, vint32m1x3_t vd,
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                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64_v_i32m1x4_tum(vbool32_t vm, vint32m1x4_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64_v_i32m1x5_tum(vbool32_t vm, vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei64_v_i32m1x6_tum(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64_v_i32m1x7_tum(vbool32_t vm, vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64_v_i32m1x8_tum(vbool32_t vm, vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64_v_i32m2x2_tum(vbool16_t vm, vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64_v_i32m2x3_tum(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64_v_i32m2x4_tum(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei64_v_i32m4x2_tum(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8_v_i64m1x2_tum(vbool64_t vm, vint64m1x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8_v_i64m1x3_tum(vbool64_t vm, vint64m1x3_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8_v_i64m1x4_tum(vbool64_t vm, vint64m1x4_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8_v_i64m1x5_tum(vbool64_t vm, vint64m1x5_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8_v_i64m1x6_tum(vbool64_t vm, vint64m1x6_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8_v_i64m1x7_tum(vbool64_t vm, vint64m1x7_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8_v_i64m1x8_tum(vbool64_t vm, vint64m1x8_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8_v_i64m2x2_tum(vbool32_t vm, vint64m2x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8_v_i64m2x3_tum(vbool32_t vm, vint64m2x3_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8_v_i64m2x4_tum(vbool32_t vm, vint64m2x4_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei8_v_i64m4x2_tum(vbool16_t vm, vint64m4x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei16_v_i64m1x2_tum(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei16_v_i64m1x3_tum(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
```

```
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16_v_i64m1x4_tum(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16_v_i64m1x5_tum(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16_v_i64m1x6_tum(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16_v_i64m1x7_tum(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16_v_i64m1x8_tum(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16_v_i64m2x2_tum(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16_v_i64m2x3_tum(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16_v_i64m2x4_tum(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16_v_i64m4x2_tum(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32_v_i64m1x2_tum(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32_v_i64m1x3_tum(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32_v_i64m1x4_tum(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32_v_i64m1x5_tum(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32_v_i64m1x6_tum(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32_v_i64m1x7_tum(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32_v_i64m1x8_tum(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei32_v_i64m2x2_tum(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32_v_i64m2x3_tum(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32_v_i64m2x4_tum(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32_v_i64m4x2_tum(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64_v_i64m1x2_tum(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64_v_i64m1x3_tum(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
```

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vint64m1x4_t __riscv_vluxseg4ei64_v_i64m1x4_tum(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64_v_i64m1x5_tum(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64_v_i64m1x6_tum(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64_v_i64m1x7_tum(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64_v_i64m1x8_tum(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64_v_i64m2x2_tum(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64_v_i64m2x3_tum(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64_v_i64m2x4_tum(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64_v_i64m4x2_tum(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8_v_u8mf8x2_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei8_v_u8mf8x3_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8_v_u8mf8x4_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8_v_u8mf8x5_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8_v_u8mf8x6_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei8_v_u8mf8x7_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8_v_u8mf8x8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei8_v_u8mf4x2_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8_v_u8mf4x3_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8_v_u8mf4x4_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8_v_u8mf4x5_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8_v_u8mf4x6_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8_v_u8mf4x7_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8_v_u8mf4x8_tum(vbool32_t vm, vuint8mf4x8_t vd,
```

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                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8_v_u8mf2x2_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8_v_u8mf2x3_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei8_v_u8mf2x4_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8_v_u8mf2x5_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8_v_u8mf2x6_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8_v_u8mf2x7_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8_v_u8mf2x8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8_v_u8m1x2_tum(vbool8_t vm, vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei8_v_u8m1x3_tum(vbool8_t vm, vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8_v_u8m1x4_tum(vbool8_t vm, vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8_v_u8m1x5_tum(vbool8_t vm, vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8_v_u8m1x6_tum(vbool8_t vm, vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8_v_u8m1x7_tum(vbool8_t vm, vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8_v_u8m1x8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8_v_u8m2x2_tum(vbool4_t vm, vuint8m2x2_t vd,
                                              const uint8_t *rs1,
                                              vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8_v_u8m2x3_tum(vbool4_t vm, vuint8m2x3_t vd,
                                              const uint8_t *rs1,
                                              vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8_v_u8m2x4_tum(vbool4_t vm, vuint8m2x4_t vd,
                                              const uint8_t *rs1,
                                              vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8_v_u8m4x2_tum(vbool2_t vm, vuint8m4x2_t vd,
                                              const uint8_t *rs1,
                                              vuint8m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16_v_u8mf8x2_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16_v_u8mf8x3_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei16_v_u8mf8x4_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei16_v_u8mf8x5_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                                 const uint8_t *rs1,
```

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                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16_v_u8mf8x6_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16_v_u8mf8x7_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16_v_u8mf8x8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16_v_u8mf4x2_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei16_v_u8mf4x3_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16_v_u8mf4x4_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16_v_u8mf4x5_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16_v_u8mf4x6_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16_v_u8mf4x7_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16_v_u8mf4x8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16_v_u8mf2x2_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16_v_u8mf2x3_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16_v_u8mf2x4_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16_v_u8mf2x5_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16_v_u8mf2x6_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16_v_u8mf2x7_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei16_v_u8mf2x8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16_v_u8m1x2_tum(vbool8_t vm, vuint8m1x2_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16_v_u8m1x3_tum(vbool8_t vm, vuint8m1x3_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16_v_u8m1x4_tum(vbool8_t vm, vuint8m1x4_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16_v_u8m1x5_tum(vbool8_t vm, vuint8m1x5_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16_v_u8m1x6_tum(vbool8_t vm, vuint8m1x6_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
```

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vuint8m1x7_t __riscv_vloxseg7ei16_v_u8m1x7_tum(vbool8_t vm, vuint8m1x7_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16_v_u8m1x8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16_v_u8m2x2_tum(vbool4_t vm, vuint8m2x2_t vd,
                                               const uint8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16_v_u8m2x3_tum(vbool4_t vm, vuint8m2x3_t vd,
                                               const uint8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16_v_u8m2x4_tum(vbool4_t vm, vuint8m2x4_t vd,
                                               const uint8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16_v_u8m4x2_tum(vbool2_t vm, vuint8m4x2_t vd,
                                               const uint8_t *rs1,
                                               vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32_v_u8mf8x2_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32_v_u8mf8x3_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32_v_u8mf8x4_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32_v_u8mf8x5_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32_v_u8mf8x6_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei32_v_u8mf8x7_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32_v_u8mf8x8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32_v_u8mf4x2_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei32_v_u8mf4x3_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32_v_u8mf4x4_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei32_v_u8mf4x5_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32_v_u8mf4x6_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32_v_u8mf4x7_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32_v_u8mf4x8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32_v_u8mf2x2_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32_v_u8mf2x3_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                                 const uint8_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32_v_u8mf2x4_tum(vbool16_t vm, vuint8mf2x4_t vd,
```

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                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32_v_u8mf2x5_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32_v_u8mf2x6_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei32_v_u8mf2x7_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32_v_u8mf2x8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32_v_u8m1x2_tum(vbool8_t vm, vuint8m1x2_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei32_v_u8m1x3_tum(vbool8_t vm, vuint8m1x3_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32_v_u8m1x4_tum(vbool8_t vm, vuint8m1x4_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32_v_u8m1x5_tum(vbool8_t vm, vuint8m1x5_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei32_v_u8m1x6_tum(vbool8_t vm, vuint8m1x6_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32_v_u8m1x7_tum(vbool8_t vm, vuint8m1x7_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32_v_u8m1x8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32_v_u8m2x2_tum(vbool4_t vm, vuint8m2x2_t vd,
                                               const uint8_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32_v_u8m2x3_tum(vbool4_t vm, vuint8m2x3_t vd,
                                               const uint8_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32_v_u8m2x4_tum(vbool4_t vm, vuint8m2x4_t vd,
                                               const uint8_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64_v_u8mf8x2_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64_v_u8mf8x3_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64_v_u8mf8x4_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64_v_u8mf8x5_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64_v_u8mf8x6_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64_v_u8mf8x7_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei64_v_u8mf8x8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei64_v_u8mf4x2_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                                 const uint8_t *rs1,
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                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64_v_u8mf4x3_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64_v_u8mf4x4_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei64_v_u8mf4x5_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64_v_u8mf4x6_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei64_v_u8mf4x7_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64_v_u8mf4x8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64_v_u8mf2x2_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64_v_u8mf2x3_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64_v_u8mf2x4_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64_v_u8mf2x5_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64_v_u8mf2x6_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64_v_u8mf2x7_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64_v_u8mf2x8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64_v_u8m1x2_tum(vbool8_t vm, vuint8m1x2_t vd,
                                               const uint8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64_v_u8m1x3_tum(vbool8_t vm, vuint8m1x3_t vd,
                                               const uint8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64_v_u8m1x4_tum(vbool8_t vm, vuint8m1x4_t vd,
                                               const uint8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei64_v_u8m1x5_tum(vbool8_t vm, vuint8m1x5_t vd,
                                               const uint8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64_v_u8m1x6_tum(vbool8_t vm, vuint8m1x6_t vd,
                                               const uint8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64_v_u8m1x7_tum(vbool8_t vm, vuint8m1x7_t vd,
                                               const uint8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64_v_u8m1x8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                               const uint8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8_v_u16mf4x2_tum(vbool64_t vm,
                                                  vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8_v_u16mf4x3_tum(vbool64_t vm,
                                                  vuint16mf4x3_t vd,
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                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei8_v_u16mf4x4_tum(vbool64_t vm,
                                                vuint16mf4x4_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8_v_u16mf4x5_tum(vbool64_t vm,
                                                vuint16mf4x5_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8_v_u16mf4x6_tum(vbool64_t vm,
                                                vuint16mf4x6_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8_v_u16mf4x7_tum(vbool64_t vm,
                                                vuint16mf4x7_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8_v_u16mf4x8_tum(vbool64_t vm,
                                                vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8_v_u16mf2x2_tum(vbool32_t vm,
                                                vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8_v_u16mf2x3_tum(vbool32_t vm,
                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8_v_u16mf2x4_tum(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8_v_u16mf2x5_tum(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8_v_u16mf2x6_tum(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8_v_u16mf2x7_tum(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8_v_u16mf2x8_tum(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8_v_u16m1x2_tum(vbool16_t vm, vuint16m1x2_t vd,
                                              const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8_v_u16m1x3_tum(vbool16_t vm, vuint16m1x3_t vd,
                                              const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei8_v_u16m1x4_tum(vbool16_t vm, vuint16m1x4_t vd,
                                              const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8_v_u16m1x5_tum(vbool16_t vm, vuint16m1x5_t vd,
                                              const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei8_v_u16m1x6_tum(vbool16_t vm, vuint16m1x6_t vd,
                                              const uint16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8_v_u16m1x7_tum(vbool16_t vm, vuint16m1x7_t vd,
                                              const uint16_t *rs1,
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                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8_v_u16m1x8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8_v_u16m2x2_tum(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8_v_u16m2x3_tum(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8_v_u16m2x4_tum(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8_v_u16m4x2_tum(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16_v_u16mf4x2_tum(vbool64_t vm,
                                                   vuint16mf4x2_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16_v_u16mf4x3_tum(vbool64_t vm,
                                                   vuint16mf4x3_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei16_v_u16mf4x4_tum(vbool64_t vm,
                                                   vuint16mf4x4_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16_v_u16mf4x5_tum(vbool64_t vm,
                                                   vuint16mf4x5_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16_v_u16mf4x6_tum(vbool64_t vm,
                                                   vuint16mf4x6_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16_v_u16mf4x7_tum(vbool64_t vm,
                                                   vuint16mf4x7_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16_v_u16mf4x8_tum(vbool64_t vm,
                                                   vuint16mf4x8_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16_v_u16mf2x2_tum(vbool32_t vm,
                                                   vuint16mf2x2_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16_v_u16mf2x3_tum(vbool32_t vm,
                                                   vuint16mf2x3_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16_v_u16mf2x4_tum(vbool32_t vm,
                                                   vuint16mf2x4_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16_v_u16mf2x5_tum(vbool32_t vm,
                                                   vuint16mf2x5_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16_v_u16mf2x6_tum(vbool32_t vm,
                                                   vuint16mf2x6_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16_v_u16mf2x7_tum(vbool32_t vm,
                                                   vuint16mf2x7_t vd,
                                                   const uint16_t *rs1,
```

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                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16_v_u16mf2x8_tum(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16_v_u16m1x2_tum(vbool16_t vm, vuint16m1x2_t vd,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei16_v_u16m1x3_tum(vbool16_t vm, vuint16m1x3_t vd,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16_v_u16m1x4_tum(vbool16_t vm, vuint16m1x4_t vd,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16_v_u16m1x5_tum(vbool16_t vm, vuint16m1x5_t vd,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16_v_u16m1x6_tum(vbool16_t vm, vuint16m1x6_t vd,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16_v_u16m1x7_tum(vbool16_t vm, vuint16m1x7_t vd,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei16_v_u16m1x8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                               const uint16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei16_v_u16m2x2_tum(vbool8_t vm, vuint16m2x2_t vd,
                                               const uint16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16_v_u16m2x3_tum(vbool8_t vm, vuint16m2x3_t vd,
                                               const uint16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16_v_u16m2x4_tum(vbool8_t vm, vuint16m2x4_t vd,
                                               const uint16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei16_v_u16m4x2_tum(vbool4_t vm, vuint16m4x2_t vd,
                                               const uint16_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32_v_u16mf4x2_tum(vbool64_t vm,
                                                 vuint16mf4x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei32_v_u16mf4x3_tum(vbool64_t vm,
                                                vuint16mf4x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32_v_u16mf4x4_tum(vbool64_t vm,
                                                vuint16mf4x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32_v_u16mf4x5_tum(vbool64_t vm,
                                                vuint16mf4x5_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32_v_u16mf4x6_tum(vbool64_t vm,
                                                vuint16mf4x6_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32_v_u16mf4x7_tum(vbool64_t vm,
                                                vuint16mf4x7_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32_v_u16mf4x8_tum(vbool64_t vm,
                                                vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32_v_u16mf2x2_tum(vbool32_t vm,
```

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                                                vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32_v_u16mf2x3_tum(vbool32_t vm,
                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32_v_u16mf2x4_tum(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32_v_u16mf2x5_tum(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32_v_u16mf2x6_tum(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32_v_u16mf2x7_tum(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei32_v_u16mf2x8_tum(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32_v_u16m1x2_tum(vbool16_t vm, vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32_v_u16m1x3_tum(vbool16_t vm, vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei32_v_u16m1x4_tum(vbool16_t vm, vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32_v_u16m1x5_tum(vbool16_t vm, vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32_v_u16m1x6_tum(vbool16_t vm, vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei32_v_u16m1x7_tum(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32_v_u16m1x8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32_v_u16m2x2_tum(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei32_v_u16m2x3_tum(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32_v_u16m2x4_tum(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32_v_u16m4x2_tum(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64_v_u16mf4x2_tum(vbool64_t vm,
                                                vuint16mf4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64_v_u16mf4x3_tum(vbool64_t vm,
                                                vuint16mf4x3_t vd,
                                                const uint16_t *rs1,
```

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                                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64_v_u16mf4x4_tum(vbool64_t vm,
                                                    vuint16mf4x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64_v_u16mf4x5_tum(vbool64_t vm,
                                                    vuint16mf4x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64_v_u16mf4x6_tum(vbool64_t vm,
                                                    vuint16mf4x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64_v_u16mf4x7_tum(vbool64_t vm,
                                                    vuint16mf4x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64_v_u16mf4x8_tum(vbool64_t vm,
                                                    vuint16mf4x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64_v_u16mf2x2_tum(vbool32_t vm,
                                                    vuint16mf2x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei64_v_u16mf2x3_tum(vbool32_t vm,
                                                    vuint16mf2x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64_v_u16mf2x4_tum(vbool32_t vm,
                                                    vuint16mf2x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei64_v_u16mf2x5_tum(vbool32_t vm,
                                                    vuint16mf2x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64_v_u16mf2x6_tum(vbool32_t vm,
                                                    vuint16mf2x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64_v_u16mf2x7_tum(vbool32_t vm,
                                                    vuint16mf2x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64_v_u16mf2x8_tum(vbool32_t vm,
                                                    vuint16mf2x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64_v_u16m1x2_tum(vbool16_t vm, vuint16m1x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64_v_u16m1x3_tum(vbool16_t vm, vuint16m1x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64_v_u16m1x4_tum(vbool16_t vm, vuint16m1x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64_v_u16m1x5_tum(vbool16_t vm, vuint16m1x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64_v_u16m1x6_tum(vbool16_t vm, vuint16m1x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei64_v_u16m1x7_tum(vbool16_t vm, vuint16m1x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
```

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vuint16m1x8_t __riscv_vloxseg8ei64_v_u16m1x8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64_v_u16m2x2_tum(vbool8_t vm, vuint16m2x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64_v_u16m2x3_tum(vbool8_t vm, vuint16m2x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64_v_u16m2x4_tum(vbool8_t vm, vuint16m2x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8_v_u32mf2x2_tum(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8_v_u32mf2x3_tum(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8_v_u32mf2x4_tum(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8_v_u32mf2x5_tum(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8_v_u32mf2x6_tum(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8_v_u32mf2x7_tum(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8_v_u32mf2x8_tum(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8_v_u32m1x2_tum(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8_v_u32m1x3_tum(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8_v_u32m1x4_tum(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8_v_u32m1x5_tum(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8_v_u32m1x6_tum(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8_v_u32m1x7_tum(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei8_v_u32m1x8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei8_v_u32m2x2_tum(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8_v_u32m2x3_tum(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
```

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vuint32m2x4_t __riscv_vloxseg4ei8_v_u32m2x4_tum(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8_v_u32m4x2_tum(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16_v_u32mf2x2_tum(vbool64_t vm,
                                                   vuint32mf2x2_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei16_v_u32mf2x3_tum(vbool64_t vm,
                                                   vuint32mf2x3_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16_v_u32mf2x4_tum(vbool64_t vm,
                                                   vuint32mf2x4_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei16_v_u32mf2x5_tum(vbool64_t vm,
                                                   vuint32mf2x5_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16_v_u32mf2x6_tum(vbool64_t vm,
                                                   vuint32mf2x6_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16_v_u32mf2x7_tum(vbool64_t vm,
                                                   vuint32mf2x7_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16_v_u32mf2x8_tum(vbool64_t vm,
                                                   vuint32mf2x8_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16_v_u32m1x2_tum(vbool32_t vm, vuint32m1x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16_v_u32m1x3_tum(vbool32_t vm, vuint32m1x3_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16_v_u32m1x4_tum(vbool32_t vm, vuint32m1x4_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16_v_u32m1x5_tum(vbool32_t vm, vuint32m1x5_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16_v_u32m1x6_tum(vbool32_t vm, vuint32m1x6_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16_v_u32m1x7_tum(vbool32_t vm, vuint32m1x7_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei16_v_u32m1x8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16_v_u32m2x2_tum(vbool16_t vm, vuint32m2x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16_v_u32m2x3_tum(vbool16_t vm, vuint32m2x3_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16_v_u32m2x4_tum(vbool16_t vm, vuint32m2x4_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16_v_u32m4x2_tum(vbool8_t vm, vuint32m4x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16m2_t rs2, size_t vl);
```

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vuint32mf2x2_t __riscv_vloxseg2ei32_v_u32mf2x2_tum(vbool64_t vm,
                                                   vuint32mf2x2_t vd,
                                                   const uint32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei32_v_u32mf2x3_tum(vbool64_t vm,
                                                   vuint32mf2x3_t vd,
                                                   const uint32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei32_v_u32mf2x4_tum(vbool64_t vm,
                                                   vuint32mf2x4_t vd,
                                                   const uint32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32_v_u32mf2x5_tum(vbool64_t vm,
                                                   vuint32mf2x5_t vd,
                                                   const uint32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32_v_u32mf2x6_tum(vbool64_t vm,
                                                   vuint32mf2x6_t vd,
                                                   const uint32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32_v_u32mf2x7_tum(vbool64_t vm,
                                                   vuint32mf2x7_t vd,
                                                   const uint32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32_v_u32mf2x8_tum(vbool64_t vm,
                                                   vuint32mf2x8_t vd,
                                                   const uint32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32_v_u32m1x2_tum(vbool32_t vm, vuint32m1x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32_v_u32m1x3_tum(vbool32_t vm, vuint32m1x3_t vd,
                                                 const uint32_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32_v_u32m1x4_tum(vbool32_t vm, vuint32m1x4_t vd,
                                                 const uint32_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei32_v_u32m1x5_tum(vbool32_t vm, vuint32m1x5_t vd,
                                                 const uint32_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32_v_u32m1x6_tum(vbool32_t vm, vuint32m1x6_t vd,
                                                 const uint32_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32_v_u32m1x7_tum(vbool32_t vm, vuint32m1x7_t vd,
                                                 const uint32_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32_v_u32m1x8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                                 const uint32_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32_v_u32m2x2_tum(vbool16_t vm, vuint32m2x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei32_v_u32m2x3_tum(vbool16_t vm, vuint32m2x3_t vd,
                                                 const uint32_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei32_v_u32m2x4_tum(vbool16_t vm, vuint32m2x4_t vd,
                                                 const uint32_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei32_v_u32m4x2_tum(vbool8_t vm, vuint32m4x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64_v_u32mf2x2_tum(vbool64_t vm,
                                                   vuint32mf2x2_t vd,
                                                   const uint32_t *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64_v_u32mf2x3_tum(vbool64_t vm,
                                                   vuint32mf2x3_t vd,
```

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                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64_v_u32mf2x4_tum(vbool64_t vm,
                                                vuint32mf2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64_v_u32mf2x5_tum(vbool64_t vm,
                                                vuint32mf2x5_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64_v_u32mf2x6_tum(vbool64_t vm,
                                                vuint32mf2x6_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64_v_u32mf2x7_tum(vbool64_t vm,
                                                vuint32mf2x7_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64_v_u32mf2x8_tum(vbool64_t vm,
                                                vuint32mf2x8_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64_v_u32m1x2_tum(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei64_v_u32m1x3_tum(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64_v_u32m1x4_tum(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64_v_u32m1x5_tum(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64_v_u32m1x6_tum(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64_v_u32m1x7_tum(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64_v_u32m1x8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64_v_u32m2x2_tum(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei64_v_u32m2x3_tum(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64_v_u32m2x4_tum(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64_v_u32m4x2_tum(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8_v_u64m1x2_tum(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8_v_u64m1x3_tum(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8_v_u64m1x4_tum(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8_v_u64m1x5_tum(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
```

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vuint64m1x6_t __riscv_vloxseg6ei8_v_u64m1x6_tum(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8_v_u64m1x7_tum(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8_v_u64m1x8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8_v_u64m2x2_tum(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei8_v_u64m2x3_tum(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei8_v_u64m2x4_tum(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8_v_u64m4x2_tum(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16_v_u64m1x2_tum(vbool64_t vm, vuint64m1x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16_v_u64m1x3_tum(vbool64_t vm, vuint64m1x3_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16_v_u64m1x4_tum(vbool64_t vm, vuint64m1x4_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei16_v_u64m1x5_tum(vbool64_t vm, vuint64m1x5_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16_v_u64m1x6_tum(vbool64_t vm, vuint64m1x6_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16_v_u64m1x7_tum(vbool64_t vm, vuint64m1x7_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16_v_u64m1x8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16_v_u64m2x2_tum(vbool32_t vm, vuint64m2x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16_v_u64m2x3_tum(vbool32_t vm, vuint64m2x3_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16_v_u64m2x4_tum(vbool32_t vm, vuint64m2x4_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16_v_u64m4x2_tum(vbool16_t vm, vuint64m4x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32_v_u64m1x2_tum(vbool64_t vm, vuint64m1x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei32_v_u64m1x3_tum(vbool64_t vm, vuint64m1x3_t vd,
                                                 const uint64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32_v_u64m1x4_tum(vbool64_t vm, vuint64m1x4_t vd,
                                                 const uint64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32_v_u64m1x5_tum(vbool64_t vm, vuint64m1x5_t vd,
                                                 const uint64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei32_v_u64m1x6_tum(vbool64_t vm, vuint64m1x6_t vd,
```

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                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32_v_u64m1x7_tum(vbool64_t vm, vuint64m1x7_t vd,
                                                 const uint64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32_v_u64m1x8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                                 const uint64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei32_v_u64m2x2_tum(vbool32_t vm, vuint64m2x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32_v_u64m2x3_tum(vbool32_t vm, vuint64m2x3_t vd,
                                                 const uint64_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32_v_u64m2x4_tum(vbool32_t vm, vuint64m2x4_t vd,
                                                 const uint64_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei32_v_u64m4x2_tum(vbool16_t vm, vuint64m4x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64_v_u64m1x2_tum(vbool64_t vm, vuint64m1x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64_v_u64m1x3_tum(vbool64_t vm, vuint64m1x3_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64_v_u64m1x4_tum(vbool64_t vm, vuint64m1x4_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64_v_u64m1x5_tum(vbool64_t vm, vuint64m1x5_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64_v_u64m1x6_tum(vbool64_t vm, vuint64m1x6_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64_v_u64m1x7_tum(vbool64_t vm, vuint64m1x7_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64_v_u64m1x8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64_v_u64m2x2_tum(vbool32_t vm, vuint64m2x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64_v_u64m2x3_tum(vbool32_t vm, vuint64m2x3_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64_v_u64m2x4_tum(vbool32_t vm, vuint64m2x4_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64_v_u64m4x2_tum(vbool16_t vm, vuint64m4x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8_v_u8mf8x2_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8_v_u8mf8x3_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei8_v_u8mf8x4_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8_v_u8mf8x5_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei8_v_u8mf8x6_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
```

```
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8_v_u8mf8x7_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8_v_u8mf8x8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8_v_u8mf4x2_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8_v_u8mf4x3_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8_v_u8mf4x4_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8_v_u8mf4x5_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8_v_u8mf4x6_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8_v_u8mf4x7_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei8_v_u8mf4x8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8_v_u8mf2x2_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8_v_u8mf2x3_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8_v_u8mf2x4_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8_v_u8mf2x5_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8_v_u8mf2x6_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8_v_u8mf2x7_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8_v_u8mf2x8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8_v_u8m1x2_tum(vbool8_t vm, vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8_v_u8m1x3_tum(vbool8_t vm, vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8_v_u8m1x4_tum(vbool8_t vm, vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8_v_u8m1x5_tum(vbool8_t vm, vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8_v_u8m1x6_tum(vbool8_t vm, vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8_v_u8m1x7_tum(vbool8_t vm, vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
```

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vuint8m1x8_t __riscv_vluxseg8ei8_v_u8m1x8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8_v_u8m2x2_tum(vbool4_t vm, vuint8m2x2_t vd,
                                              const uint8_t *rs1,
                                              vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8_v_u8m2x3_tum(vbool4_t vm, vuint8m2x3_t vd,
                                              const uint8_t *rs1,
                                              vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8_v_u8m2x4_tum(vbool4_t vm, vuint8m2x4_t vd,
                                              const uint8_t *rs1,
                                              vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei8_v_u8m4x2_tum(vbool2_t vm, vuint8m4x2_t vd,
                                              const uint8_t *rs1,
                                              vuint8m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei16_v_u8mf8x2_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16_v_u8mf8x3_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16_v_u8mf8x4_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16_v_u8mf8x5_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16_v_u8mf8x6_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16_v_u8mf8x7_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16_v_u8mf8x8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16_v_u8mf4x2_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16_v_u8mf4x3_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16_v_u8mf4x4_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16_v_u8mf4x5_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16_v_u8mf4x6_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16_v_u8mf4x7_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16_v_u8mf4x8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16_v_u8mf2x2_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16_v_u8mf2x3_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16_v_u8mf2x4_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                                 const uint8_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei16_v_u8mf2x5_tum(vbool16_t vm, vuint8mf2x5_t vd,
```

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                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16_v_u8mf2x6_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16_v_u8mf2x7_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei16_v_u8mf2x8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16_v_u8m1x2_tum(vbool8_t vm, vuint8m1x2_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16_v_u8m1x3_tum(vbool8_t vm, vuint8m1x3_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei16_v_u8m1x4_tum(vbool8_t vm, vuint8m1x4_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16_v_u8m1x5_tum(vbool8_t vm, vuint8m1x5_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16_v_u8m1x6_tum(vbool8_t vm, vuint8m1x6_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16_v_u8m1x7_tum(vbool8_t vm, vuint8m1x7_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16_v_u8m1x8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                               const uint8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16_v_u8m2x2_tum(vbool4_t vm, vuint8m2x2_t vd,
                                               const uint8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16_v_u8m2x3_tum(vbool4_t vm, vuint8m2x3_t vd,
                                               const uint8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16_v_u8m2x4_tum(vbool4_t vm, vuint8m2x4_t vd,
                                               const uint8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16_v_u8m4x2_tum(vbool2_t vm, vuint8m4x2_t vd,
                                               const uint8_t *rs1,
                                               vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32_v_u8mf8x2_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32_v_u8mf8x3_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32_v_u8mf8x4_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32_v_u8mf8x5_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32_v_u8mf8x6_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei32_v_u8mf8x7_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32_v_u8mf8x8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei32_v_u8mf4x2_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
```

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                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32_v_u8mf4x3_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32_v_u8mf4x4_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei32_v_u8mf4x5_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei32_v_u8mf4x6_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei32_v_u8mf4x7_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei32_v_u8mf4x8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32_v_u8mf2x2_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32_v_u8mf2x3_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei32_v_u8mf2x4_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32_v_u8mf2x5_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32_v_u8mf2x6_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei32_v_u8mf2x7_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei32_v_u8mf2x8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32_v_u8m1x2_tum(vbool8_t vm, vuint8m1x2_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32_v_u8m1x3_tum(vbool8_t vm, vuint8m1x3_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32_v_u8m1x4_tum(vbool8_t vm, vuint8m1x4_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32_v_u8m1x5_tum(vbool8_t vm, vuint8m1x5_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32_v_u8m1x6_tum(vbool8_t vm, vuint8m1x6_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32_v_u8m1x7_tum(vbool8_t vm, vuint8m1x7_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32_v_u8m1x8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                               const uint8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32_v_u8m2x2_tum(vbool4_t vm, vuint8m2x2_t vd,
                                               const uint8_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32_v_u8m2x3_tum(vbool4_t vm, vuint8m2x3_t vd,
                                               const uint8_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
```

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vuint8m2x4_t __riscv_vluxseg4ei32_v_u8m2x4_tum(vbool4_t vm, vuint8m2x4_t vd,
                                               const uint8_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64_v_u8mf8x2_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64_v_u8mf8x3_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64_v_u8mf8x4_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei64_v_u8mf8x5_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei64_v_u8mf8x6_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64_v_u8mf8x7_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64_v_u8mf8x8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64_v_u8mf4x2_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64_v_u8mf4x3_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64_v_u8mf4x4_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64_v_u8mf4x5_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64_v_u8mf4x6_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64_v_u8mf4x7_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64_v_u8mf4x8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64_v_u8mf2x2_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64_v_u8mf2x3_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64_v_u8mf2x4_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64_v_u8mf2x5_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64_v_u8mf2x6_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64_v_u8mf2x7_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64_v_u8mf2x8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                                 const uint8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei64_v_u8m1x2_tum(vbool8_t vm, vuint8m1x2_t vd,
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                                            const uint8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64_v_u8m1x3_tum(vbool8_t vm, vuint8m1x3_t vd,
                                            const uint8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64_v_u8m1x4_tum(vbool8_t vm, vuint8m1x4_t vd,
                                            const uint8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei64_v_u8m1x5_tum(vbool8_t vm, vuint8m1x5_t vd,
                                            const uint8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64_v_u8m1x6_tum(vbool8_t vm, vuint8m1x6_t vd,
                                            const uint8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64_v_u8m1x7_tum(vbool8_t vm, vuint8m1x7_t vd,
                                            const uint8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei64_v_u8m1x8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                            const uint8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8_v_u16mf4x2_tum(vbool64_t vm,
                                               vuint16mf4x2_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8_v_u16mf4x3_tum(vbool64_t vm,
                                               vuint16mf4x3_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8_v_u16mf4x4_tum(vbool64_t vm,
                                               vuint16mf4x4_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8_v_u16mf4x5_tum(vbool64_t vm,
                                               vuint16mf4x5_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei8_v_u16mf4x6_tum(vbool64_t vm,
                                               vuint16mf4x6_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei8_v_u16mf4x7_tum(vbool64_t vm,
                                               vuint16mf4x7_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8_v_u16mf4x8_tum(vbool64_t vm,
                                               vuint16mf4x8_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8_v_u16mf2x2_tum(vbool32_t vm,
                                               vuint16mf2x2_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8_v_u16mf2x3_tum(vbool32_t vm,
                                               vuint16mf2x3_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8_v_u16mf2x4_tum(vbool32_t vm,
                                               vuint16mf2x4_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8_v_u16mf2x5_tum(vbool32_t vm,
                                               vuint16mf2x5_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei8_v_u16mf2x6_tum(vbool32_t vm,
                                               vuint16mf2x6_t vd,
                                               const uint16_t *rs1,
```

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                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei8_v_u16mf2x7_tum(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei8_v_u16mf2x8_tum(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8_v_u16m1x2_tum(vbool16_t vm, vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei8_v_u16m1x3_tum(vbool16_t vm, vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei8_v_u16m1x4_tum(vbool16_t vm, vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei8_v_u16m1x5_tum(vbool16_t vm, vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei8_v_u16m1x6_tum(vbool16_t vm, vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei8_v_u16m1x7_tum(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei8_v_u16m1x8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei8_v_u16m2x2_tum(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei8_v_u16m2x3_tum(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8_v_u16m2x4_tum(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei8_v_u16m4x2_tum(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16_v_u16mf4x2_tum(vbool64_t vm,
                                                  vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16_v_u16mf4x3_tum(vbool64_t vm,
                                                  vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16_v_u16mf4x4_tum(vbool64_t vm,
                                                  vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei16_v_u16mf4x5_tum(vbool64_t vm,
                                                  vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei16_v_u16mf4x6_tum(vbool64_t vm,
                                                  vuint16mf4x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei16_v_u16mf4x7_tum(vbool64_t vm,
                                                  vuint16mf4x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei16_v_u16mf4x8_tum(vbool64_t vm,
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                                                    vuint16mf4x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei16_v_u16mf2x2_tum(vbool32_t vm,
                                                    vuint16mf2x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei16_v_u16mf2x3_tum(vbool32_t vm,
                                                    vuint16mf2x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei16_v_u16mf2x4_tum(vbool32_t vm,
                                                    vuint16mf2x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei16_v_u16mf2x5_tum(vbool32_t vm,
                                                    vuint16mf2x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei16_v_u16mf2x6_tum(vbool32_t vm,
                                                    vuint16mf2x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei16_v_u16mf2x7_tum(vbool32_t vm,
                                                    vuint16mf2x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei16_v_u16mf2x8_tum(vbool32_t vm,
                                                    vuint16mf2x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16_v_u16m1x2_tum(vbool16_t vm, vuint16m1x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei16_v_u16m1x3_tum(vbool16_t vm, vuint16m1x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16_v_u16m1x4_tum(vbool16_t vm, vuint16m1x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei16_v_u16m1x5_tum(vbool16_t vm, vuint16m1x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei16_v_u16m1x6_tum(vbool16_t vm, vuint16m1x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16_v_u16m1x7_tum(vbool16_t vm, vuint16m1x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16_v_u16m1x8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16_v_u16m2x2_tum(vbool8_t vm, vuint16m2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16_v_u16m2x3_tum(vbool8_t vm, vuint16m2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei16_v_u16m2x4_tum(vbool8_t vm, vuint16m2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei16_v_u16m4x2_tum(vbool4_t vm, vuint16m4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32_v_u16mf4x2_tum(vbool64_t vm,
                                                    vuint16mf4x2_t vd,
                                                    const uint16_t *rs1,
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                                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32_v_u16mf4x3_tum(vbool64_t vm,
                                                    vuint16mf4x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32_v_u16mf4x4_tum(vbool64_t vm,
                                                    vuint16mf4x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32_v_u16mf4x5_tum(vbool64_t vm,
                                                    vuint16mf4x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32_v_u16mf4x6_tum(vbool64_t vm,
                                                    vuint16mf4x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32_v_u16mf4x7_tum(vbool64_t vm,
                                                    vuint16mf4x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32_v_u16mf4x8_tum(vbool64_t vm,
                                                    vuint16mf4x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32_v_u16mf2x2_tum(vbool32_t vm,
                                                    vuint16mf2x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32_v_u16mf2x3_tum(vbool32_t vm,
                                                    vuint16mf2x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32_v_u16mf2x4_tum(vbool32_t vm,
                                                    vuint16mf2x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei32_v_u16mf2x5_tum(vbool32_t vm,
                                                    vuint16mf2x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32_v_u16mf2x6_tum(vbool32_t vm,
                                                    vuint16mf2x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32_v_u16mf2x7_tum(vbool32_t vm,
                                                    vuint16mf2x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32_v_u16mf2x8_tum(vbool32_t vm,
                                                    vuint16mf2x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32_v_u16m1x2_tum(vbool16_t vm, vuint16m1x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32_v_u16m1x3_tum(vbool16_t vm, vuint16m1x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei32_v_u16m1x4_tum(vbool16_t vm, vuint16m1x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32_v_u16m1x5_tum(vbool16_t vm, vuint16m1x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32_v_u16m1x6_tum(vbool16_t vm, vuint16m1x6_t vd,
                                                  const uint16_t *rs1,
```

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                                                vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32_v_u16m1x7_tum(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32_v_u16m1x8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32_v_u16m2x2_tum(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32_v_u16m2x3_tum(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32_v_u16m2x4_tum(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32_v_u16m4x2_tum(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64_v_u16mf4x2_tum(vbool64_t vm,
                                                  vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64_v_u16mf4x3_tum(vbool64_t vm,
                                                  vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64_v_u16mf4x4_tum(vbool64_t vm,
                                                  vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64_v_u16mf4x5_tum(vbool64_t vm,
                                                  vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64_v_u16mf4x6_tum(vbool64_t vm,
                                                  vuint16mf4x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei64_v_u16mf4x7_tum(vbool64_t vm,
                                                  vuint16mf4x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64_v_u16mf4x8_tum(vbool64_t vm,
                                                  vuint16mf4x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei64_v_u16mf2x2_tum(vbool32_t vm,
                                                  vuint16mf2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64_v_u16mf2x3_tum(vbool32_t vm,
                                                  vuint16mf2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64_v_u16mf2x4_tum(vbool32_t vm,
                                                  vuint16mf2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64_v_u16mf2x5_tum(vbool32_t vm,
                                                  vuint16mf2x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64_v_u16mf2x6_tum(vbool32_t vm,
                                                  vuint16mf2x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
```

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vuint16mf2x7_t __riscv_vluxseg7ei64_v_u16mf2x7_tum(vbool32_t vm,
                                                   vuint16mf2x7_t vd,
                                                   const uint16_t *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64_v_u16mf2x8_tum(vbool32_t vm,
                                                   vuint16mf2x8_t vd,
                                                   const uint16_t *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei64_v_u16m1x2_tum(vbool16_t vm, vuint16m1x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64_v_u16m1x3_tum(vbool16_t vm, vuint16m1x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei64_v_u16m1x4_tum(vbool16_t vm, vuint16m1x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64_v_u16m1x5_tum(vbool16_t vm, vuint16m1x5_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64_v_u16m1x6_tum(vbool16_t vm, vuint16m1x6_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64_v_u16m1x7_tum(vbool16_t vm, vuint16m1x7_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64_v_u16m1x8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64_v_u16m2x2_tum(vbool8_t vm, vuint16m2x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64_v_u16m2x3_tum(vbool8_t vm, vuint16m2x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64_v_u16m2x4_tum(vbool8_t vm, vuint16m2x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8_v_u32mf2x2_tum(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8_v_u32mf2x3_tum(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8_v_u32mf2x4_tum(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8_v_u32mf2x5_tum(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8_v_u32mf2x6_tum(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8_v_u32mf2x7_tum(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8_v_u32mf2x8_tum(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8_v_u32m1x2_tum(vbool32_t vm, vuint32m1x2_t vd,
```

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                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8_v_u32m1x3_tum(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8_v_u32m1x4_tum(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei8_v_u32m1x5_tum(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei8_v_u32m1x6_tum(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8_v_u32m1x7_tum(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8_v_u32m1x8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8_v_u32m2x2_tum(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8_v_u32m2x3_tum(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8_v_u32m2x4_tum(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8_v_u32m4x2_tum(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16_v_u32mf2x2_tum(vbool64_t vm,
                                                   vuint32mf2x2_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16_v_u32mf2x3_tum(vbool64_t vm,
                                                   vuint32mf2x3_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16_v_u32mf2x4_tum(vbool64_t vm,
                                                   vuint32mf2x4_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16_v_u32mf2x5_tum(vbool64_t vm,
                                                   vuint32mf2x5_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16_v_u32mf2x6_tum(vbool64_t vm,
                                                   vuint32mf2x6_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16_v_u32mf2x7_tum(vbool64_t vm,
                                                   vuint32mf2x7_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16_v_u32mf2x8_tum(vbool64_t vm,
                                                   vuint32mf2x8_t vd,
                                                   const uint32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16_v_u32m1x2_tum(vbool32_t vm, vuint32m1x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16_v_u32m1x3_tum(vbool32_t vm, vuint32m1x3_t vd,
                                                 const uint32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16_v_u32m1x4_tum(vbool32_t vm, vuint32m1x4_t vd,
```

```
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei16_v_u32m1x5_tum(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16_v_u32m1x6_tum(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei16_v_u32m1x7_tum(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16_v_u32m1x8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16_v_u32m2x2_tum(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16_v_u32m2x3_tum(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei16_v_u32m2x4_tum(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei16_v_u32m4x2_tum(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32_v_u32mf2x2_tum(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32_v_u32mf2x3_tum(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32_v_u32mf2x4_tum(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32_v_u32mf2x5_tum(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32_v_u32mf2x6_tum(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32_v_u32mf2x7_tum(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32_v_u32mf2x8_tum(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32_v_u32m1x2_tum(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32_v_u32m1x3_tum(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32_v_u32m1x4_tum(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32_v_u32m1x5_tum(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32_v_u32m1x6_tum(vbool32_t vm, vuint32m1x6_t vd,
```

```
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei32_v_u32m1x7_tum(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32_v_u32m1x8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei32_v_u32m2x2_tum(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32_v_u32m2x3_tum(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32_v_u32m2x4_tum(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32_v_u32m4x2_tum(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64_v_u32mf2x2_tum(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei64_v_u32mf2x3_tum(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64_v_u32mf2x4_tum(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64_v_u32mf2x5_tum(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64_v_u32mf2x6_tum(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei64_v_u32mf2x7_tum(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64_v_u32mf2x8_tum(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64_v_u32m1x2_tum(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64_v_u32m1x3_tum(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64_v_u32m1x4_tum(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei64_v_u32m1x5_tum(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64_v_u32m1x6_tum(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei64_v_u32m1x7_tum(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei64_v_u32m1x8_tum(vbool32_t vm, vuint32m1x8_t vd,
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                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64_v_u32m2x2_tum(vbool16_t vm, vuint32m2x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64_v_u32m2x3_tum(vbool16_t vm, vuint32m2x3_t vd,
                                                 const uint32_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei64_v_u32m2x4_tum(vbool16_t vm, vuint32m2x4_t vd,
                                                 const uint32_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64_v_u32m4x2_tum(vbool8_t vm, vuint32m4x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8_v_u64m1x2_tum(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8_v_u64m1x3_tum(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8_v_u64m1x4_tum(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8_v_u64m1x5_tum(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8_v_u64m1x6_tum(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei8_v_u64m1x7_tum(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei8_v_u64m1x8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8_v_u64m2x2_tum(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8_v_u64m2x3_tum(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei8_v_u64m2x4_tum(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8_v_u64m4x2_tum(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16_v_u64m1x2_tum(vbool64_t vm, vuint64m1x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16_v_u64m1x3_tum(vbool64_t vm, vuint64m1x3_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16_v_u64m1x4_tum(vbool64_t vm, vuint64m1x4_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16_v_u64m1x5_tum(vbool64_t vm, vuint64m1x5_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei16_v_u64m1x6_tum(vbool64_t vm, vuint64m1x6_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16_v_u64m1x7_tum(vbool64_t vm, vuint64m1x7_t vd,
                                                 const uint64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16_v_u64m1x8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                                 const uint64_t *rs1,
```

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                                                vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16_v_u64m2x2_tum(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16_v_u64m2x3_tum(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16_v_u64m2x4_tum(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16_v_u64m4x2_tum(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32_v_u64m1x2_tum(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei32_v_u64m1x3_tum(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32_v_u64m1x4_tum(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32_v_u64m1x5_tum(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32_v_u64m1x6_tum(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32_v_u64m1x7_tum(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32_v_u64m1x8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei32_v_u64m2x2_tum(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32_v_u64m2x3_tum(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32_v_u64m2x4_tum(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei32_v_u64m4x2_tum(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64_v_u64m1x2_tum(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64_v_u64m1x3_tum(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64_v_u64m1x4_tum(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64_v_u64m1x5_tum(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64_v_u64m1x6_tum(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64_v_u64m1x7_tum(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64_v_u64m1x8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
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vuint64m2x2_t __riscv_vluxseg2ei64_v_u64m2x2_tum(vbool32_t vm, vuint64m2x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64_v_u64m2x3_tum(vbool32_t vm, vuint64m2x3_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64_v_u64m2x4_tum(vbool32_t vm, vuint64m2x4_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei64_v_u64m4x2_tum(vbool16_t vm, vuint64m4x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vloxseg2ei8_v_f16mf4x2_tumu(vbool64_t vm,
                                                    vfloat16mf4x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei8_v_f16mf4x3_tumu(vbool64_t vm,
                                                    vfloat16mf4x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei8_v_f16mf4x4_tumu(vbool64_t vm,
                                                    vfloat16mf4x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8_v_f16mf4x5_tumu(vbool64_t vm,
                                                    vfloat16mf4x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8_v_f16mf4x6_tumu(vbool64_t vm,
                                                    vfloat16mf4x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8_v_f16mf4x7_tumu(vbool64_t vm,
                                                    vfloat16mf4x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8_v_f16mf4x8_tumu(vbool64_t vm,
                                                    vfloat16mf4x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8_v_f16mf2x2_tumu(vbool32_t vm,
                                                    vfloat16mf2x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8_v_f16mf2x3_tumu(vbool32_t vm,
                                                    vfloat16mf2x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8_v_f16mf2x4_tumu(vbool32_t vm,
                                                    vfloat16mf2x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8_v_f16mf2x5_tumu(vbool32_t vm,
                                                    vfloat16mf2x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8_v_f16mf2x6_tumu(vbool32_t vm,
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8_v_f16mf2x7_tumu(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8_v_f16mf2x8_tumu(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
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                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8_v_f16m1x2_tumu(vbool16_t vm,
                                                  vfloat16m1x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8_v_f16m1x3_tumu(vbool16_t vm,
                                                  vfloat16m1x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8_v_f16m1x4_tumu(vbool16_t vm,
                                                  vfloat16m1x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8_v_f16m1x5_tumu(vbool16_t vm,
                                                  vfloat16m1x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8_v_f16m1x6_tumu(vbool16_t vm,
                                                  vfloat16m1x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei8_v_f16m1x7_tumu(vbool16_t vm,
                                                  vfloat16m1x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8_v_f16m1x8_tumu(vbool16_t vm,
                                                  vfloat16m1x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8_v_f16m2x2_tumu(vbool8_t vm,
                                                  vfloat16m2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8_v_f16m2x3_tumu(vbool8_t vm,
                                                  vfloat16m2x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8_v_f16m2x4_tumu(vbool8_t vm,
                                                  vfloat16m2x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8_v_f16m4x2_tumu(vbool4_t vm,
                                                  vfloat16m4x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16_v_f16mf4x2_tumu(vbool64_t vm,
                                                     vfloat16mf4x2_t vd,
                                                     const _Float16 *rs1,
                                                     vuint16mf4_t rs2,
                                                     size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16_v_f16mf4x3_tumu(vbool64_t vm,
                                                     vfloat16mf4x3_t vd,
                                                     const _Float16 *rs1,
                                                     vuint16mf4_t rs2,
                                                     size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16_v_f16mf4x4_tumu(vbool64_t vm,
                                                     vfloat16mf4x4_t vd,
                                                     const _Float16 *rs1,
                                                     vuint16mf4_t rs2,
                                                     size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16_v_f16mf4x5_tumu(vbool64_t vm,
                                                     vfloat16mf4x5_t vd,
                                                     const _Float16 *rs1,
                                                     vuint16mf4_t rs2,
                                                     size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16_v_f16mf4x6_tumu(vbool64_t vm,
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                                                    vfloat16mf4x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16_v_f16mf4x7_tumu(vbool64_t vm,
                                                    vfloat16mf4x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16_v_f16mf4x8_tumu(vbool64_t vm,
                                                    vfloat16mf4x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16_v_f16mf2x2_tumu(vbool32_t vm,
                                                    vfloat16mf2x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16_v_f16mf2x3_tumu(vbool32_t vm,
                                                    vfloat16mf2x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16_v_f16mf2x4_tumu(vbool32_t vm,
                                                    vfloat16mf2x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16_v_f16mf2x5_tumu(vbool32_t vm,
                                                    vfloat16mf2x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei16_v_f16mf2x6_tumu(vbool32_t vm,
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16_v_f16mf2x7_tumu(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16_v_f16mf2x8_tumu(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei16_v_f16m1x2_tumu(vbool16_t vm,
                                                   vfloat16m1x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16_v_f16m1x3_tumu(vbool16_t vm,
                                                   vfloat16m1x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei16_v_f16m1x4_tumu(vbool16_t vm,
                                                   vfloat16m1x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16_v_f16m1x5_tumu(vbool16_t vm,
                                                   vfloat16m1x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16_v_f16m1x6_tumu(vbool16_t vm,
                                                   vfloat16m1x6_t vd,
```

```
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16_v_f16m1x7_tumu(vbool16_t vm,
                                                vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16_v_f16m1x8_tumu(vbool16_t vm,
                                                vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16_v_f16m2x2_tumu(vbool8_t vm,
                                                vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16_v_f16m2x3_tumu(vbool8_t vm,
                                                vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16_v_f16m2x4_tumu(vbool8_t vm,
                                                vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16_v_f16m4x2_tumu(vbool4_t vm,
                                                vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei32_v_f16mf4x2_tumu(vbool64_t vm,
                                                  vfloat16mf4x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32_v_f16mf4x3_tumu(vbool64_t vm,
                                                  vfloat16mf4x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32_v_f16mf4x4_tumu(vbool64_t vm,
                                                  vfloat16mf4x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32_v_f16mf4x5_tumu(vbool64_t vm,
                                                  vfloat16mf4x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32_v_f16mf4x6_tumu(vbool64_t vm,
                                                  vfloat16mf4x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32_v_f16mf4x7_tumu(vbool64_t vm,
                                                  vfloat16mf4x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32_v_f16mf4x8_tumu(vbool64_t vm,
                                                  vfloat16mf4x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2,
                                                  size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32_v_f16mf2x2_tumu(vbool32_t vm,
                                                  vfloat16mf2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2,
                                                  size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32_v_f16mf2x3_tumu(vbool32_t vm,
```

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                                                    vfloat16mf2x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2,
                                                    size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32_v_f16mf2x4_tumu(vbool32_t vm,
                                                    vfloat16mf2x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2,
                                                    size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32_v_f16mf2x5_tumu(vbool32_t vm,
                                                    vfloat16mf2x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2,
                                                    size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32_v_f16mf2x6_tumu(vbool32_t vm,
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2,
                                                    size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32_v_f16mf2x7_tumu(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2,
                                                    size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32_v_f16mf2x8_tumu(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2,
                                                    size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32_v_f16m1x2_tumu(vbool16_t vm,
                                                   vfloat16m1x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32_v_f16m1x3_tumu(vbool16_t vm,
                                                   vfloat16m1x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei32_v_f16m1x4_tumu(vbool16_t vm,
                                                   vfloat16m1x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32_v_f16m1x5_tumu(vbool16_t vm,
                                                   vfloat16m1x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei32_v_f16m1x6_tumu(vbool16_t vm,
                                                   vfloat16m1x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei32_v_f16m1x7_tumu(vbool16_t vm,
                                                   vfloat16m1x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32_v_f16m1x8_tumu(vbool16_t vm,
                                                   vfloat16m1x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32_v_f16m2x2_tumu(vbool8_t vm,
                                                   vfloat16m2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32_v_f16m2x3_tumu(vbool8_t vm,
                                                   vfloat16m2x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32_v_f16m2x4_tumu(vbool8_t vm,
                                                   vfloat16m2x4_t vd,
```

```
                                                    const _Float16 *rs1,
                                                    vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32_v_f16m4x2_tumu(vbool4_t vm,
                                                    vfloat16m4x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64_v_f16mf4x2_tumu(vbool64_t vm,
                                                     vfloat16mf4x2_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m1_t rs2,
                                                     size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei64_v_f16mf4x3_tumu(vbool64_t vm,
                                                     vfloat16mf4x3_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m1_t rs2,
                                                     size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64_v_f16mf4x4_tumu(vbool64_t vm,
                                                     vfloat16mf4x4_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m1_t rs2,
                                                     size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64_v_f16mf4x5_tumu(vbool64_t vm,
                                                     vfloat16mf4x5_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m1_t rs2,
                                                     size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64_v_f16mf4x6_tumu(vbool64_t vm,
                                                     vfloat16mf4x6_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m1_t rs2,
                                                     size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64_v_f16mf4x7_tumu(vbool64_t vm,
                                                     vfloat16mf4x7_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m1_t rs2,
                                                     size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64_v_f16mf4x8_tumu(vbool64_t vm,
                                                     vfloat16mf4x8_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m1_t rs2,
                                                     size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64_v_f16mf2x2_tumu(vbool32_t vm,
                                                     vfloat16mf2x2_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m2_t rs2,
                                                     size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64_v_f16mf2x3_tumu(vbool32_t vm,
                                                     vfloat16mf2x3_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m2_t rs2,
                                                     size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64_v_f16mf2x4_tumu(vbool32_t vm,
                                                     vfloat16mf2x4_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m2_t rs2,
                                                     size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64_v_f16mf2x5_tumu(vbool32_t vm,
                                                     vfloat16mf2x5_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m2_t rs2,
                                                     size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei64_v_f16mf2x6_tumu(vbool32_t vm,
                                                     vfloat16mf2x6_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m2_t rs2,
                                                     size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64_v_f16mf2x7_tumu(vbool32_t vm,
```

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                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2,
                                                    size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64_v_f16mf2x8_tumu(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2,
                                                    size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64_v_f16m1x2_tumu(vbool16_t vm,
                                                   vfloat16m1x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64_v_f16m1x3_tumu(vbool16_t vm,
                                                   vfloat16m1x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei64_v_f16m1x4_tumu(vbool16_t vm,
                                                   vfloat16m1x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64_v_f16m1x5_tumu(vbool16_t vm,
                                                   vfloat16m1x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64_v_f16m1x6_tumu(vbool16_t vm,
                                                   vfloat16m1x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64_v_f16m1x7_tumu(vbool16_t vm,
                                                   vfloat16m1x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64_v_f16m1x8_tumu(vbool16_t vm,
                                                   vfloat16m1x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64_v_f16m2x2_tumu(vbool8_t vm,
                                                   vfloat16m2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64_v_f16m2x3_tumu(vbool8_t vm,
                                                   vfloat16m2x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64_v_f16m2x4_tumu(vbool8_t vm,
                                                   vfloat16m2x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8_v_f32mf2x2_tumu(vbool64_t vm,
                                                    vfloat32mf2x2_t vd,
                                                    const float *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8_v_f32mf2x3_tumu(vbool64_t vm,
                                                    vfloat32mf2x3_t vd,
                                                    const float *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8_v_f32mf2x4_tumu(vbool64_t vm,
                                                    vfloat32mf2x4_t vd,
                                                    const float *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8_v_f32mf2x5_tumu(vbool64_t vm,
                                                    vfloat32mf2x5_t vd,
                                                    const float *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei8_v_f32mf2x6_tumu(vbool64_t vm,
                                                    vfloat32mf2x6_t vd,
```

```
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8_v_f32mf2x7_tumu(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8_v_f32mf2x8_tumu(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei8_v_f32m1x2_tumu(vbool32_t vm,
                                                 vfloat32m1x2_t vd,
                                                 const float *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8_v_f32m1x3_tumu(vbool32_t vm,
                                                 vfloat32m1x3_t vd,
                                                 const float *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei8_v_f32m1x4_tumu(vbool32_t vm,
                                                 vfloat32m1x4_t vd,
                                                 const float *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8_v_f32m1x5_tumu(vbool32_t vm,
                                                 vfloat32m1x5_t vd,
                                                 const float *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8_v_f32m1x6_tumu(vbool32_t vm,
                                                 vfloat32m1x6_t vd,
                                                 const float *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8_v_f32m1x7_tumu(vbool32_t vm,
                                                 vfloat32m1x7_t vd,
                                                 const float *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8_v_f32m1x8_tumu(vbool32_t vm,
                                                 vfloat32m1x8_t vd,
                                                 const float *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8_v_f32m2x2_tumu(vbool16_t vm,
                                                 vfloat32m2x2_t vd,
                                                 const float *rs1,
                                                 vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8_v_f32m2x3_tumu(vbool16_t vm,
                                                 vfloat32m2x3_t vd,
                                                 const float *rs1,
                                                 vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8_v_f32m2x4_tumu(vbool16_t vm,
                                                 vfloat32m2x4_t vd,
                                                 const float *rs1,
                                                 vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8_v_f32m4x2_tumu(vbool8_t vm,
                                                 vfloat32m4x2_t vd,
                                                 const float *rs1,
                                                 vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei16_v_f32mf2x2_tumu(vbool64_t vm,
                                                    vfloat32mf2x2_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16_v_f32mf2x3_tumu(vbool64_t vm,
                                                    vfloat32mf2x3_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16_v_f32mf2x4_tumu(vbool64_t vm,
                                                    vfloat32mf2x4_t vd,
                                                    const float *rs1,
```

```
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16_v_f32mf2x5_tumu(vbool64_t vm,
                                                    vfloat32mf2x5_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16_v_f32mf2x6_tumu(vbool64_t vm,
                                                    vfloat32mf2x6_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16_v_f32mf2x7_tumu(vbool64_t vm,
                                                    vfloat32mf2x7_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16_v_f32mf2x8_tumu(vbool64_t vm,
                                                    vfloat32mf2x8_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16_v_f32m1x2_tumu(vbool32_t vm,
                                                   vfloat32m1x2_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16_v_f32m1x3_tumu(vbool32_t vm,
                                                   vfloat32m1x3_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16_v_f32m1x4_tumu(vbool32_t vm,
                                                   vfloat32m1x4_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16_v_f32m1x5_tumu(vbool32_t vm,
                                                   vfloat32m1x5_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16_v_f32m1x6_tumu(vbool32_t vm,
                                                   vfloat32m1x6_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16_v_f32m1x7_tumu(vbool32_t vm,
                                                   vfloat32m1x7_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16_v_f32m1x8_tumu(vbool32_t vm,
                                                   vfloat32m1x8_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16_v_f32m2x2_tumu(vbool16_t vm,
                                                   vfloat32m2x2_t vd,
                                                   const float *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16_v_f32m2x3_tumu(vbool16_t vm,
                                                   vfloat32m2x3_t vd,
                                                   const float *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei16_v_f32m2x4_tumu(vbool16_t vm,
                                                   vfloat32m2x4_t vd,
                                                   const float *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16_v_f32m4x2_tumu(vbool8_t vm,
                                                   vfloat32m4x2_t vd,
                                                   const float *rs1,
                                                   vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei32_v_f32mf2x2_tumu(vbool64_t vm,
```

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                                                    vfloat32mf2x2_t vd,
                                                    const float *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei32_v_f32mf2x3_tumu(vbool64_t vm,
                                                    vfloat32mf2x3_t vd,
                                                    const float *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei32_v_f32mf2x4_tumu(vbool64_t vm,
                                                    vfloat32mf2x4_t vd,
                                                    const float *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32_v_f32mf2x5_tumu(vbool64_t vm,
                                                    vfloat32mf2x5_t vd,
                                                    const float *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32_v_f32mf2x6_tumu(vbool64_t vm,
                                                    vfloat32mf2x6_t vd,
                                                    const float *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32_v_f32mf2x7_tumu(vbool64_t vm,
                                                    vfloat32mf2x7_t vd,
                                                    const float *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32_v_f32mf2x8_tumu(vbool64_t vm,
                                                    vfloat32mf2x8_t vd,
                                                    const float *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32_v_f32m1x2_tumu(vbool32_t vm,
                                                   vfloat32m1x2_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32_v_f32m1x3_tumu(vbool32_t vm,
                                                   vfloat32m1x3_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32_v_f32m1x4_tumu(vbool32_t vm,
                                                   vfloat32m1x4_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32_v_f32m1x5_tumu(vbool32_t vm,
                                                   vfloat32m1x5_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32_v_f32m1x6_tumu(vbool32_t vm,
                                                   vfloat32m1x6_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei32_v_f32m1x7_tumu(vbool32_t vm,
                                                   vfloat32m1x7_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32_v_f32m1x8_tumu(vbool32_t vm,
                                                   vfloat32m1x8_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32_v_f32m2x2_tumu(vbool16_t vm,
                                                   vfloat32m2x2_t vd,
                                                   const float *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32_v_f32m2x3_tumu(vbool16_t vm,
```

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                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32_v_f32m2x4_tumu(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32_v_f32m4x2_tumu(vbool8_t vm,
                                                vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei64_v_f32mf2x2_tumu(vbool64_t vm,
                                                  vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2,
                                                  size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64_v_f32mf2x3_tumu(vbool64_t vm,
                                                  vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2,
                                                  size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64_v_f32mf2x4_tumu(vbool64_t vm,
                                                  vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2,
                                                  size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64_v_f32mf2x5_tumu(vbool64_t vm,
                                                  vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2,
                                                  size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64_v_f32mf2x6_tumu(vbool64_t vm,
                                                  vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2,
                                                  size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64_v_f32mf2x7_tumu(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2,
                                                  size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64_v_f32mf2x8_tumu(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2,
                                                  size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64_v_f32m1x2_tumu(vbool32_t vm,
                                                vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64_v_f32m1x3_tumu(vbool32_t vm,
                                                vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64_v_f32m1x4_tumu(vbool32_t vm,
                                                vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64_v_f32m1x5_tumu(vbool32_t vm,
                                                vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64_v_f32m1x6_tumu(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64_v_f32m1x7_tumu(vbool32_t vm,
```

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                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64_v_f32m1x8_tumu(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64_v_f32m2x2_tumu(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64_v_f32m2x3_tumu(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64_v_f32m2x4_tumu(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64_v_f32m4x2_tumu(vbool8_t vm,
                                                vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8_v_f64m1x2_tumu(vbool64_t vm,
                                               vfloat64m1x2_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8_v_f64m1x3_tumu(vbool64_t vm,
                                               vfloat64m1x3_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei8_v_f64m1x4_tumu(vbool64_t vm,
                                               vfloat64m1x4_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8_v_f64m1x5_tumu(vbool64_t vm,
                                               vfloat64m1x5_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei8_v_f64m1x6_tumu(vbool64_t vm,
                                               vfloat64m1x6_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8_v_f64m1x7_tumu(vbool64_t vm,
                                               vfloat64m1x7_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei8_v_f64m1x8_tumu(vbool64_t vm,
                                               vfloat64m1x8_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8_v_f64m2x2_tumu(vbool32_t vm,
                                               vfloat64m2x2_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8_v_f64m2x3_tumu(vbool32_t vm,
                                               vfloat64m2x3_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8_v_f64m2x4_tumu(vbool32_t vm,
                                               vfloat64m2x4_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8_v_f64m4x2_tumu(vbool16_t vm,
                                               vfloat64m4x2_t vd,
                                               const double *rs1,
                                               vuint8mf2_t rs2, size_t vl);
```

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vfloat64m1x2_t __riscv_vloxseg2ei16_v_f64m1x2_tumu(vbool64_t vm,
                                                   vfloat64m1x2_t vd,
                                                   const double *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16_v_f64m1x3_tumu(vbool64_t vm,
                                                   vfloat64m1x3_t vd,
                                                   const double *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei16_v_f64m1x4_tumu(vbool64_t vm,
                                                   vfloat64m1x4_t vd,
                                                   const double *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16_v_f64m1x5_tumu(vbool64_t vm,
                                                   vfloat64m1x5_t vd,
                                                   const double *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16_v_f64m1x6_tumu(vbool64_t vm,
                                                   vfloat64m1x6_t vd,
                                                   const double *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16_v_f64m1x7_tumu(vbool64_t vm,
                                                   vfloat64m1x7_t vd,
                                                   const double *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16_v_f64m1x8_tumu(vbool64_t vm,
                                                   vfloat64m1x8_t vd,
                                                   const double *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16_v_f64m2x2_tumu(vbool32_t vm,
                                                   vfloat64m2x2_t vd,
                                                   const double *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16_v_f64m2x3_tumu(vbool32_t vm,
                                                   vfloat64m2x3_t vd,
                                                   const double *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16_v_f64m2x4_tumu(vbool32_t vm,
                                                   vfloat64m2x4_t vd,
                                                   const double *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16_v_f64m4x2_tumu(vbool16_t vm,
                                                   vfloat64m4x2_t vd,
                                                   const double *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32_v_f64m1x2_tumu(vbool64_t vm,
                                                   vfloat64m1x2_t vd,
                                                   const double *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32_v_f64m1x3_tumu(vbool64_t vm,
                                                   vfloat64m1x3_t vd,
                                                   const double *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32_v_f64m1x4_tumu(vbool64_t vm,
                                                   vfloat64m1x4_t vd,
                                                   const double *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32_v_f64m1x5_tumu(vbool64_t vm,
                                                   vfloat64m1x5_t vd,
                                                   const double *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32_v_f64m1x6_tumu(vbool64_t vm,
                                                   vfloat64m1x6_t vd,
                                                   const double *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32_v_f64m1x7_tumu(vbool64_t vm,
                                                   vfloat64m1x7_t vd,
                                                   const double *rs1,
```

```
                                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32_v_f64m1x8_tumu(vbool64_t vm,
                                                    vfloat64m1x8_t vd,
                                                    const double *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei32_v_f64m2x2_tumu(vbool32_t vm,
                                                    vfloat64m2x2_t vd,
                                                    const double *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32_v_f64m2x3_tumu(vbool32_t vm,
                                                    vfloat64m2x3_t vd,
                                                    const double *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei32_v_f64m2x4_tumu(vbool32_t vm,
                                                    vfloat64m2x4_t vd,
                                                    const double *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei32_v_f64m4x2_tumu(vbool16_t vm,
                                                    vfloat64m4x2_t vd,
                                                    const double *rs1,
                                                    vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei64_v_f64m1x2_tumu(vbool64_t vm,
                                                    vfloat64m1x2_t vd,
                                                    const double *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64_v_f64m1x3_tumu(vbool64_t vm,
                                                    vfloat64m1x3_t vd,
                                                    const double *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64_v_f64m1x4_tumu(vbool64_t vm,
                                                    vfloat64m1x4_t vd,
                                                    const double *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64_v_f64m1x5_tumu(vbool64_t vm,
                                                    vfloat64m1x5_t vd,
                                                    const double *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64_v_f64m1x6_tumu(vbool64_t vm,
                                                    vfloat64m1x6_t vd,
                                                    const double *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64_v_f64m1x7_tumu(vbool64_t vm,
                                                    vfloat64m1x7_t vd,
                                                    const double *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64_v_f64m1x8_tumu(vbool64_t vm,
                                                    vfloat64m1x8_t vd,
                                                    const double *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64_v_f64m2x2_tumu(vbool32_t vm,
                                                    vfloat64m2x2_t vd,
                                                    const double *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64_v_f64m2x3_tumu(vbool32_t vm,
                                                    vfloat64m2x3_t vd,
                                                    const double *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64_v_f64m2x4_tumu(vbool32_t vm,
                                                    vfloat64m2x4_t vd,
                                                    const double *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64_v_f64m4x2_tumu(vbool16_t vm,
                                                    vfloat64m4x2_t vd,
                                                    const double *rs1,
                                                    vuint64m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8_v_f16mf4x2_tumu(vbool64_t vm,
                                                     vfloat16mf4x2_t vd,
```

```
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8_v_f16mf4x3_tumu(vbool64_t vm,
                                                vfloat16mf4x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei8_v_f16mf4x4_tumu(vbool64_t vm,
                                                vfloat16mf4x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8_v_f16mf4x5_tumu(vbool64_t vm,
                                                vfloat16mf4x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8_v_f16mf4x6_tumu(vbool64_t vm,
                                                vfloat16mf4x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei8_v_f16mf4x7_tumu(vbool64_t vm,
                                                vfloat16mf4x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8_v_f16mf4x8_tumu(vbool64_t vm,
                                                vfloat16mf4x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8_v_f16mf2x2_tumu(vbool32_t vm,
                                                vfloat16mf2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8_v_f16mf2x3_tumu(vbool32_t vm,
                                                vfloat16mf2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8_v_f16mf2x4_tumu(vbool32_t vm,
                                                vfloat16mf2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8_v_f16mf2x5_tumu(vbool32_t vm,
                                                vfloat16mf2x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8_v_f16mf2x6_tumu(vbool32_t vm,
                                                vfloat16mf2x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8_v_f16mf2x7_tumu(vbool32_t vm,
                                                vfloat16mf2x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8_v_f16mf2x8_tumu(vbool32_t vm,
                                                vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8_v_f16m1x2_tumu(vbool16_t vm,
                                                vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8_v_f16m1x3_tumu(vbool16_t vm,
                                                vfloat16m1x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8_v_f16m1x4_tumu(vbool16_t vm,
                                                vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8_v_f16m1x5_tumu(vbool16_t vm,
```

```
                                                vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8_v_f16m1x6_tumu(vbool16_t vm,
                                                vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8_v_f16m1x7_tumu(vbool16_t vm,
                                                vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8_v_f16m1x8_tumu(vbool16_t vm,
                                                vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8_v_f16m2x2_tumu(vbool8_t vm,
                                                vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8_v_f16m2x3_tumu(vbool8_t vm,
                                                vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8_v_f16m2x4_tumu(vbool8_t vm,
                                                vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8_v_f16m4x2_tumu(vbool4_t vm,
                                                vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei16_v_f16mf4x2_tumu(vbool64_t vm,
                                                   vfloat16mf4x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16_v_f16mf4x3_tumu(vbool64_t vm,
                                                   vfloat16mf4x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei16_v_f16mf4x4_tumu(vbool64_t vm,
                                                   vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16_v_f16mf4x5_tumu(vbool64_t vm,
                                                   vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16_v_f16mf4x6_tumu(vbool64_t vm,
                                                   vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16_v_f16mf4x7_tumu(vbool64_t vm,
                                                   vfloat16mf4x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16_v_f16mf4x8_tumu(vbool64_t vm,
                                                   vfloat16mf4x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16_v_f16mf2x2_tumu(vbool32_t vm,
```

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                                                    vfloat16mf2x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei16_v_f16mf2x3_tumu(vbool32_t vm,
                                                    vfloat16mf2x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16_v_f16mf2x4_tumu(vbool32_t vm,
                                                    vfloat16mf2x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16_v_f16mf2x5_tumu(vbool32_t vm,
                                                    vfloat16mf2x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei16_v_f16mf2x6_tumu(vbool32_t vm,
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16_v_f16mf2x7_tumu(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16_v_f16mf2x8_tumu(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16_v_f16m1x2_tumu(vbool16_t vm,
                                                   vfloat16m1x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16_v_f16m1x3_tumu(vbool16_t vm,
                                                   vfloat16m1x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16_v_f16m1x4_tumu(vbool16_t vm,
                                                   vfloat16m1x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16_v_f16m1x5_tumu(vbool16_t vm,
                                                   vfloat16m1x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei16_v_f16m1x6_tumu(vbool16_t vm,
                                                   vfloat16m1x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16_v_f16m1x7_tumu(vbool16_t vm,
                                                   vfloat16m1x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16_v_f16m1x8_tumu(vbool16_t vm,
                                                   vfloat16m1x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16_v_f16m2x2_tumu(vbool8_t vm,
                                                   vfloat16m2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16_v_f16m2x3_tumu(vbool8_t vm,
```

```
                                                    vfloat16m2x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16_v_f16m2x4_tumu(vbool8_t vm,
                                                    vfloat16m2x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16_v_f16m4x2_tumu(vbool4_t vm,
                                                    vfloat16m4x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32_v_f16mf4x2_tumu(vbool64_t vm,
                                                      vfloat16mf4x2_t vd,
                                                      const _Float16 *rs1,
                                                      vuint32mf2_t rs2,
                                                      size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32_v_f16mf4x3_tumu(vbool64_t vm,
                                                      vfloat16mf4x3_t vd,
                                                      const _Float16 *rs1,
                                                      vuint32mf2_t rs2,
                                                      size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei32_v_f16mf4x4_tumu(vbool64_t vm,
                                                      vfloat16mf4x4_t vd,
                                                      const _Float16 *rs1,
                                                      vuint32mf2_t rs2,
                                                      size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32_v_f16mf4x5_tumu(vbool64_t vm,
                                                      vfloat16mf4x5_t vd,
                                                      const _Float16 *rs1,
                                                      vuint32mf2_t rs2,
                                                      size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei32_v_f16mf4x6_tumu(vbool64_t vm,
                                                      vfloat16mf4x6_t vd,
                                                      const _Float16 *rs1,
                                                      vuint32mf2_t rs2,
                                                      size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei32_v_f16mf4x7_tumu(vbool64_t vm,
                                                      vfloat16mf4x7_t vd,
                                                      const _Float16 *rs1,
                                                      vuint32mf2_t rs2,
                                                      size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei32_v_f16mf4x8_tumu(vbool64_t vm,
                                                      vfloat16mf4x8_t vd,
                                                      const _Float16 *rs1,
                                                      vuint32mf2_t rs2,
                                                      size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32_v_f16mf2x2_tumu(vbool32_t vm,
                                                      vfloat16mf2x2_t vd,
                                                      const _Float16 *rs1,
                                                      vuint32m1_t rs2,
                                                      size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32_v_f16mf2x3_tumu(vbool32_t vm,
                                                      vfloat16mf2x3_t vd,
                                                      const _Float16 *rs1,
                                                      vuint32m1_t rs2,
                                                      size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32_v_f16mf2x4_tumu(vbool32_t vm,
                                                      vfloat16mf2x4_t vd,
                                                      const _Float16 *rs1,
                                                      vuint32m1_t rs2,
                                                      size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32_v_f16mf2x5_tumu(vbool32_t vm,
                                                      vfloat16mf2x5_t vd,
                                                      const _Float16 *rs1,
                                                      vuint32m1_t rs2,
                                                      size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32_v_f16mf2x6_tumu(vbool32_t vm,
```

```
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2,
                                                    size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32_v_f16mf2x7_tumu(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2,
                                                    size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32_v_f16mf2x8_tumu(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint32m1_t rs2,
                                                    size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32_v_f16m1x2_tumu(vbool16_t vm,
                                                   vfloat16m1x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32_v_f16m1x3_tumu(vbool16_t vm,
                                                   vfloat16m1x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32_v_f16m1x4_tumu(vbool16_t vm,
                                                   vfloat16m1x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32_v_f16m1x5_tumu(vbool16_t vm,
                                                   vfloat16m1x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32_v_f16m1x6_tumu(vbool16_t vm,
                                                   vfloat16m1x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32_v_f16m1x7_tumu(vbool16_t vm,
                                                   vfloat16m1x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32_v_f16m1x8_tumu(vbool16_t vm,
                                                   vfloat16m1x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32_v_f16m2x2_tumu(vbool8_t vm,
                                                   vfloat16m2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei32_v_f16m2x3_tumu(vbool8_t vm,
                                                   vfloat16m2x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32_v_f16m2x4_tumu(vbool8_t vm,
                                                   vfloat16m2x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32_v_f16m4x2_tumu(vbool4_t vm,
                                                   vfloat16m4x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64_v_f16mf4x2_tumu(vbool64_t vm,
                                                     vfloat16mf4x2_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m1_t rs2,
                                                     size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64_v_f16mf4x3_tumu(vbool64_t vm,
                                                     vfloat16mf4x3_t vd,
                                                     const _Float16 *rs1,
                                                     vuint64m1_t rs2,
```

```
                                                    size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64_v_f16mf4x4_tumu(vbool64_t vm,
                                                    vfloat16mf4x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2,
                                                    size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64_v_f16mf4x5_tumu(vbool64_t vm,
                                                    vfloat16mf4x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2,
                                                    size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64_v_f16mf4x6_tumu(vbool64_t vm,
                                                    vfloat16mf4x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2,
                                                    size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei64_v_f16mf4x7_tumu(vbool64_t vm,
                                                    vfloat16mf4x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2,
                                                    size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64_v_f16mf4x8_tumu(vbool64_t vm,
                                                    vfloat16mf4x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m1_t rs2,
                                                    size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64_v_f16mf2x2_tumu(vbool32_t vm,
                                                    vfloat16mf2x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2,
                                                    size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64_v_f16mf2x3_tumu(vbool32_t vm,
                                                    vfloat16mf2x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2,
                                                    size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64_v_f16mf2x4_tumu(vbool32_t vm,
                                                    vfloat16mf2x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2,
                                                    size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64_v_f16mf2x5_tumu(vbool32_t vm,
                                                    vfloat16mf2x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2,
                                                    size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64_v_f16mf2x6_tumu(vbool32_t vm,
                                                    vfloat16mf2x6_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2,
                                                    size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64_v_f16mf2x7_tumu(vbool32_t vm,
                                                    vfloat16mf2x7_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2,
                                                    size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64_v_f16mf2x8_tumu(vbool32_t vm,
                                                    vfloat16mf2x8_t vd,
                                                    const _Float16 *rs1,
                                                    vuint64m2_t rs2,
                                                    size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64_v_f16m1x2_tumu(vbool16_t vm,
                                                   vfloat16m1x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64_v_f16m1x3_tumu(vbool16_t vm,
                                                   vfloat16m1x3_t vd,
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                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64_v_f16m1x4_tumu(vbool16_t vm,
                                                vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei64_v_f16m1x5_tumu(vbool16_t vm,
                                                vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64_v_f16m1x6_tumu(vbool16_t vm,
                                                vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei64_v_f16m1x7_tumu(vbool16_t vm,
                                                vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64_v_f16m1x8_tumu(vbool16_t vm,
                                                vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64_v_f16m2x2_tumu(vbool8_t vm,
                                                vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64_v_f16m2x3_tumu(vbool8_t vm,
                                                vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64_v_f16m2x4_tumu(vbool8_t vm,
                                                vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8_v_f32mf2x2_tumu(vbool64_t vm,
                                                 vfloat32mf2x2_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8_v_f32mf2x3_tumu(vbool64_t vm,
                                                 vfloat32mf2x3_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8_v_f32mf2x4_tumu(vbool64_t vm,
                                                 vfloat32mf2x4_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8_v_f32mf2x5_tumu(vbool64_t vm,
                                                 vfloat32mf2x5_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei8_v_f32mf2x6_tumu(vbool64_t vm,
                                                 vfloat32mf2x6_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8_v_f32mf2x7_tumu(vbool64_t vm,
                                                 vfloat32mf2x7_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8_v_f32mf2x8_tumu(vbool64_t vm,
                                                 vfloat32mf2x8_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8_v_f32m1x2_tumu(vbool32_t vm,
                                               vfloat32m1x2_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8_v_f32m1x3_tumu(vbool32_t vm,
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                                                vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8_v_f32m1x4_tumu(vbool32_t vm,
                                                vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8_v_f32m1x5_tumu(vbool32_t vm,
                                                vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8_v_f32m1x6_tumu(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8_v_f32m1x7_tumu(vbool32_t vm,
                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8_v_f32m1x8_tumu(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8_v_f32m2x2_tumu(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8_v_f32m2x3_tumu(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8_v_f32m2x4_tumu(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8_v_f32m4x2_tumu(vbool8_t vm,
                                                vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16_v_f32mf2x2_tumu(vbool64_t vm,
                                                   vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16_v_f32mf2x3_tumu(vbool64_t vm,
                                                   vfloat32mf2x3_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei16_v_f32mf2x4_tumu(vbool64_t vm,
                                                   vfloat32mf2x4_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16_v_f32mf2x5_tumu(vbool64_t vm,
                                                   vfloat32mf2x5_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei16_v_f32mf2x6_tumu(vbool64_t vm,
                                                   vfloat32mf2x6_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2,
                                                   size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei16_v_f32mf2x7_tumu(vbool64_t vm,
                                                   vfloat32mf2x7_t vd,
                                                   const float *rs1,
```

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                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16_v_f32mf2x8_tumu(vbool64_t vm,
                                                    vfloat32mf2x8_t vd,
                                                    const float *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16_v_f32m1x2_tumu(vbool32_t vm,
                                                   vfloat32m1x2_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16_v_f32m1x3_tumu(vbool32_t vm,
                                                   vfloat32m1x3_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16_v_f32m1x4_tumu(vbool32_t vm,
                                                   vfloat32m1x4_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16_v_f32m1x5_tumu(vbool32_t vm,
                                                   vfloat32m1x5_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16_v_f32m1x6_tumu(vbool32_t vm,
                                                   vfloat32m1x6_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16_v_f32m1x7_tumu(vbool32_t vm,
                                                   vfloat32m1x7_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16_v_f32m1x8_tumu(vbool32_t vm,
                                                   vfloat32m1x8_t vd,
                                                   const float *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16_v_f32m2x2_tumu(vbool16_t vm,
                                                   vfloat32m2x2_t vd,
                                                   const float *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16_v_f32m2x3_tumu(vbool16_t vm,
                                                   vfloat32m2x3_t vd,
                                                   const float *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16_v_f32m2x4_tumu(vbool16_t vm,
                                                   vfloat32m2x4_t vd,
                                                   const float *rs1,
                                                   vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16_v_f32m4x2_tumu(vbool8_t vm,
                                                   vfloat32m4x2_t vd,
                                                   const float *rs1,
                                                   vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32_v_f32mf2x2_tumu(vbool64_t vm,
                                                     vfloat32mf2x2_t vd,
                                                     const float *rs1,
                                                     vuint32mf2_t rs2,
                                                     size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32_v_f32mf2x3_tumu(vbool64_t vm,
                                                     vfloat32mf2x3_t vd,
                                                     const float *rs1,
                                                     vuint32mf2_t rs2,
                                                     size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32_v_f32mf2x4_tumu(vbool64_t vm,
                                                     vfloat32mf2x4_t vd,
                                                     const float *rs1,
                                                     vuint32mf2_t rs2,
                                                     size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32_v_f32mf2x5_tumu(vbool64_t vm,
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                                                    vfloat32mf2x5_t vd,
                                                    const float *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei32_v_f32mf2x6_tumu(vbool64_t vm,
                                                    vfloat32mf2x6_t vd,
                                                    const float *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32_v_f32mf2x7_tumu(vbool64_t vm,
                                                    vfloat32mf2x7_t vd,
                                                    const float *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32_v_f32mf2x8_tumu(vbool64_t vm,
                                                    vfloat32mf2x8_t vd,
                                                    const float *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei32_v_f32m1x2_tumu(vbool32_t vm,
                                                   vfloat32m1x2_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32_v_f32m1x3_tumu(vbool32_t vm,
                                                   vfloat32m1x3_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32_v_f32m1x4_tumu(vbool32_t vm,
                                                   vfloat32m1x4_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32_v_f32m1x5_tumu(vbool32_t vm,
                                                   vfloat32m1x5_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32_v_f32m1x6_tumu(vbool32_t vm,
                                                   vfloat32m1x6_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32_v_f32m1x7_tumu(vbool32_t vm,
                                                   vfloat32m1x7_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32_v_f32m1x8_tumu(vbool32_t vm,
                                                   vfloat32m1x8_t vd,
                                                   const float *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32_v_f32m2x2_tumu(vbool16_t vm,
                                                   vfloat32m2x2_t vd,
                                                   const float *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32_v_f32m2x3_tumu(vbool16_t vm,
                                                   vfloat32m2x3_t vd,
                                                   const float *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32_v_f32m2x4_tumu(vbool16_t vm,
                                                   vfloat32m2x4_t vd,
                                                   const float *rs1,
                                                   vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32_v_f32m4x2_tumu(vbool8_t vm,
                                                   vfloat32m4x2_t vd,
                                                   const float *rs1,
                                                   vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64_v_f32mf2x2_tumu(vbool64_t vm,
                                                     vfloat32mf2x2_t vd,
                                                     const float *rs1,
                                                     vuint64m1_t rs2,
```

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                                                    size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64_v_f32mf2x3_tumu(vbool64_t vm,
                                                    vfloat32mf2x3_t vd,
                                                    const float *rs1,
                                                    vuint64m1_t rs2,
                                                    size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64_v_f32mf2x4_tumu(vbool64_t vm,
                                                    vfloat32mf2x4_t vd,
                                                    const float *rs1,
                                                    vuint64m1_t rs2,
                                                    size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64_v_f32mf2x5_tumu(vbool64_t vm,
                                                    vfloat32mf2x5_t vd,
                                                    const float *rs1,
                                                    vuint64m1_t rs2,
                                                    size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei64_v_f32mf2x6_tumu(vbool64_t vm,
                                                    vfloat32mf2x6_t vd,
                                                    const float *rs1,
                                                    vuint64m1_t rs2,
                                                    size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64_v_f32mf2x7_tumu(vbool64_t vm,
                                                    vfloat32mf2x7_t vd,
                                                    const float *rs1,
                                                    vuint64m1_t rs2,
                                                    size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei64_v_f32mf2x8_tumu(vbool64_t vm,
                                                    vfloat32mf2x8_t vd,
                                                    const float *rs1,
                                                    vuint64m1_t rs2,
                                                    size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64_v_f32m1x2_tumu(vbool32_t vm,
                                                   vfloat32m1x2_t vd,
                                                   const float *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei64_v_f32m1x3_tumu(vbool32_t vm,
                                                   vfloat32m1x3_t vd,
                                                   const float *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64_v_f32m1x4_tumu(vbool32_t vm,
                                                   vfloat32m1x4_t vd,
                                                   const float *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64_v_f32m1x5_tumu(vbool32_t vm,
                                                   vfloat32m1x5_t vd,
                                                   const float *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64_v_f32m1x6_tumu(vbool32_t vm,
                                                   vfloat32m1x6_t vd,
                                                   const float *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64_v_f32m1x7_tumu(vbool32_t vm,
                                                   vfloat32m1x7_t vd,
                                                   const float *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64_v_f32m1x8_tumu(vbool32_t vm,
                                                   vfloat32m1x8_t vd,
                                                   const float *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64_v_f32m2x2_tumu(vbool16_t vm,
                                                   vfloat32m2x2_t vd,
                                                   const float *rs1,
                                                   vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64_v_f32m2x3_tumu(vbool16_t vm,
                                                   vfloat32m2x3_t vd,
                                                   const float *rs1,
                                                   vuint64m4_t rs2, size_t vl);
```

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vfloat32m2x4_t __riscv_vluxseg4ei64_v_f32m2x4_tumu(vbool16_t vm,
                                                   vfloat32m2x4_t vd,
                                                   const float *rs1,
                                                   vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei64_v_f32m4x2_tumu(vbool8_t vm,
                                                   vfloat32m4x2_t vd,
                                                   const float *rs1,
                                                   vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8_v_f64m1x2_tumu(vbool64_t vm,
                                                  vfloat64m1x2_t vd,
                                                  const double *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei8_v_f64m1x3_tumu(vbool64_t vm,
                                                  vfloat64m1x3_t vd,
                                                  const double *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8_v_f64m1x4_tumu(vbool64_t vm,
                                                  vfloat64m1x4_t vd,
                                                  const double *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8_v_f64m1x5_tumu(vbool64_t vm,
                                                  vfloat64m1x5_t vd,
                                                  const double *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8_v_f64m1x6_tumu(vbool64_t vm,
                                                  vfloat64m1x6_t vd,
                                                  const double *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8_v_f64m1x7_tumu(vbool64_t vm,
                                                  vfloat64m1x7_t vd,
                                                  const double *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8_v_f64m1x8_tumu(vbool64_t vm,
                                                  vfloat64m1x8_t vd,
                                                  const double *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8_v_f64m2x2_tumu(vbool32_t vm,
                                                  vfloat64m2x2_t vd,
                                                  const double *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8_v_f64m2x3_tumu(vbool32_t vm,
                                                  vfloat64m2x3_t vd,
                                                  const double *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8_v_f64m2x4_tumu(vbool32_t vm,
                                                  vfloat64m2x4_t vd,
                                                  const double *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei8_v_f64m4x2_tumu(vbool16_t vm,
                                                  vfloat64m4x2_t vd,
                                                  const double *rs1,
                                                  vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16_v_f64m1x2_tumu(vbool64_t vm,
                                                   vfloat64m1x2_t vd,
                                                   const double *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16_v_f64m1x3_tumu(vbool64_t vm,
                                                   vfloat64m1x3_t vd,
                                                   const double *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16_v_f64m1x4_tumu(vbool64_t vm,
                                                   vfloat64m1x4_t vd,
                                                   const double *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16_v_f64m1x5_tumu(vbool64_t vm,
                                                   vfloat64m1x5_t vd,
                                                   const double *rs1,
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                                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei16_v_f64m1x6_tumu(vbool64_t vm,
                                                    vfloat64m1x6_t vd,
                                                    const double *rs1,
                                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16_v_f64m1x7_tumu(vbool64_t vm,
                                                    vfloat64m1x7_t vd,
                                                    const double *rs1,
                                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei16_v_f64m1x8_tumu(vbool64_t vm,
                                                    vfloat64m1x8_t vd,
                                                    const double *rs1,
                                                    vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei16_v_f64m2x2_tumu(vbool32_t vm,
                                                    vfloat64m2x2_t vd,
                                                    const double *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16_v_f64m2x3_tumu(vbool32_t vm,
                                                    vfloat64m2x3_t vd,
                                                    const double *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16_v_f64m2x4_tumu(vbool32_t vm,
                                                    vfloat64m2x4_t vd,
                                                    const double *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16_v_f64m4x2_tumu(vbool16_t vm,
                                                    vfloat64m4x2_t vd,
                                                    const double *rs1,
                                                    vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32_v_f64m1x2_tumu(vbool64_t vm,
                                                    vfloat64m1x2_t vd,
                                                    const double *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei32_v_f64m1x3_tumu(vbool64_t vm,
                                                    vfloat64m1x3_t vd,
                                                    const double *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32_v_f64m1x4_tumu(vbool64_t vm,
                                                    vfloat64m1x4_t vd,
                                                    const double *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32_v_f64m1x5_tumu(vbool64_t vm,
                                                    vfloat64m1x5_t vd,
                                                    const double *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32_v_f64m1x6_tumu(vbool64_t vm,
                                                    vfloat64m1x6_t vd,
                                                    const double *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei32_v_f64m1x7_tumu(vbool64_t vm,
                                                    vfloat64m1x7_t vd,
                                                    const double *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32_v_f64m1x8_tumu(vbool64_t vm,
                                                    vfloat64m1x8_t vd,
                                                    const double *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32_v_f64m2x2_tumu(vbool32_t vm,
                                                    vfloat64m2x2_t vd,
                                                    const double *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32_v_f64m2x3_tumu(vbool32_t vm,
                                                    vfloat64m2x3_t vd,
                                                    const double *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32_v_f64m2x4_tumu(vbool32_t vm,
                                                    vfloat64m2x4_t vd,
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                                                const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32_v_f64m4x2_tumu(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64_v_f64m1x2_tumu(vbool64_t vm,
                                                vfloat64m1x2_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64_v_f64m1x3_tumu(vbool64_t vm,
                                                vfloat64m1x3_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei64_v_f64m1x4_tumu(vbool64_t vm,
                                                vfloat64m1x4_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64_v_f64m1x5_tumu(vbool64_t vm,
                                                vfloat64m1x5_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64_v_f64m1x6_tumu(vbool64_t vm,
                                                vfloat64m1x6_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64_v_f64m1x7_tumu(vbool64_t vm,
                                                vfloat64m1x7_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64_v_f64m1x8_tumu(vbool64_t vm,
                                                vfloat64m1x8_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64_v_f64m2x2_tumu(vbool32_t vm,
                                                vfloat64m2x2_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64_v_f64m2x3_tumu(vbool32_t vm,
                                                vfloat64m2x3_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64_v_f64m2x4_tumu(vbool32_t vm,
                                                vfloat64m2x4_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64_v_f64m4x2_tumu(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8_v_i8mf8x2_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                            const int8_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8_v_i8mf8x3_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                            const int8_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8_v_i8mf8x4_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                            const int8_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8_v_i8mf8x5_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                            const int8_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8_v_i8mf8x6_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                            const int8_t *rs1,
                                            vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8_v_i8mf8x7_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                            const int8_t *rs1,
```

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                                                vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8_v_i8mf8x8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                                const int8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8_v_i8mf4x2_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8_v_i8mf4x3_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8_v_i8mf4x4_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8_v_i8mf4x5_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei8_v_i8mf4x6_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8_v_i8mf4x7_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei8_v_i8mf4x8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8_v_i8mf2x2_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8_v_i8mf2x3_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8_v_i8mf2x4_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8_v_i8mf2x5_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei8_v_i8mf2x6_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8_v_i8mf2x7_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8_v_i8mf2x8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8_v_i8m1x2_tumu(vbool8_t vm, vint8m1x2_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x3_t __riscv_vloxseg3ei8_v_i8m1x3_tumu(vbool8_t vm, vint8m1x3_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8_v_i8m1x4_tumu(vbool8_t vm, vint8m1x4_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x5_t __riscv_vloxseg5ei8_v_i8m1x5_tumu(vbool8_t vm, vint8m1x5_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8_v_i8m1x6_tumu(vbool8_t vm, vint8m1x6_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8_v_i8m1x7_tumu(vbool8_t vm, vint8m1x7_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8_v_i8m1x8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
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vint8m2x2_t __riscv_vloxseg2ei8_v_i8m2x2_tumu(vbool4_t vm, vint8m2x2_t vd,
                                              const int8_t *rs1, vuint8m2_t rs2,
                                              size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8_v_i8m2x3_tumu(vbool4_t vm, vint8m2x3_t vd,
                                              const int8_t *rs1, vuint8m2_t rs2,
                                              size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8_v_i8m2x4_tumu(vbool4_t vm, vint8m2x4_t vd,
                                              const int8_t *rs1, vuint8m2_t rs2,
                                              size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8_v_i8m4x2_tumu(vbool2_t vm, vint8m4x2_t vd,
                                              const int8_t *rs1, vuint8m4_t rs2,
                                              size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16_v_i8mf8x2_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16_v_i8mf8x3_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16_v_i8mf8x4_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16_v_i8mf8x5_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16_v_i8mf8x6_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16_v_i8mf8x7_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16_v_i8mf8x8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei16_v_i8mf4x2_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei16_v_i8mf4x3_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei16_v_i8mf4x4_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei16_v_i8mf4x5_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei16_v_i8mf4x6_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16_v_i8mf4x7_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16_v_i8mf4x8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16_v_i8mf2x2_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16_v_i8mf2x3_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei16_v_i8mf2x4_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                                 const int8_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16_v_i8mf2x5_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                                 const int8_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei16_v_i8mf2x6_tumu(vbool16_t vm, vint8mf2x6_t vd,
```

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                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16_v_i8mf2x7_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei16_v_i8mf2x8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16_v_i8m1x2_tumu(vbool8_t vm, vint8m1x2_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16_v_i8m1x3_tumu(vbool8_t vm, vint8m1x3_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16_v_i8m1x4_tumu(vbool8_t vm, vint8m1x4_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16_v_i8m1x5_tumu(vbool8_t vm, vint8m1x5_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16_v_i8m1x6_tumu(vbool8_t vm, vint8m1x6_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei16_v_i8m1x7_tumu(vbool8_t vm, vint8m1x7_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16_v_i8m1x8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16_v_i8m2x2_tumu(vbool4_t vm, vint8m2x2_t vd,
                                               const int8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16_v_i8m2x3_tumu(vbool4_t vm, vint8m2x3_t vd,
                                               const int8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16_v_i8m2x4_tumu(vbool4_t vm, vint8m2x4_t vd,
                                               const int8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16_v_i8m4x2_tumu(vbool2_t vm, vint8m4x2_t vd,
                                               const int8_t *rs1,
                                               vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei32_v_i8mf8x2_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32_v_i8mf8x3_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32_v_i8mf8x4_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32_v_i8mf8x5_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32_v_i8mf8x6_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32_v_i8mf8x7_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32_v_i8mf8x8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32_v_i8mf4x2_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32_v_i8mf4x3_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                                 const int8_t *rs1,
```

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                                                vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32_v_i8mf4x4_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32_v_i8mf4x5_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei32_v_i8mf4x6_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei32_v_i8mf4x7_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32_v_i8mf4x8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei32_v_i8mf2x2_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32_v_i8mf2x3_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei32_v_i8mf2x4_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32_v_i8mf2x5_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32_v_i8mf2x6_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32_v_i8mf2x7_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei32_v_i8mf2x8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32_v_i8m1x2_tumu(vbool8_t vm, vint8m1x2_t vd,
                                               const int8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei32_v_i8m1x3_tumu(vbool8_t vm, vint8m1x3_t vd,
                                               const int8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32_v_i8m1x4_tumu(vbool8_t vm, vint8m1x4_t vd,
                                               const int8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei32_v_i8m1x5_tumu(vbool8_t vm, vint8m1x5_t vd,
                                               const int8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei32_v_i8m1x6_tumu(vbool8_t vm, vint8m1x6_t vd,
                                               const int8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32_v_i8m1x7_tumu(vbool8_t vm, vint8m1x7_t vd,
                                               const int8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei32_v_i8m1x8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                               const int8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32_v_i8m2x2_tumu(vbool4_t vm, vint8m2x2_t vd,
                                               const int8_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32_v_i8m2x3_tumu(vbool4_t vm, vint8m2x3_t vd,
                                               const int8_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32_v_i8m2x4_tumu(vbool4_t vm, vint8m2x4_t vd,
                                               const int8_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
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vint8mf8x2_t __riscv_vloxseg2ei64_v_i8mf8x2_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64_v_i8mf8x3_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64_v_i8mf8x4_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64_v_i8mf8x5_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64_v_i8mf8x6_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64_v_i8mf8x7_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64_v_i8mf8x8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64_v_i8mf4x2_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64_v_i8mf4x3_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei64_v_i8mf4x4_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei64_v_i8mf4x5_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei64_v_i8mf4x6_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei64_v_i8mf4x7_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei64_v_i8mf4x8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei64_v_i8mf2x2_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei64_v_i8mf2x3_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei64_v_i8mf2x4_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei64_v_i8mf2x5_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei64_v_i8mf2x6_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei64_v_i8mf2x7_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei64_v_i8mf2x8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                                 const int8_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64_v_i8m1x2_tumu(vbool8_t vm, vint8m1x2_t vd,
                                               const int8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64_v_i8m1x3_tumu(vbool8_t vm, vint8m1x3_t vd,
```

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                                            const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei64_v_i8m1x4_tumu(vbool8_t vm, vint8m1x4_t vd,
                                            const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei64_v_i8m1x5_tumu(vbool8_t vm, vint8m1x5_t vd,
                                            const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei64_v_i8m1x6_tumu(vbool8_t vm, vint8m1x6_t vd,
                                            const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64_v_i8m1x7_tumu(vbool8_t vm, vint8m1x7_t vd,
                                            const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64_v_i8m1x8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                            const int8_t *rs1,
                                            vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8_v_i16mf4x2_tumu(vbool64_t vm,
                                               vint16mf4x2_t vd,
                                               const int16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8_v_i16mf4x3_tumu(vbool64_t vm,
                                               vint16mf4x3_t vd,
                                               const int16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei8_v_i16mf4x4_tumu(vbool64_t vm,
                                               vint16mf4x4_t vd,
                                               const int16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8_v_i16mf4x5_tumu(vbool64_t vm,
                                               vint16mf4x5_t vd,
                                               const int16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8_v_i16mf4x6_tumu(vbool64_t vm,
                                               vint16mf4x6_t vd,
                                               const int16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8_v_i16mf4x7_tumu(vbool64_t vm,
                                               vint16mf4x7_t vd,
                                               const int16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8_v_i16mf4x8_tumu(vbool64_t vm,
                                               vint16mf4x8_t vd,
                                               const int16_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8_v_i16mf2x2_tumu(vbool32_t vm,
                                               vint16mf2x2_t vd,
                                               const int16_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8_v_i16mf2x3_tumu(vbool32_t vm,
                                               vint16mf2x3_t vd,
                                               const int16_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8_v_i16mf2x4_tumu(vbool32_t vm,
                                               vint16mf2x4_t vd,
                                               const int16_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8_v_i16mf2x5_tumu(vbool32_t vm,
                                               vint16mf2x5_t vd,
                                               const int16_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8_v_i16mf2x6_tumu(vbool32_t vm,
                                               vint16mf2x6_t vd,
                                               const int16_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8_v_i16mf2x7_tumu(vbool32_t vm,
                                               vint16mf2x7_t vd,
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                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8_v_i16mf2x8_tumu(vbool32_t vm,
                                                vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8_v_i16m1x2_tumu(vbool16_t vm, vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8_v_i16m1x3_tumu(vbool16_t vm, vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8_v_i16m1x4_tumu(vbool16_t vm, vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8_v_i16m1x5_tumu(vbool16_t vm, vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8_v_i16m1x6_tumu(vbool16_t vm, vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8_v_i16m1x7_tumu(vbool16_t vm, vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8_v_i16m1x8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8_v_i16m2x2_tumu(vbool8_t vm, vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei8_v_i16m2x3_tumu(vbool8_t vm, vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8_v_i16m2x4_tumu(vbool8_t vm, vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei8_v_i16m4x2_tumu(vbool4_t vm, vint16m4x2_t vd,
                                               const int16_t *rs1,
                                               vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16_v_i16mf4x2_tumu(vbool64_t vm,
                                                  vint16mf4x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16_v_i16mf4x3_tumu(vbool64_t vm,
                                                  vint16mf4x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei16_v_i16mf4x4_tumu(vbool64_t vm,
                                                  vint16mf4x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16_v_i16mf4x5_tumu(vbool64_t vm,
                                                  vint16mf4x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16_v_i16mf4x6_tumu(vbool64_t vm,
                                                  vint16mf4x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16_v_i16mf4x7_tumu(vbool64_t vm,
                                                  vint16mf4x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16_v_i16mf4x8_tumu(vbool64_t vm,
                                                  vint16mf4x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
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vint16mf2x2_t __riscv_vloxseg2ei16_v_i16mf2x2_tumu(vbool32_t vm,
                                                   vint16mf2x2_t vd,
                                                   const int16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei16_v_i16mf2x3_tumu(vbool32_t vm,
                                                   vint16mf2x3_t vd,
                                                   const int16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16_v_i16mf2x4_tumu(vbool32_t vm,
                                                   vint16mf2x4_t vd,
                                                   const int16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16_v_i16mf2x5_tumu(vbool32_t vm,
                                                   vint16mf2x5_t vd,
                                                   const int16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16_v_i16mf2x6_tumu(vbool32_t vm,
                                                   vint16mf2x6_t vd,
                                                   const int16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16_v_i16mf2x7_tumu(vbool32_t vm,
                                                   vint16mf2x7_t vd,
                                                   const int16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16_v_i16mf2x8_tumu(vbool32_t vm,
                                                   vint16mf2x8_t vd,
                                                   const int16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16_v_i16m1x2_tumu(vbool16_t vm, vint16m1x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16_v_i16m1x3_tumu(vbool16_t vm, vint16m1x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16_v_i16m1x4_tumu(vbool16_t vm, vint16m1x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16_v_i16m1x5_tumu(vbool16_t vm, vint16m1x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16_v_i16m1x6_tumu(vbool16_t vm, vint16m1x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16_v_i16m1x7_tumu(vbool16_t vm, vint16m1x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16_v_i16m1x8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16_v_i16m2x2_tumu(vbool8_t vm, vint16m2x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16_v_i16m2x3_tumu(vbool8_t vm, vint16m2x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16_v_i16m2x4_tumu(vbool8_t vm, vint16m2x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16_v_i16m4x2_tumu(vbool4_t vm, vint16m4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32_v_i16mf4x2_tumu(vbool64_t vm,
                                                   vint16mf4x2_t vd,
                                                   const int16_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei32_v_i16mf4x3_tumu(vbool64_t vm,
                                                   vint16mf4x3_t vd,
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                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei32_v_i16mf4x4_tumu(vbool64_t vm,
                                                vint16mf4x4_t vd,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32_v_i16mf4x5_tumu(vbool64_t vm,
                                                vint16mf4x5_t vd,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32_v_i16mf4x6_tumu(vbool64_t vm,
                                                vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32_v_i16mf4x7_tumu(vbool64_t vm,
                                                vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32_v_i16mf4x8_tumu(vbool64_t vm,
                                                vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32_v_i16mf2x2_tumu(vbool32_t vm,
                                                vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32_v_i16mf2x3_tumu(vbool32_t vm,
                                                vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32_v_i16mf2x4_tumu(vbool32_t vm,
                                                vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32_v_i16mf2x5_tumu(vbool32_t vm,
                                                vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32_v_i16mf2x6_tumu(vbool32_t vm,
                                                vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei32_v_i16mf2x7_tumu(vbool32_t vm,
                                                vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32_v_i16mf2x8_tumu(vbool32_t vm,
                                                vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32_v_i16m1x2_tumu(vbool16_t vm, vint16m1x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32_v_i16m1x3_tumu(vbool16_t vm, vint16m1x3_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32_v_i16m1x4_tumu(vbool16_t vm, vint16m1x4_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32_v_i16m1x5_tumu(vbool16_t vm, vint16m1x5_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32_v_i16m1x6_tumu(vbool16_t vm, vint16m1x6_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei32_v_i16m1x7_tumu(vbool16_t vm, vint16m1x7_t vd,
                                                const int16_t *rs1,
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                                                vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32_v_i16m1x8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                                const int16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32_v_i16m2x2_tumu(vbool8_t vm, vint16m2x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32_v_i16m2x3_tumu(vbool8_t vm, vint16m2x3_t vd,
                                                const int16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32_v_i16m2x4_tumu(vbool8_t vm, vint16m2x4_t vd,
                                                const int16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32_v_i16m4x2_tumu(vbool4_t vm, vint16m4x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64_v_i16mf4x2_tumu(vbool64_t vm,
                                                  vint16mf4x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64_v_i16mf4x3_tumu(vbool64_t vm,
                                                  vint16mf4x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64_v_i16mf4x4_tumu(vbool64_t vm,
                                                  vint16mf4x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64_v_i16mf4x5_tumu(vbool64_t vm,
                                                  vint16mf4x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64_v_i16mf4x6_tumu(vbool64_t vm,
                                                  vint16mf4x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64_v_i16mf4x7_tumu(vbool64_t vm,
                                                  vint16mf4x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64_v_i16mf4x8_tumu(vbool64_t vm,
                                                  vint16mf4x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64_v_i16mf2x2_tumu(vbool32_t vm,
                                                  vint16mf2x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64_v_i16mf2x3_tumu(vbool32_t vm,
                                                  vint16mf2x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64_v_i16mf2x4_tumu(vbool32_t vm,
                                                  vint16mf2x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64_v_i16mf2x5_tumu(vbool32_t vm,
                                                  vint16mf2x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64_v_i16mf2x6_tumu(vbool32_t vm,
                                                  vint16mf2x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64_v_i16mf2x7_tumu(vbool32_t vm,
                                                  vint16mf2x7_t vd,
                                                  const int16_t *rs1,
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                                                    vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64_v_i16mf2x8_tumu(vbool32_t vm,
                                                    vint16mf2x8_t vd,
                                                    const int16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei64_v_i16m1x2_tumu(vbool16_t vm, vint16m1x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64_v_i16m1x3_tumu(vbool16_t vm, vint16m1x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei64_v_i16m1x4_tumu(vbool16_t vm, vint16m1x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64_v_i16m1x5_tumu(vbool16_t vm, vint16m1x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64_v_i16m1x6_tumu(vbool16_t vm, vint16m1x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64_v_i16m1x7_tumu(vbool16_t vm, vint16m1x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64_v_i16m1x8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64_v_i16m2x2_tumu(vbool8_t vm, vint16m2x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64_v_i16m2x3_tumu(vbool8_t vm, vint16m2x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64_v_i16m2x4_tumu(vbool8_t vm, vint16m2x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8_v_i32mf2x2_tumu(vbool64_t vm,
                                                  vint32mf2x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei8_v_i32mf2x3_tumu(vbool64_t vm,
                                                  vint32mf2x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8_v_i32mf2x4_tumu(vbool64_t vm,
                                                  vint32mf2x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8_v_i32mf2x5_tumu(vbool64_t vm,
                                                  vint32mf2x5_t vd,
                                                  const int32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei8_v_i32mf2x6_tumu(vbool64_t vm,
                                                  vint32mf2x6_t vd,
                                                  const int32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8_v_i32mf2x7_tumu(vbool64_t vm,
                                                  vint32mf2x7_t vd,
                                                  const int32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8_v_i32mf2x8_tumu(vbool64_t vm,
                                                  vint32mf2x8_t vd,
                                                  const int32_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8_v_i32m1x2_tumu(vbool32_t vm, vint32m1x2_t vd,
                                                const int32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei8_v_i32m1x3_tumu(vbool32_t vm, vint32m1x3_t vd,
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                                                const int32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei8_v_i32m1x4_tumu(vbool32_t vm, vint32m1x4_t vd,
                                                const int32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8_v_i32m1x5_tumu(vbool32_t vm, vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei8_v_i32m1x6_tumu(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei8_v_i32m1x7_tumu(vbool32_t vm, vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei8_v_i32m1x8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8_v_i32m2x2_tumu(vbool16_t vm, vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8_v_i32m2x3_tumu(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei8_v_i32m2x4_tumu(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8_v_i32m4x2_tumu(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16_v_i32mf2x2_tumu(vbool64_t vm,
                                                   vint32mf2x2_t vd,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei16_v_i32mf2x3_tumu(vbool64_t vm,
                                                   vint32mf2x3_t vd,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei16_v_i32mf2x4_tumu(vbool64_t vm,
                                                   vint32mf2x4_t vd,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei16_v_i32mf2x5_tumu(vbool64_t vm,
                                                   vint32mf2x5_t vd,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16_v_i32mf2x6_tumu(vbool64_t vm,
                                                   vint32mf2x6_t vd,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16_v_i32mf2x7_tumu(vbool64_t vm,
                                                   vint32mf2x7_t vd,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16_v_i32mf2x8_tumu(vbool64_t vm,
                                                   vint32mf2x8_t vd,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16_v_i32m1x2_tumu(vbool32_t vm, vint32m1x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16_v_i32m1x3_tumu(vbool32_t vm, vint32m1x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei16_v_i32m1x4_tumu(vbool32_t vm, vint32m1x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16_v_i32m1x5_tumu(vbool32_t vm, vint32m1x5_t vd,
```

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                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16_v_i32m1x6_tumu(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei16_v_i32m1x7_tumu(vbool32_t vm, vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16_v_i32m1x8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16_v_i32m2x2_tumu(vbool16_t vm, vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16_v_i32m2x3_tumu(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16_v_i32m2x4_tumu(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16_v_i32m4x2_tumu(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32_v_i32mf2x2_tumu(vbool64_t vm,
                                                  vint32mf2x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei32_v_i32mf2x3_tumu(vbool64_t vm,
                                                  vint32mf2x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32_v_i32mf2x4_tumu(vbool64_t vm,
                                                  vint32mf2x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32_v_i32mf2x5_tumu(vbool64_t vm,
                                                  vint32mf2x5_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32_v_i32mf2x6_tumu(vbool64_t vm,
                                                  vint32mf2x6_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32_v_i32mf2x7_tumu(vbool64_t vm,
                                                  vint32mf2x7_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32_v_i32mf2x8_tumu(vbool64_t vm,
                                                  vint32mf2x8_t vd,
                                                  const int32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32_v_i32m1x2_tumu(vbool32_t vm, vint32m1x2_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei32_v_i32m1x3_tumu(vbool32_t vm, vint32m1x3_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32_v_i32m1x4_tumu(vbool32_t vm, vint32m1x4_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32_v_i32m1x5_tumu(vbool32_t vm, vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei32_v_i32m1x6_tumu(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei32_v_i32m1x7_tumu(vbool32_t vm, vint32m1x7_t vd,
```

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                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32_v_i32m1x8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32_v_i32m2x2_tumu(vbool16_t vm, vint32m2x2_t vd,
                                                const int32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32_v_i32m2x3_tumu(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32_v_i32m2x4_tumu(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32_v_i32m4x2_tumu(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei64_v_i32mf2x2_tumu(vbool64_t vm,
                                                  vint32mf2x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64_v_i32mf2x3_tumu(vbool64_t vm,
                                                  vint32mf2x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64_v_i32mf2x4_tumu(vbool64_t vm,
                                                  vint32mf2x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei64_v_i32mf2x5_tumu(vbool64_t vm,
                                                  vint32mf2x5_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64_v_i32mf2x6_tumu(vbool64_t vm,
                                                  vint32mf2x6_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei64_v_i32mf2x7_tumu(vbool64_t vm,
                                                  vint32mf2x7_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64_v_i32mf2x8_tumu(vbool64_t vm,
                                                  vint32mf2x8_t vd,
                                                  const int32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64_v_i32m1x2_tumu(vbool32_t vm, vint32m1x2_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64_v_i32m1x3_tumu(vbool32_t vm, vint32m1x3_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei64_v_i32m1x4_tumu(vbool32_t vm, vint32m1x4_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei64_v_i32m1x5_tumu(vbool32_t vm, vint32m1x5_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei64_v_i32m1x6_tumu(vbool32_t vm, vint32m1x6_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei64_v_i32m1x7_tumu(vbool32_t vm, vint32m1x7_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei64_v_i32m1x8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                                const int32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei64_v_i32m2x2_tumu(vbool16_t vm, vint32m2x2_t vd,
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                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei64_v_i32m2x3_tumu(vbool16_t vm, vint32m2x3_t vd,
                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei64_v_i32m2x4_tumu(vbool16_t vm, vint32m2x4_t vd,
                                                const int32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei64_v_i32m4x2_tumu(vbool8_t vm, vint32m4x2_t vd,
                                                const int32_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei8_v_i64m1x2_tumu(vbool64_t vm, vint64m1x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8_v_i64m1x3_tumu(vbool64_t vm, vint64m1x3_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8_v_i64m1x4_tumu(vbool64_t vm, vint64m1x4_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei8_v_i64m1x5_tumu(vbool64_t vm, vint64m1x5_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei8_v_i64m1x6_tumu(vbool64_t vm, vint64m1x6_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei8_v_i64m1x7_tumu(vbool64_t vm, vint64m1x7_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei8_v_i64m1x8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                               const int64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei8_v_i64m2x2_tumu(vbool32_t vm, vint64m2x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei8_v_i64m2x3_tumu(vbool32_t vm, vint64m2x3_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei8_v_i64m2x4_tumu(vbool32_t vm, vint64m2x4_t vd,
                                               const int64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei8_v_i64m4x2_tumu(vbool16_t vm, vint64m4x2_t vd,
                                               const int64_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16_v_i64m1x2_tumu(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16_v_i64m1x3_tumu(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16_v_i64m1x4_tumu(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei16_v_i64m1x5_tumu(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei16_v_i64m1x6_tumu(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16_v_i64m1x7_tumu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16_v_i64m1x8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei16_v_i64m2x2_tumu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
```

```
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei16_v_i64m2x3_tumu(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei16_v_i64m2x4_tumu(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16_v_i64m4x2_tumu(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32_v_i64m1x2_tumu(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32_v_i64m1x3_tumu(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32_v_i64m1x4_tumu(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei32_v_i64m1x5_tumu(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei32_v_i64m1x6_tumu(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei32_v_i64m1x7_tumu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32_v_i64m1x8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32_v_i64m2x2_tumu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32_v_i64m2x3_tumu(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei32_v_i64m2x4_tumu(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei32_v_i64m4x2_tumu(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64_v_i64m1x2_tumu(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64_v_i64m1x3_tumu(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64_v_i64m1x4_tumu(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64_v_i64m1x5_tumu(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64_v_i64m1x6_tumu(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64_v_i64m1x7_tumu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64_v_i64m1x8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64_v_i64m2x2_tumu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
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vint64m2x3_t __riscv_vloxseg3ei64_v_i64m2x3_tumu(vbool32_t vm, vint64m2x3_t vd,
                                                 const int64_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64_v_i64m2x4_tumu(vbool32_t vm, vint64m2x4_t vd,
                                                 const int64_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64_v_i64m4x2_tumu(vbool16_t vm, vint64m4x2_t vd,
                                                 const int64_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8_v_i8mf8x2_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                                const int8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8_v_i8mf8x3_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                                const int8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8_v_i8mf8x4_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                                const int8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8_v_i8mf8x5_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                                const int8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8_v_i8mf8x6_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                                const int8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8_v_i8mf8x7_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                                const int8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8_v_i8mf8x8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                                const int8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8_v_i8mf4x2_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei8_v_i8mf4x3_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8_v_i8mf4x4_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei8_v_i8mf4x5_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8_v_i8mf4x6_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8_v_i8mf4x7_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8_v_i8mf4x8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8_v_i8mf2x2_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei8_v_i8mf2x3_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8_v_i8mf2x4_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8_v_i8mf2x5_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8_v_i8mf2x6_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei8_v_i8mf2x7_tumu(vbool16_t vm, vint8mf2x7_t vd,
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                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8_v_i8mf2x8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8_v_i8m1x2_tumu(vbool8_t vm, vint8m1x2_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8_v_i8m1x3_tumu(vbool8_t vm, vint8m1x3_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x4_t __riscv_vluxseg4ei8_v_i8m1x4_tumu(vbool8_t vm, vint8m1x4_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8_v_i8m1x5_tumu(vbool8_t vm, vint8m1x5_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8_v_i8m1x6_tumu(vbool8_t vm, vint8m1x6_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8_v_i8m1x7_tumu(vbool8_t vm, vint8m1x7_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8_v_i8m1x8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                              const int8_t *rs1, vuint8m1_t rs2,
                                              size_t vl);
vint8m2x2_t __riscv_vluxseg2ei8_v_i8m2x2_tumu(vbool4_t vm, vint8m2x2_t vd,
                                              const int8_t *rs1, vuint8m2_t rs2,
                                              size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8_v_i8m2x3_tumu(vbool4_t vm, vint8m2x3_t vd,
                                              const int8_t *rs1, vuint8m2_t rs2,
                                              size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8_v_i8m2x4_tumu(vbool4_t vm, vint8m2x4_t vd,
                                              const int8_t *rs1, vuint8m2_t rs2,
                                              size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8_v_i8m4x2_tumu(vbool2_t vm, vint8m4x2_t vd,
                                              const int8_t *rs1, vuint8m4_t rs2,
                                              size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16_v_i8mf8x2_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16_v_i8mf8x3_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16_v_i8mf8x4_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16_v_i8mf8x5_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16_v_i8mf8x6_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei16_v_i8mf8x7_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei16_v_i8mf8x8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16_v_i8mf4x2_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16_v_i8mf4x3_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16_v_i8mf4x4_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                                 const int8_t *rs1,
```

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                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16_v_i8mf4x5_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16_v_i8mf4x6_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16_v_i8mf4x7_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16_v_i8mf4x8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16_v_i8mf2x2_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16_v_i8mf2x3_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16_v_i8mf2x4_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16_v_i8mf2x5_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16_v_i8mf2x6_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16_v_i8mf2x7_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16_v_i8mf2x8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16_v_i8m1x2_tumu(vbool8_t vm, vint8m1x2_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16_v_i8m1x3_tumu(vbool8_t vm, vint8m1x3_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei16_v_i8m1x4_tumu(vbool8_t vm, vint8m1x4_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei16_v_i8m1x5_tumu(vbool8_t vm, vint8m1x5_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16_v_i8m1x6_tumu(vbool8_t vm, vint8m1x6_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16_v_i8m1x7_tumu(vbool8_t vm, vint8m1x7_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16_v_i8m1x8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                               const int8_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16_v_i8m2x2_tumu(vbool4_t vm, vint8m2x2_t vd,
                                               const int8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16_v_i8m2x3_tumu(vbool4_t vm, vint8m2x3_t vd,
                                               const int8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16_v_i8m2x4_tumu(vbool4_t vm, vint8m2x4_t vd,
                                               const int8_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16_v_i8m4x2_tumu(vbool2_t vm, vint8m4x2_t vd,
                                               const int8_t *rs1,
                                               vuint16m8_t rs2, size_t vl);
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vint8mf8x2_t __riscv_vluxseg2ei32_v_i8mf8x2_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32_v_i8mf8x3_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32_v_i8mf8x4_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32_v_i8mf8x5_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32_v_i8mf8x6_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32_v_i8mf8x7_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32_v_i8mf8x8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                                 const int8_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32_v_i8mf4x2_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32_v_i8mf4x3_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32_v_i8mf4x4_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei32_v_i8mf4x5_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei32_v_i8mf4x6_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei32_v_i8mf4x7_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei32_v_i8mf4x8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei32_v_i8mf2x2_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei32_v_i8mf2x3_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei32_v_i8mf2x4_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei32_v_i8mf2x5_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei32_v_i8mf2x6_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32_v_i8mf2x7_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei32_v_i8mf2x8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                                 const int8_t *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32_v_i8m1x2_tumu(vbool8_t vm, vint8m1x2_t vd,
                                               const int8_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei32_v_i8m1x3_tumu(vbool8_t vm, vint8m1x3_t vd,
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                                                const int8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32_v_i8m1x4_tumu(vbool8_t vm, vint8m1x4_t vd,
                                                const int8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32_v_i8m1x5_tumu(vbool8_t vm, vint8m1x5_t vd,
                                                const int8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32_v_i8m1x6_tumu(vbool8_t vm, vint8m1x6_t vd,
                                                const int8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei32_v_i8m1x7_tumu(vbool8_t vm, vint8m1x7_t vd,
                                                const int8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32_v_i8m1x8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                                const int8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32_v_i8m2x2_tumu(vbool4_t vm, vint8m2x2_t vd,
                                                const int8_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32_v_i8m2x3_tumu(vbool4_t vm, vint8m2x3_t vd,
                                                const int8_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32_v_i8m2x4_tumu(vbool4_t vm, vint8m2x4_t vd,
                                                const int8_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64_v_i8mf8x2_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64_v_i8mf8x3_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64_v_i8mf8x4_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64_v_i8mf8x5_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64_v_i8mf8x6_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64_v_i8mf8x7_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64_v_i8mf8x8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64_v_i8mf4x2_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64_v_i8mf4x3_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei64_v_i8mf4x4_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei64_v_i8mf4x5_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64_v_i8mf4x6_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei64_v_i8mf4x7_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                                  const int8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei64_v_i8mf4x8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                                  const int8_t *rs1,
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                                                vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei64_v_i8mf2x2_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei64_v_i8mf2x3_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei64_v_i8mf2x4_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei64_v_i8mf2x5_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei64_v_i8mf2x6_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei64_v_i8mf2x7_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei64_v_i8mf2x8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64_v_i8m1x2_tumu(vbool8_t vm, vint8m1x2_t vd,
                                               const int8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64_v_i8m1x3_tumu(vbool8_t vm, vint8m1x3_t vd,
                                               const int8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64_v_i8m1x4_tumu(vbool8_t vm, vint8m1x4_t vd,
                                               const int8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64_v_i8m1x5_tumu(vbool8_t vm, vint8m1x5_t vd,
                                               const int8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64_v_i8m1x6_tumu(vbool8_t vm, vint8m1x6_t vd,
                                               const int8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64_v_i8m1x7_tumu(vbool8_t vm, vint8m1x7_t vd,
                                               const int8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei64_v_i8m1x8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                               const int8_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8_v_i16mf4x2_tumu(vbool64_t vm,
                                                  vint16mf4x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8_v_i16mf4x3_tumu(vbool64_t vm,
                                                  vint16mf4x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8_v_i16mf4x4_tumu(vbool64_t vm,
                                                  vint16mf4x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8_v_i16mf4x5_tumu(vbool64_t vm,
                                                  vint16mf4x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8_v_i16mf4x6_tumu(vbool64_t vm,
                                                  vint16mf4x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei8_v_i16mf4x7_tumu(vbool64_t vm,
                                                  vint16mf4x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
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vint16mf4x8_t __riscv_vluxseg8ei8_v_i16mf4x8_tumu(vbool64_t vm,
                                                  vint16mf4x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8_v_i16mf2x2_tumu(vbool32_t vm,
                                                  vint16mf2x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8_v_i16mf2x3_tumu(vbool32_t vm,
                                                  vint16mf2x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8_v_i16mf2x4_tumu(vbool32_t vm,
                                                  vint16mf2x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8_v_i16mf2x5_tumu(vbool32_t vm,
                                                  vint16mf2x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8_v_i16mf2x6_tumu(vbool32_t vm,
                                                  vint16mf2x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8_v_i16mf2x7_tumu(vbool32_t vm,
                                                  vint16mf2x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8_v_i16mf2x8_tumu(vbool32_t vm,
                                                  vint16mf2x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8_v_i16m1x2_tumu(vbool16_t vm, vint16m1x2_t vd,
                                                const int16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8_v_i16m1x3_tumu(vbool16_t vm, vint16m1x3_t vd,
                                                const int16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8_v_i16m1x4_tumu(vbool16_t vm, vint16m1x4_t vd,
                                                const int16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8_v_i16m1x5_tumu(vbool16_t vm, vint16m1x5_t vd,
                                                const int16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8_v_i16m1x6_tumu(vbool16_t vm, vint16m1x6_t vd,
                                                const int16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei8_v_i16m1x7_tumu(vbool16_t vm, vint16m1x7_t vd,
                                                const int16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8_v_i16m1x8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei8_v_i16m2x2_tumu(vbool8_t vm, vint16m2x2_t vd,
                                                const int16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8_v_i16m2x3_tumu(vbool8_t vm, vint16m2x3_t vd,
                                                const int16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8_v_i16m2x4_tumu(vbool8_t vm, vint16m2x4_t vd,
                                                const int16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8_v_i16m4x2_tumu(vbool4_t vm, vint16m4x2_t vd,
                                                const int16_t *rs1,
                                                vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16_v_i16mf4x2_tumu(vbool64_t vm,
                                                   vint16mf4x2_t vd,
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                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16_v_i16mf4x3_tumu(vbool64_t vm,
                                                vint16mf4x3_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16_v_i16mf4x4_tumu(vbool64_t vm,
                                                vint16mf4x4_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16_v_i16mf4x5_tumu(vbool64_t vm,
                                                vint16mf4x5_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16_v_i16mf4x6_tumu(vbool64_t vm,
                                                vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei16_v_i16mf4x7_tumu(vbool64_t vm,
                                                vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei16_v_i16mf4x8_tumu(vbool64_t vm,
                                                vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16_v_i16mf2x2_tumu(vbool32_t vm,
                                                vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16_v_i16mf2x3_tumu(vbool32_t vm,
                                                vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16_v_i16mf2x4_tumu(vbool32_t vm,
                                                vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16_v_i16mf2x5_tumu(vbool32_t vm,
                                                vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16_v_i16mf2x6_tumu(vbool32_t vm,
                                                vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16_v_i16mf2x7_tumu(vbool32_t vm,
                                                vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16_v_i16mf2x8_tumu(vbool32_t vm,
                                                vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16_v_i16m1x2_tumu(vbool16_t vm, vint16m1x2_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16_v_i16m1x3_tumu(vbool16_t vm, vint16m1x3_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16_v_i16m1x4_tumu(vbool16_t vm, vint16m1x4_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16_v_i16m1x5_tumu(vbool16_t vm, vint16m1x5_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16_v_i16m1x6_tumu(vbool16_t vm, vint16m1x6_t vd,
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                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16_v_i16m1x7_tumu(vbool16_t vm, vint16m1x7_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16_v_i16m1x8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                                const int16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16_v_i16m2x2_tumu(vbool8_t vm, vint16m2x2_t vd,
                                                const int16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16_v_i16m2x3_tumu(vbool8_t vm, vint16m2x3_t vd,
                                                const int16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei16_v_i16m2x4_tumu(vbool8_t vm, vint16m2x4_t vd,
                                                const int16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei16_v_i16m4x2_tumu(vbool4_t vm, vint16m4x2_t vd,
                                                const int16_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32_v_i16mf4x2_tumu(vbool64_t vm,
                                                  vint16mf4x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32_v_i16mf4x3_tumu(vbool64_t vm,
                                                  vint16mf4x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32_v_i16mf4x4_tumu(vbool64_t vm,
                                                  vint16mf4x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32_v_i16mf4x5_tumu(vbool64_t vm,
                                                  vint16mf4x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32_v_i16mf4x6_tumu(vbool64_t vm,
                                                  vint16mf4x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32_v_i16mf4x7_tumu(vbool64_t vm,
                                                  vint16mf4x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32_v_i16mf4x8_tumu(vbool64_t vm,
                                                  vint16mf4x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei32_v_i16mf2x2_tumu(vbool32_t vm,
                                                  vint16mf2x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32_v_i16mf2x3_tumu(vbool32_t vm,
                                                  vint16mf2x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32_v_i16mf2x4_tumu(vbool32_t vm,
                                                  vint16mf2x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32_v_i16mf2x5_tumu(vbool32_t vm,
                                                  vint16mf2x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32_v_i16mf2x6_tumu(vbool32_t vm,
                                                  vint16mf2x6_t vd,
                                                  const int16_t *rs1,
```

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                                                    vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei32_v_i16mf2x7_tumu(vbool32_t vm,
                                                    vint16mf2x7_t vd,
                                                    const int16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32_v_i16mf2x8_tumu(vbool32_t vm,
                                                    vint16mf2x8_t vd,
                                                    const int16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32_v_i16m1x2_tumu(vbool16_t vm, vint16m1x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32_v_i16m1x3_tumu(vbool16_t vm, vint16m1x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei32_v_i16m1x4_tumu(vbool16_t vm, vint16m1x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32_v_i16m1x5_tumu(vbool16_t vm, vint16m1x5_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32_v_i16m1x6_tumu(vbool16_t vm, vint16m1x6_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32_v_i16m1x7_tumu(vbool16_t vm, vint16m1x7_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32_v_i16m1x8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32_v_i16m2x2_tumu(vbool8_t vm, vint16m2x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei32_v_i16m2x3_tumu(vbool8_t vm, vint16m2x3_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32_v_i16m2x4_tumu(vbool8_t vm, vint16m2x4_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32_v_i16m4x2_tumu(vbool4_t vm, vint16m4x2_t vd,
                                                  const int16_t *rs1,
                                                  vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64_v_i16mf4x2_tumu(vbool64_t vm,
                                                    vint16mf4x2_t vd,
                                                    const int16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64_v_i16mf4x3_tumu(vbool64_t vm,
                                                    vint16mf4x3_t vd,
                                                    const int16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64_v_i16mf4x4_tumu(vbool64_t vm,
                                                    vint16mf4x4_t vd,
                                                    const int16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64_v_i16mf4x5_tumu(vbool64_t vm,
                                                    vint16mf4x5_t vd,
                                                    const int16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64_v_i16mf4x6_tumu(vbool64_t vm,
                                                    vint16mf4x6_t vd,
                                                    const int16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64_v_i16mf4x7_tumu(vbool64_t vm,
                                                    vint16mf4x7_t vd,
                                                    const int16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64_v_i16mf4x8_tumu(vbool64_t vm,
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                                                vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64_v_i16mf2x2_tumu(vbool32_t vm,
                                                vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei64_v_i16mf2x3_tumu(vbool32_t vm,
                                                vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64_v_i16mf2x4_tumu(vbool32_t vm,
                                                vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64_v_i16mf2x5_tumu(vbool32_t vm,
                                                vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei64_v_i16mf2x6_tumu(vbool32_t vm,
                                                vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64_v_i16mf2x7_tumu(vbool32_t vm,
                                                vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei64_v_i16mf2x8_tumu(vbool32_t vm,
                                                vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64_v_i16m1x2_tumu(vbool16_t vm, vint16m1x2_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64_v_i16m1x3_tumu(vbool16_t vm, vint16m1x3_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64_v_i16m1x4_tumu(vbool16_t vm, vint16m1x4_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64_v_i16m1x5_tumu(vbool16_t vm, vint16m1x5_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64_v_i16m1x6_tumu(vbool16_t vm, vint16m1x6_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64_v_i16m1x7_tumu(vbool16_t vm, vint16m1x7_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64_v_i16m1x8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                                const int16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64_v_i16m2x2_tumu(vbool8_t vm, vint16m2x2_t vd,
                                                const int16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei64_v_i16m2x3_tumu(vbool8_t vm, vint16m2x3_t vd,
                                                const int16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64_v_i16m2x4_tumu(vbool8_t vm, vint16m2x4_t vd,
                                                const int16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8_v_i32mf2x2_tumu(vbool64_t vm,
                                                 vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8_v_i32mf2x3_tumu(vbool64_t vm,
                                                vint32mf2x3_t vd,
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                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8_v_i32mf2x4_tumu(vbool64_t vm,
                                                vint32mf2x4_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8_v_i32mf2x5_tumu(vbool64_t vm,
                                                vint32mf2x5_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8_v_i32mf2x6_tumu(vbool64_t vm,
                                                vint32mf2x6_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8_v_i32mf2x7_tumu(vbool64_t vm,
                                                vint32mf2x7_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8_v_i32mf2x8_tumu(vbool64_t vm,
                                                vint32mf2x8_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8_v_i32m1x2_tumu(vbool32_t vm, vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8_v_i32m1x3_tumu(vbool32_t vm, vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8_v_i32m1x4_tumu(vbool32_t vm, vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8_v_i32m1x5_tumu(vbool32_t vm, vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8_v_i32m1x6_tumu(vbool32_t vm, vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8_v_i32m1x7_tumu(vbool32_t vm, vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8_v_i32m1x8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8_v_i32m2x2_tumu(vbool16_t vm, vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8_v_i32m2x3_tumu(vbool16_t vm, vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei8_v_i32m2x4_tumu(vbool16_t vm, vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei8_v_i32m4x2_tumu(vbool8_t vm, vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16_v_i32mf2x2_tumu(vbool64_t vm,
                                                  vint32mf2x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16_v_i32mf2x3_tumu(vbool64_t vm,
                                                  vint32mf2x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16_v_i32mf2x4_tumu(vbool64_t vm,
                                                  vint32mf2x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
```

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vint32mf2x5_t __riscv_vluxseg5ei16_v_i32mf2x5_tumu(vbool64_t vm,
                                                   vint32mf2x5_t vd,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16_v_i32mf2x6_tumu(vbool64_t vm,
                                                   vint32mf2x6_t vd,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei16_v_i32mf2x7_tumu(vbool64_t vm,
                                                   vint32mf2x7_t vd,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16_v_i32mf2x8_tumu(vbool64_t vm,
                                                   vint32mf2x8_t vd,
                                                   const int32_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16_v_i32m1x2_tumu(vbool32_t vm, vint32m1x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16_v_i32m1x3_tumu(vbool32_t vm, vint32m1x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16_v_i32m1x4_tumu(vbool32_t vm, vint32m1x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16_v_i32m1x5_tumu(vbool32_t vm, vint32m1x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16_v_i32m1x6_tumu(vbool32_t vm, vint32m1x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16_v_i32m1x7_tumu(vbool32_t vm, vint32m1x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16_v_i32m1x8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16_v_i32m2x2_tumu(vbool16_t vm, vint32m2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16_v_i32m2x3_tumu(vbool16_t vm, vint32m2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei16_v_i32m2x4_tumu(vbool16_t vm, vint32m2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16_v_i32m4x2_tumu(vbool8_t vm, vint32m4x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32_v_i32mf2x2_tumu(vbool64_t vm,
                                                   vint32mf2x2_t vd,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32_v_i32mf2x3_tumu(vbool64_t vm,
                                                   vint32mf2x3_t vd,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32_v_i32mf2x4_tumu(vbool64_t vm,
                                                   vint32mf2x4_t vd,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32_v_i32mf2x5_tumu(vbool64_t vm,
                                                   vint32mf2x5_t vd,
                                                   const int32_t *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei32_v_i32mf2x6_tumu(vbool64_t vm,
                                                   vint32mf2x6_t vd,
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                                                    const int32_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32_v_i32mf2x7_tumu(vbool64_t vm,
                                                    vint32mf2x7_t vd,
                                                    const int32_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32_v_i32mf2x8_tumu(vbool64_t vm,
                                                    vint32mf2x8_t vd,
                                                    const int32_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32_v_i32m1x2_tumu(vbool32_t vm, vint32m1x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32_v_i32m1x3_tumu(vbool32_t vm, vint32m1x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32_v_i32m1x4_tumu(vbool32_t vm, vint32m1x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32_v_i32m1x5_tumu(vbool32_t vm, vint32m1x5_t vd,
                                                  const int32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32_v_i32m1x6_tumu(vbool32_t vm, vint32m1x6_t vd,
                                                  const int32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32_v_i32m1x7_tumu(vbool32_t vm, vint32m1x7_t vd,
                                                  const int32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32_v_i32m1x8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                                  const int32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei32_v_i32m2x2_tumu(vbool16_t vm, vint32m2x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32_v_i32m2x3_tumu(vbool16_t vm, vint32m2x3_t vd,
                                                  const int32_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32_v_i32m2x4_tumu(vbool16_t vm, vint32m2x4_t vd,
                                                  const int32_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32_v_i32m4x2_tumu(vbool8_t vm, vint32m4x2_t vd,
                                                  const int32_t *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei64_v_i32mf2x2_tumu(vbool64_t vm,
                                                    vint32mf2x2_t vd,
                                                    const int32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64_v_i32mf2x3_tumu(vbool64_t vm,
                                                    vint32mf2x3_t vd,
                                                    const int32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei64_v_i32mf2x4_tumu(vbool64_t vm,
                                                    vint32mf2x4_t vd,
                                                    const int32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64_v_i32mf2x5_tumu(vbool64_t vm,
                                                    vint32mf2x5_t vd,
                                                    const int32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64_v_i32mf2x6_tumu(vbool64_t vm,
                                                    vint32mf2x6_t vd,
                                                    const int32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64_v_i32mf2x7_tumu(vbool64_t vm,
                                                    vint32mf2x7_t vd,
                                                    const int32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
```

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vint32mf2x8_t __riscv_vluxseg8ei64_v_i32mf2x8_tumu(vbool64_t vm,
                                                   vint32mf2x8_t vd,
                                                   const int32_t *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64_v_i32m1x2_tumu(vbool32_t vm, vint32m1x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64_v_i32m1x3_tumu(vbool32_t vm, vint32m1x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64_v_i32m1x4_tumu(vbool32_t vm, vint32m1x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64_v_i32m1x5_tumu(vbool32_t vm, vint32m1x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei64_v_i32m1x6_tumu(vbool32_t vm, vint32m1x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64_v_i32m1x7_tumu(vbool32_t vm, vint32m1x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64_v_i32m1x8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64_v_i32m2x2_tumu(vbool16_t vm, vint32m2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64_v_i32m2x3_tumu(vbool16_t vm, vint32m2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64_v_i32m2x4_tumu(vbool16_t vm, vint32m2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei64_v_i32m4x2_tumu(vbool8_t vm, vint32m4x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8_v_i64m1x2_tumu(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8_v_i64m1x3_tumu(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8_v_i64m1x4_tumu(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8_v_i64m1x5_tumu(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8_v_i64m1x6_tumu(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8_v_i64m1x7_tumu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8_v_i64m1x8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8_v_i64m2x2_tumu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8_v_i64m2x3_tumu(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8_v_i64m2x4_tumu(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
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vint64m4x2_t __riscv_vluxseg2ei8_v_i64m4x2_tumu(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei16_v_i64m1x2_tumu(vbool64_t vm, vint64m1x2_t vd,
                                                 const int64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei16_v_i64m1x3_tumu(vbool64_t vm, vint64m1x3_t vd,
                                                 const int64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16_v_i64m1x4_tumu(vbool64_t vm, vint64m1x4_t vd,
                                                 const int64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16_v_i64m1x5_tumu(vbool64_t vm, vint64m1x5_t vd,
                                                 const int64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16_v_i64m1x6_tumu(vbool64_t vm, vint64m1x6_t vd,
                                                 const int64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16_v_i64m1x7_tumu(vbool64_t vm, vint64m1x7_t vd,
                                                 const int64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16_v_i64m1x8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                                 const int64_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16_v_i64m2x2_tumu(vbool32_t vm, vint64m2x2_t vd,
                                                 const int64_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16_v_i64m2x3_tumu(vbool32_t vm, vint64m2x3_t vd,
                                                 const int64_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16_v_i64m2x4_tumu(vbool32_t vm, vint64m2x4_t vd,
                                                 const int64_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16_v_i64m4x2_tumu(vbool16_t vm, vint64m4x2_t vd,
                                                 const int64_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32_v_i64m1x2_tumu(vbool64_t vm, vint64m1x2_t vd,
                                                 const int64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32_v_i64m1x3_tumu(vbool64_t vm, vint64m1x3_t vd,
                                                 const int64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32_v_i64m1x4_tumu(vbool64_t vm, vint64m1x4_t vd,
                                                 const int64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32_v_i64m1x5_tumu(vbool64_t vm, vint64m1x5_t vd,
                                                 const int64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32_v_i64m1x6_tumu(vbool64_t vm, vint64m1x6_t vd,
                                                 const int64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32_v_i64m1x7_tumu(vbool64_t vm, vint64m1x7_t vd,
                                                 const int64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32_v_i64m1x8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                                 const int64_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei32_v_i64m2x2_tumu(vbool32_t vm, vint64m2x2_t vd,
                                                 const int64_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32_v_i64m2x3_tumu(vbool32_t vm, vint64m2x3_t vd,
                                                 const int64_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32_v_i64m2x4_tumu(vbool32_t vm, vint64m2x4_t vd,
                                                 const int64_t *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32_v_i64m4x2_tumu(vbool16_t vm, vint64m4x2_t vd,
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                                                const int64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64_v_i64m1x2_tumu(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64_v_i64m1x3_tumu(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei64_v_i64m1x4_tumu(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64_v_i64m1x5_tumu(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64_v_i64m1x6_tumu(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64_v_i64m1x7_tumu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64_v_i64m1x8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64_v_i64m2x2_tumu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64_v_i64m2x3_tumu(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64_v_i64m2x4_tumu(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64_v_i64m4x2_tumu(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8_v_u8mf8x2_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei8_v_u8mf8x3_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8_v_u8mf8x4_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8_v_u8mf8x5_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8_v_u8mf8x6_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei8_v_u8mf8x7_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8_v_u8mf8x8_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei8_v_u8mf4x2_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8_v_u8mf4x3_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8_v_u8mf4x4_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8_v_u8mf4x5_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
```

```
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8_v_u8mf4x6_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8_v_u8mf4x7_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8_v_u8mf4x8_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8_v_u8mf2x2_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8_v_u8mf2x3_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei8_v_u8mf2x4_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8_v_u8mf2x5_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8_v_u8mf2x6_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8_v_u8mf2x7_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8_v_u8mf2x8_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8_v_u8m1x2_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei8_v_u8m1x3_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8_v_u8m1x4_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8_v_u8m1x5_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8_v_u8m1x6_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8_v_u8m1x7_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8_v_u8m1x8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8_v_u8m2x2_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                               const uint8_t *rs1,
                                               vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8_v_u8m2x3_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                               const uint8_t *rs1,
                                               vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8_v_u8m2x4_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                               const uint8_t *rs1,
                                               vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8_v_u8m4x2_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                               const uint8_t *rs1,
                                               vuint8m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16_v_u8mf8x2_tumu(vbool64_t vm,
                                                  vuint8mf8x2_t vd,
                                                  const uint8_t *rs1,
```

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                                                    vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16_v_u8mf8x3_tumu(vbool64_t vm,
                                                    vuint8mf8x3_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei16_v_u8mf8x4_tumu(vbool64_t vm,
                                                    vuint8mf8x4_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei16_v_u8mf8x5_tumu(vbool64_t vm,
                                                    vuint8mf8x5_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16_v_u8mf8x6_tumu(vbool64_t vm,
                                                    vuint8mf8x6_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16_v_u8mf8x7_tumu(vbool64_t vm,
                                                    vuint8mf8x7_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16_v_u8mf8x8_tumu(vbool64_t vm,
                                                    vuint8mf8x8_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16_v_u8mf4x2_tumu(vbool32_t vm,
                                                    vuint8mf4x2_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei16_v_u8mf4x3_tumu(vbool32_t vm,
                                                    vuint8mf4x3_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16_v_u8mf4x4_tumu(vbool32_t vm,
                                                    vuint8mf4x4_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16_v_u8mf4x5_tumu(vbool32_t vm,
                                                    vuint8mf4x5_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16_v_u8mf4x6_tumu(vbool32_t vm,
                                                    vuint8mf4x6_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16_v_u8mf4x7_tumu(vbool32_t vm,
                                                    vuint8mf4x7_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16_v_u8mf4x8_tumu(vbool32_t vm,
                                                    vuint8mf4x8_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16_v_u8mf2x2_tumu(vbool16_t vm,
                                                    vuint8mf2x2_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16_v_u8mf2x3_tumu(vbool16_t vm,
                                                    vuint8mf2x3_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16_v_u8mf2x4_tumu(vbool16_t vm,
                                                    vuint8mf2x4_t vd,
                                                    const uint8_t *rs1,
                                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16_v_u8mf2x5_tumu(vbool16_t vm,
                                                    vuint8mf2x5_t vd,
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                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16_v_u8mf2x6_tumu(vbool16_t vm,
                                                vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16_v_u8mf2x7_tumu(vbool16_t vm,
                                                vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei16_v_u8mf2x8_tumu(vbool16_t vm,
                                                vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16_v_u8m1x2_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16_v_u8m1x3_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16_v_u8m1x4_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16_v_u8m1x5_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16_v_u8m1x6_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei16_v_u8m1x7_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16_v_u8m1x8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16_v_u8m2x2_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16_v_u8m2x3_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16_v_u8m2x4_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16_v_u8m4x2_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32_v_u8mf8x2_tumu(vbool64_t vm,
                                                vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32_v_u8mf8x3_tumu(vbool64_t vm,
                                                vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32_v_u8mf8x4_tumu(vbool64_t vm,
                                                vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32_v_u8mf8x5_tumu(vbool64_t vm,
                                                vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32_v_u8mf8x6_tumu(vbool64_t vm,
                                                vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
```

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vuint8mf8x7_t __riscv_vloxseg7ei32_v_u8mf8x7_tumu(vbool64_t vm,
                                                  vuint8mf8x7_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32_v_u8mf8x8_tumu(vbool64_t vm,
                                                  vuint8mf8x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32_v_u8mf4x2_tumu(vbool32_t vm,
                                                  vuint8mf4x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei32_v_u8mf4x3_tumu(vbool32_t vm,
                                                  vuint8mf4x3_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32_v_u8mf4x4_tumu(vbool32_t vm,
                                                  vuint8mf4x4_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei32_v_u8mf4x5_tumu(vbool32_t vm,
                                                  vuint8mf4x5_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32_v_u8mf4x6_tumu(vbool32_t vm,
                                                  vuint8mf4x6_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32_v_u8mf4x7_tumu(vbool32_t vm,
                                                  vuint8mf4x7_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32_v_u8mf4x8_tumu(vbool32_t vm,
                                                  vuint8mf4x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32_v_u8mf2x2_tumu(vbool16_t vm,
                                                  vuint8mf2x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32_v_u8mf2x3_tumu(vbool16_t vm,
                                                  vuint8mf2x3_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32_v_u8mf2x4_tumu(vbool16_t vm,
                                                  vuint8mf2x4_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32_v_u8mf2x5_tumu(vbool16_t vm,
                                                  vuint8mf2x5_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32_v_u8mf2x6_tumu(vbool16_t vm,
                                                  vuint8mf2x6_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei32_v_u8mf2x7_tumu(vbool16_t vm,
                                                  vuint8mf2x7_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32_v_u8mf2x8_tumu(vbool16_t vm,
                                                  vuint8mf2x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32_v_u8m1x2_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
```

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vuint8m1x3_t __riscv_vloxseg3ei32_v_u8m1x3_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32_v_u8m1x4_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32_v_u8m1x5_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei32_v_u8m1x6_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32_v_u8m1x7_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32_v_u8m1x8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32_v_u8m2x2_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32_v_u8m2x3_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32_v_u8m2x4_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64_v_u8mf8x2_tumu(vbool64_t vm,
                                                  vuint8mf8x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64_v_u8mf8x3_tumu(vbool64_t vm,
                                                  vuint8mf8x3_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64_v_u8mf8x4_tumu(vbool64_t vm,
                                                  vuint8mf8x4_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64_v_u8mf8x5_tumu(vbool64_t vm,
                                                  vuint8mf8x5_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64_v_u8mf8x6_tumu(vbool64_t vm,
                                                  vuint8mf8x6_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64_v_u8mf8x7_tumu(vbool64_t vm,
                                                  vuint8mf8x7_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei64_v_u8mf8x8_tumu(vbool64_t vm,
                                                  vuint8mf8x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei64_v_u8mf4x2_tumu(vbool32_t vm,
                                                  vuint8mf4x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64_v_u8mf4x3_tumu(vbool32_t vm,
                                                  vuint8mf4x3_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64_v_u8mf4x4_tumu(vbool32_t vm,
                                                  vuint8mf4x4_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
```

```
vuint8mf4x5_t __riscv_vloxseg5ei64_v_u8mf4x5_tumu(vbool32_t vm,
                                                  vuint8mf4x5_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64_v_u8mf4x6_tumu(vbool32_t vm,
                                                  vuint8mf4x6_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei64_v_u8mf4x7_tumu(vbool32_t vm,
                                                  vuint8mf4x7_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64_v_u8mf4x8_tumu(vbool32_t vm,
                                                  vuint8mf4x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64_v_u8mf2x2_tumu(vbool16_t vm,
                                                  vuint8mf2x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64_v_u8mf2x3_tumu(vbool16_t vm,
                                                  vuint8mf2x3_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64_v_u8mf2x4_tumu(vbool16_t vm,
                                                  vuint8mf2x4_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64_v_u8mf2x5_tumu(vbool16_t vm,
                                                  vuint8mf2x5_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64_v_u8mf2x6_tumu(vbool16_t vm,
                                                  vuint8mf2x6_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64_v_u8mf2x7_tumu(vbool16_t vm,
                                                  vuint8mf2x7_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64_v_u8mf2x8_tumu(vbool16_t vm,
                                                  vuint8mf2x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64_v_u8m1x2_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64_v_u8m1x3_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64_v_u8m1x4_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei64_v_u8m1x5_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64_v_u8m1x6_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64_v_u8m1x7_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64_v_u8m1x8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8_v_u16mf4x2_tumu(vbool64_t vm,
                                                   vuint16mf4x2_t vd,
```

```
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8_v_u16mf4x3_tumu(vbool64_t vm,
                                                vuint16mf4x3_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei8_v_u16mf4x4_tumu(vbool64_t vm,
                                                vuint16mf4x4_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8_v_u16mf4x5_tumu(vbool64_t vm,
                                                vuint16mf4x5_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8_v_u16mf4x6_tumu(vbool64_t vm,
                                                vuint16mf4x6_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8_v_u16mf4x7_tumu(vbool64_t vm,
                                                vuint16mf4x7_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8_v_u16mf4x8_tumu(vbool64_t vm,
                                                vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8_v_u16mf2x2_tumu(vbool32_t vm,
                                                vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8_v_u16mf2x3_tumu(vbool32_t vm,
                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8_v_u16mf2x4_tumu(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8_v_u16mf2x5_tumu(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8_v_u16mf2x6_tumu(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8_v_u16mf2x7_tumu(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8_v_u16mf2x8_tumu(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8_v_u16m1x2_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8_v_u16m1x3_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei8_v_u16m1x4_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8_v_u16m1x5_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei8_v_u16m1x6_tumu(vbool16_t vm, vuint16m1x6_t vd,
```

```
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8_v_u16m1x7_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8_v_u16m1x8_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8_v_u16m2x2_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8_v_u16m2x3_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8_v_u16m2x4_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8_v_u16m4x2_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16_v_u16mf4x2_tumu(vbool64_t vm,
                                                    vuint16mf4x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16_v_u16mf4x3_tumu(vbool64_t vm,
                                                    vuint16mf4x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei16_v_u16mf4x4_tumu(vbool64_t vm,
                                                    vuint16mf4x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16_v_u16mf4x5_tumu(vbool64_t vm,
                                                    vuint16mf4x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16_v_u16mf4x6_tumu(vbool64_t vm,
                                                    vuint16mf4x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16_v_u16mf4x7_tumu(vbool64_t vm,
                                                    vuint16mf4x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16_v_u16mf4x8_tumu(vbool64_t vm,
                                                    vuint16mf4x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16_v_u16mf2x2_tumu(vbool32_t vm,
                                                    vuint16mf2x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16_v_u16mf2x3_tumu(vbool32_t vm,
                                                    vuint16mf2x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16_v_u16mf2x4_tumu(vbool32_t vm,
                                                    vuint16mf2x4_t vd,
```

```
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2,
                                                  size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16_v_u16mf2x5_tumu(vbool32_t vm,
                                                  vuint16mf2x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2,
                                                  size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16_v_u16mf2x6_tumu(vbool32_t vm,
                                                  vuint16mf2x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2,
                                                  size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16_v_u16mf2x7_tumu(vbool32_t vm,
                                                  vuint16mf2x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2,
                                                  size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16_v_u16mf2x8_tumu(vbool32_t vm,
                                                  vuint16mf2x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2,
                                                  size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16_v_u16m1x2_tumu(vbool16_t vm,
                                                vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei16_v_u16m1x3_tumu(vbool16_t vm,
                                                vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16_v_u16m1x4_tumu(vbool16_t vm,
                                                vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16_v_u16m1x5_tumu(vbool16_t vm,
                                                vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16_v_u16m1x6_tumu(vbool16_t vm,
                                                vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16_v_u16m1x7_tumu(vbool16_t vm,
                                                vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei16_v_u16m1x8_tumu(vbool16_t vm,
                                                vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei16_v_u16m2x2_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16_v_u16m2x3_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16_v_u16m2x4_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei16_v_u16m4x2_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32_v_u16mf4x2_tumu(vbool64_t vm,
                                                  vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2,
```

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                                                    size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei32_v_u16mf4x3_tumu(vbool64_t vm,
                                                    vuint16mf4x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32_v_u16mf4x4_tumu(vbool64_t vm,
                                                    vuint16mf4x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32_v_u16mf4x5_tumu(vbool64_t vm,
                                                    vuint16mf4x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32_v_u16mf4x6_tumu(vbool64_t vm,
                                                    vuint16mf4x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32_v_u16mf4x7_tumu(vbool64_t vm,
                                                    vuint16mf4x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32_v_u16mf4x8_tumu(vbool64_t vm,
                                                    vuint16mf4x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32_v_u16mf2x2_tumu(vbool32_t vm,
                                                    vuint16mf2x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32_v_u16mf2x3_tumu(vbool32_t vm,
                                                    vuint16mf2x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32_v_u16mf2x4_tumu(vbool32_t vm,
                                                    vuint16mf2x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32_v_u16mf2x5_tumu(vbool32_t vm,
                                                    vuint16mf2x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32_v_u16mf2x6_tumu(vbool32_t vm,
                                                    vuint16mf2x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32_v_u16mf2x7_tumu(vbool32_t vm,
                                                    vuint16mf2x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei32_v_u16mf2x8_tumu(vbool32_t vm,
                                                    vuint16mf2x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32_v_u16m1x2_tumu(vbool16_t vm,
                                                  vuint16m1x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32_v_u16m1x3_tumu(vbool16_t vm,
                                                  vuint16m1x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
```

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vuint16m1x4_t __riscv_vloxseg4ei32_v_u16m1x4_tumu(vbool16_t vm,
                                                  vuint16m1x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32_v_u16m1x5_tumu(vbool16_t vm,
                                                  vuint16m1x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32_v_u16m1x6_tumu(vbool16_t vm,
                                                  vuint16m1x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei32_v_u16m1x7_tumu(vbool16_t vm,
                                                  vuint16m1x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32_v_u16m1x8_tumu(vbool16_t vm,
                                                  vuint16m1x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32_v_u16m2x2_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei32_v_u16m2x3_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32_v_u16m2x4_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32_v_u16m4x2_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64_v_u16mf4x2_tumu(vbool64_t vm,
                                                    vuint16mf4x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64_v_u16mf4x3_tumu(vbool64_t vm,
                                                    vuint16mf4x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64_v_u16mf4x4_tumu(vbool64_t vm,
                                                    vuint16mf4x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64_v_u16mf4x5_tumu(vbool64_t vm,
                                                    vuint16mf4x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64_v_u16mf4x6_tumu(vbool64_t vm,
                                                    vuint16mf4x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64_v_u16mf4x7_tumu(vbool64_t vm,
                                                    vuint16mf4x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64_v_u16mf4x8_tumu(vbool64_t vm,
                                                    vuint16mf4x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64_v_u16mf2x2_tumu(vbool32_t vm,
                                                    vuint16mf2x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei64_v_u16mf2x3_tumu(vbool32_t vm,
                                                    vuint16mf2x3_t vd,
                                                    const uint16_t *rs1,
```

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                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64_v_u16mf2x4_tumu(vbool32_t vm,
                                                    vuint16mf2x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei64_v_u16mf2x5_tumu(vbool32_t vm,
                                                    vuint16mf2x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64_v_u16mf2x6_tumu(vbool32_t vm,
                                                    vuint16mf2x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64_v_u16mf2x7_tumu(vbool32_t vm,
                                                    vuint16mf2x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64_v_u16mf2x8_tumu(vbool32_t vm,
                                                    vuint16mf2x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64_v_u16m1x2_tumu(vbool16_t vm,
                                                  vuint16m1x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64_v_u16m1x3_tumu(vbool16_t vm,
                                                  vuint16m1x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64_v_u16m1x4_tumu(vbool16_t vm,
                                                  vuint16m1x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64_v_u16m1x5_tumu(vbool16_t vm,
                                                  vuint16m1x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64_v_u16m1x6_tumu(vbool16_t vm,
                                                  vuint16m1x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei64_v_u16m1x7_tumu(vbool16_t vm,
                                                  vuint16m1x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei64_v_u16m1x8_tumu(vbool16_t vm,
                                                  vuint16m1x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64_v_u16m2x2_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64_v_u16m2x3_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64_v_u16m2x4_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8_v_u32mf2x2_tumu(vbool64_t vm,
                                                   vuint32mf2x2_t vd,
                                                   const uint32_t *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8_v_u32mf2x3_tumu(vbool64_t vm,
                                                   vuint32mf2x3_t vd,
                                                   const uint32_t *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8_v_u32mf2x4_tumu(vbool64_t vm,
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                                                vuint32mf2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8_v_u32mf2x5_tumu(vbool64_t vm,
                                                vuint32mf2x5_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8_v_u32mf2x6_tumu(vbool64_t vm,
                                                vuint32mf2x6_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8_v_u32mf2x7_tumu(vbool64_t vm,
                                                vuint32mf2x7_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8_v_u32mf2x8_tumu(vbool64_t vm,
                                                vuint32mf2x8_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8_v_u32m1x2_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8_v_u32m1x3_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8_v_u32m1x4_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8_v_u32m1x5_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8_v_u32m1x6_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8_v_u32m1x7_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei8_v_u32m1x8_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei8_v_u32m2x2_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8_v_u32m2x3_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei8_v_u32m2x4_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8_v_u32m4x2_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16_v_u32mf2x2_tumu(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2,
                                                  size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei16_v_u32mf2x3_tumu(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2,
                                                  size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16_v_u32mf2x4_tumu(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2,
                                                  size_t vl);
```

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vuint32mf2x5_t __riscv_vloxseg5ei16_v_u32mf2x5_tumu(vbool64_t vm,
                                                    vuint32mf2x5_t vd,
                                                    const uint32_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16_v_u32mf2x6_tumu(vbool64_t vm,
                                                    vuint32mf2x6_t vd,
                                                    const uint32_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16_v_u32mf2x7_tumu(vbool64_t vm,
                                                    vuint32mf2x7_t vd,
                                                    const uint32_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16_v_u32mf2x8_tumu(vbool64_t vm,
                                                    vuint32mf2x8_t vd,
                                                    const uint32_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16_v_u32m1x2_tumu(vbool32_t vm,
                                                  vuint32m1x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16_v_u32m1x3_tumu(vbool32_t vm,
                                                  vuint32m1x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16_v_u32m1x4_tumu(vbool32_t vm,
                                                  vuint32m1x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16_v_u32m1x5_tumu(vbool32_t vm,
                                                  vuint32m1x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16_v_u32m1x6_tumu(vbool32_t vm,
                                                  vuint32m1x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16_v_u32m1x7_tumu(vbool32_t vm,
                                                  vuint32m1x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei16_v_u32m1x8_tumu(vbool32_t vm,
                                                  vuint32m1x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16_v_u32m2x2_tumu(vbool16_t vm,
                                                  vuint32m2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16_v_u32m2x3_tumu(vbool16_t vm,
                                                  vuint32m2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16_v_u32m2x4_tumu(vbool16_t vm,
                                                  vuint32m2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16_v_u32m4x2_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei32_v_u32mf2x2_tumu(vbool64_t vm,
                                                    vuint32mf2x2_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
```

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                                                    size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei32_v_u32mf2x3_tumu(vbool64_t vm,
                                                    vuint32mf2x3_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei32_v_u32mf2x4_tumu(vbool64_t vm,
                                                    vuint32mf2x4_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32_v_u32mf2x5_tumu(vbool64_t vm,
                                                    vuint32mf2x5_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32_v_u32mf2x6_tumu(vbool64_t vm,
                                                    vuint32mf2x6_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32_v_u32mf2x7_tumu(vbool64_t vm,
                                                    vuint32mf2x7_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32_v_u32mf2x8_tumu(vbool64_t vm,
                                                    vuint32mf2x8_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32_v_u32m1x2_tumu(vbool32_t vm,
                                                  vuint32m1x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32_v_u32m1x3_tumu(vbool32_t vm,
                                                  vuint32m1x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32_v_u32m1x4_tumu(vbool32_t vm,
                                                  vuint32m1x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei32_v_u32m1x5_tumu(vbool32_t vm,
                                                  vuint32m1x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32_v_u32m1x6_tumu(vbool32_t vm,
                                                  vuint32m1x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32_v_u32m1x7_tumu(vbool32_t vm,
                                                  vuint32m1x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32_v_u32m1x8_tumu(vbool32_t vm,
                                                  vuint32m1x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32_v_u32m2x2_tumu(vbool16_t vm,
                                                  vuint32m2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei32_v_u32m2x3_tumu(vbool16_t vm,
                                                  vuint32m2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
```

```
vuint32m2x4_t __riscv_vloxseg4ei32_v_u32m2x4_tumu(vbool16_t vm,
                                                  vuint32m2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei32_v_u32m4x2_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64_v_u32mf2x2_tumu(vbool64_t vm,
                                                    vuint32mf2x2_t vd,
                                                    const uint32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64_v_u32mf2x3_tumu(vbool64_t vm,
                                                    vuint32mf2x3_t vd,
                                                    const uint32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64_v_u32mf2x4_tumu(vbool64_t vm,
                                                    vuint32mf2x4_t vd,
                                                    const uint32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64_v_u32mf2x5_tumu(vbool64_t vm,
                                                    vuint32mf2x5_t vd,
                                                    const uint32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64_v_u32mf2x6_tumu(vbool64_t vm,
                                                    vuint32mf2x6_t vd,
                                                    const uint32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64_v_u32mf2x7_tumu(vbool64_t vm,
                                                    vuint32mf2x7_t vd,
                                                    const uint32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64_v_u32mf2x8_tumu(vbool64_t vm,
                                                    vuint32mf2x8_t vd,
                                                    const uint32_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64_v_u32m1x2_tumu(vbool32_t vm,
                                                  vuint32m1x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei64_v_u32m1x3_tumu(vbool32_t vm,
                                                  vuint32m1x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64_v_u32m1x4_tumu(vbool32_t vm,
                                                  vuint32m1x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64_v_u32m1x5_tumu(vbool32_t vm,
                                                  vuint32m1x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64_v_u32m1x6_tumu(vbool32_t vm,
                                                  vuint32m1x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64_v_u32m1x7_tumu(vbool32_t vm,
                                                  vuint32m1x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64_v_u32m1x8_tumu(vbool32_t vm,
                                                  vuint32m1x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64_v_u32m2x2_tumu(vbool16_t vm,
                                                  vuint32m2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
```

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vuint32m2x3_t __riscv_vloxseg3ei64_v_u32m2x3_tumu(vbool16_t vm,
                                                  vuint32m2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64_v_u32m2x4_tumu(vbool16_t vm,
                                                  vuint32m2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64_v_u32m4x2_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8_v_u64m1x2_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8_v_u64m1x3_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                                 const uint64_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8_v_u64m1x4_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                                 const uint64_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8_v_u64m1x5_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                                 const uint64_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei8_v_u64m1x6_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                                 const uint64_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8_v_u64m1x7_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                                 const uint64_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8_v_u64m1x8_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                                 const uint64_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8_v_u64m2x2_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei8_v_u64m2x3_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                                 const uint64_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei8_v_u64m2x4_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                                 const uint64_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8_v_u64m4x2_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                                 const uint64_t *rs1,
                                                 vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16_v_u64m1x2_tumu(vbool64_t vm,
                                                  vuint64m1x2_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16_v_u64m1x3_tumu(vbool64_t vm,
                                                  vuint64m1x3_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16_v_u64m1x4_tumu(vbool64_t vm,
                                                  vuint64m1x4_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei16_v_u64m1x5_tumu(vbool64_t vm,
                                                  vuint64m1x5_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16_v_u64m1x6_tumu(vbool64_t vm,
                                                  vuint64m1x6_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16_v_u64m1x7_tumu(vbool64_t vm,
                                                  vuint64m1x7_t vd,
                                                  const uint64_t *rs1,
```

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                                                    vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16_v_u64m1x8_tumu(vbool64_t vm,
                                                    vuint64m1x8_t vd,
                                                    const uint64_t *rs1,
                                                    vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16_v_u64m2x2_tumu(vbool32_t vm,
                                                    vuint64m2x2_t vd,
                                                    const uint64_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16_v_u64m2x3_tumu(vbool32_t vm,
                                                    vuint64m2x3_t vd,
                                                    const uint64_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16_v_u64m2x4_tumu(vbool32_t vm,
                                                    vuint64m2x4_t vd,
                                                    const uint64_t *rs1,
                                                    vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16_v_u64m4x2_tumu(vbool16_t vm,
                                                    vuint64m4x2_t vd,
                                                    const uint64_t *rs1,
                                                    vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32_v_u64m1x2_tumu(vbool64_t vm,
                                                    vuint64m1x2_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei32_v_u64m1x3_tumu(vbool64_t vm,
                                                    vuint64m1x3_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32_v_u64m1x4_tumu(vbool64_t vm,
                                                    vuint64m1x4_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32_v_u64m1x5_tumu(vbool64_t vm,
                                                    vuint64m1x5_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei32_v_u64m1x6_tumu(vbool64_t vm,
                                                    vuint64m1x6_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32_v_u64m1x7_tumu(vbool64_t vm,
                                                    vuint64m1x7_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32_v_u64m1x8_tumu(vbool64_t vm,
                                                    vuint64m1x8_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei32_v_u64m2x2_tumu(vbool32_t vm,
                                                    vuint64m2x2_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32_v_u64m2x3_tumu(vbool32_t vm,
                                                    vuint64m2x3_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32_v_u64m2x4_tumu(vbool32_t vm,
                                                    vuint64m2x4_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei32_v_u64m4x2_tumu(vbool16_t vm,
                                                    vuint64m4x2_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64_v_u64m1x2_tumu(vbool64_t vm,
                                                    vuint64m1x2_t vd,
```

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                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64_v_u64m1x3_tumu(vbool64_t vm,
                                                vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64_v_u64m1x4_tumu(vbool64_t vm,
                                                vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64_v_u64m1x5_tumu(vbool64_t vm,
                                                vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64_v_u64m1x6_tumu(vbool64_t vm,
                                                vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64_v_u64m1x7_tumu(vbool64_t vm,
                                                vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64_v_u64m1x8_tumu(vbool64_t vm,
                                                vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64_v_u64m2x2_tumu(vbool32_t vm,
                                                vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64_v_u64m2x3_tumu(vbool32_t vm,
                                                vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64_v_u64m2x4_tumu(vbool32_t vm,
                                                vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64_v_u64m4x2_tumu(vbool16_t vm,
                                                vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8_v_u8mf8x2_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8_v_u8mf8x3_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei8_v_u8mf8x4_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8_v_u8mf8x5_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei8_v_u8mf8x6_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8_v_u8mf8x7_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8_v_u8mf8x8_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8_v_u8mf4x2_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8_v_u8mf4x3_tumu(vbool32_t vm, vuint8mf4x3_t vd,
```

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                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8_v_u8mf4x4_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8_v_u8mf4x5_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8_v_u8mf4x6_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8_v_u8mf4x7_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei8_v_u8mf4x8_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8_v_u8mf2x2_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8_v_u8mf2x3_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8_v_u8mf2x4_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8_v_u8mf2x5_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8_v_u8mf2x6_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8_v_u8mf2x7_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8_v_u8mf2x8_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8_v_u8m1x2_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8_v_u8m1x3_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8_v_u8m1x4_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8_v_u8m1x5_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8_v_u8m1x6_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8_v_u8m1x7_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei8_v_u8m1x8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                               const uint8_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8_v_u8m2x2_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                               const uint8_t *rs1,
                                               vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8_v_u8m2x3_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                               const uint8_t *rs1,
                                               vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8_v_u8m2x4_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                               const uint8_t *rs1,
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                                                vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei8_v_u8m4x2_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                               const uint8_t *rs1,
                                               vuint8m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei16_v_u8mf8x2_tumu(vbool64_t vm,
                                                  vuint8mf8x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16_v_u8mf8x3_tumu(vbool64_t vm,
                                                  vuint8mf8x3_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16_v_u8mf8x4_tumu(vbool64_t vm,
                                                  vuint8mf8x4_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16_v_u8mf8x5_tumu(vbool64_t vm,
                                                  vuint8mf8x5_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16_v_u8mf8x6_tumu(vbool64_t vm,
                                                  vuint8mf8x6_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16_v_u8mf8x7_tumu(vbool64_t vm,
                                                  vuint8mf8x7_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16_v_u8mf8x8_tumu(vbool64_t vm,
                                                  vuint8mf8x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16_v_u8mf4x2_tumu(vbool32_t vm,
                                                  vuint8mf4x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16_v_u8mf4x3_tumu(vbool32_t vm,
                                                  vuint8mf4x3_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16_v_u8mf4x4_tumu(vbool32_t vm,
                                                  vuint8mf4x4_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16_v_u8mf4x5_tumu(vbool32_t vm,
                                                  vuint8mf4x5_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16_v_u8mf4x6_tumu(vbool32_t vm,
                                                  vuint8mf4x6_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16_v_u8mf4x7_tumu(vbool32_t vm,
                                                  vuint8mf4x7_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16_v_u8mf4x8_tumu(vbool32_t vm,
                                                  vuint8mf4x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16_v_u8mf2x2_tumu(vbool16_t vm,
                                                  vuint8mf2x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16_v_u8mf2x3_tumu(vbool16_t vm,
                                                  vuint8mf2x3_t vd,
                                                  const uint8_t *rs1,
```

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                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16_v_u8mf2x4_tumu(vbool16_t vm,
                                                vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei16_v_u8mf2x5_tumu(vbool16_t vm,
                                                vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16_v_u8mf2x6_tumu(vbool16_t vm,
                                                vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16_v_u8mf2x7_tumu(vbool16_t vm,
                                                vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei16_v_u8mf2x8_tumu(vbool16_t vm,
                                                vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16_v_u8m1x2_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16_v_u8m1x3_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei16_v_u8m1x4_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16_v_u8m1x5_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16_v_u8m1x6_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16_v_u8m1x7_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16_v_u8m1x8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16_v_u8m2x2_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16_v_u8m2x3_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16_v_u8m2x4_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16_v_u8m4x2_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32_v_u8mf8x2_tumu(vbool64_t vm,
                                                vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32_v_u8mf8x3_tumu(vbool64_t vm,
                                                vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32_v_u8mf8x4_tumu(vbool64_t vm,
                                                vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32_v_u8mf8x5_tumu(vbool64_t vm,
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                                                vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32_v_u8mf8x6_tumu(vbool64_t vm,
                                                vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei32_v_u8mf8x7_tumu(vbool64_t vm,
                                                vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32_v_u8mf8x8_tumu(vbool64_t vm,
                                                vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei32_v_u8mf4x2_tumu(vbool32_t vm,
                                                vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32_v_u8mf4x3_tumu(vbool32_t vm,
                                                vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32_v_u8mf4x4_tumu(vbool32_t vm,
                                                vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei32_v_u8mf4x5_tumu(vbool32_t vm,
                                                vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei32_v_u8mf4x6_tumu(vbool32_t vm,
                                                vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei32_v_u8mf4x7_tumu(vbool32_t vm,
                                                vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei32_v_u8mf4x8_tumu(vbool32_t vm,
                                                vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32_v_u8mf2x2_tumu(vbool16_t vm,
                                                vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32_v_u8mf2x3_tumu(vbool16_t vm,
                                                vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei32_v_u8mf2x4_tumu(vbool16_t vm,
                                                vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32_v_u8mf2x5_tumu(vbool16_t vm,
                                                vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32_v_u8mf2x6_tumu(vbool16_t vm,
                                                vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei32_v_u8mf2x7_tumu(vbool16_t vm,
                                                vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
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vuint8mf2x8_t __riscv_vluxseg8ei32_v_u8mf2x8_tumu(vbool16_t vm,
                                                  vuint8mf2x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32_v_u8m1x2_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32_v_u8m1x3_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32_v_u8m1x4_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32_v_u8m1x5_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32_v_u8m1x6_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32_v_u8m1x7_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32_v_u8m1x8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32_v_u8m2x2_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32_v_u8m2x3_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei32_v_u8m2x4_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64_v_u8mf8x2_tumu(vbool64_t vm,
                                                  vuint8mf8x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64_v_u8mf8x3_tumu(vbool64_t vm,
                                                  vuint8mf8x3_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64_v_u8mf8x4_tumu(vbool64_t vm,
                                                  vuint8mf8x4_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei64_v_u8mf8x5_tumu(vbool64_t vm,
                                                  vuint8mf8x5_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei64_v_u8mf8x6_tumu(vbool64_t vm,
                                                  vuint8mf8x6_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64_v_u8mf8x7_tumu(vbool64_t vm,
                                                  vuint8mf8x7_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64_v_u8mf8x8_tumu(vbool64_t vm,
                                                  vuint8mf8x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64_v_u8mf4x2_tumu(vbool32_t vm,
                                                  vuint8mf4x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64_v_u8mf4x3_tumu(vbool32_t vm,
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                                                vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64_v_u8mf4x4_tumu(vbool32_t vm,
                                                vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64_v_u8mf4x5_tumu(vbool32_t vm,
                                                vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64_v_u8mf4x6_tumu(vbool32_t vm,
                                                vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64_v_u8mf4x7_tumu(vbool32_t vm,
                                                vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64_v_u8mf4x8_tumu(vbool32_t vm,
                                                vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64_v_u8mf2x2_tumu(vbool16_t vm,
                                                vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64_v_u8mf2x3_tumu(vbool16_t vm,
                                                vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64_v_u8mf2x4_tumu(vbool16_t vm,
                                                vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64_v_u8mf2x5_tumu(vbool16_t vm,
                                                vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64_v_u8mf2x6_tumu(vbool16_t vm,
                                                vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64_v_u8mf2x7_tumu(vbool16_t vm,
                                                vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64_v_u8mf2x8_tumu(vbool16_t vm,
                                                vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei64_v_u8m1x2_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64_v_u8m1x3_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64_v_u8m1x4_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei64_v_u8m1x5_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64_v_u8m1x6_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64_v_u8m1x7_tumu(vbool8_t vm, vuint8m1x7_t vd,
```

```
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei64_v_u8m1x8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8_v_u16mf4x2_tumu(vbool64_t vm,
                                                   vuint16mf4x2_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8_v_u16mf4x3_tumu(vbool64_t vm,
                                                   vuint16mf4x3_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8_v_u16mf4x4_tumu(vbool64_t vm,
                                                   vuint16mf4x4_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8_v_u16mf4x5_tumu(vbool64_t vm,
                                                   vuint16mf4x5_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei8_v_u16mf4x6_tumu(vbool64_t vm,
                                                   vuint16mf4x6_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei8_v_u16mf4x7_tumu(vbool64_t vm,
                                                   vuint16mf4x7_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8_v_u16mf4x8_tumu(vbool64_t vm,
                                                   vuint16mf4x8_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8_v_u16mf2x2_tumu(vbool32_t vm,
                                                   vuint16mf2x2_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8_v_u16mf2x3_tumu(vbool32_t vm,
                                                   vuint16mf2x3_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8_v_u16mf2x4_tumu(vbool32_t vm,
                                                   vuint16mf2x4_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8_v_u16mf2x5_tumu(vbool32_t vm,
                                                   vuint16mf2x5_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei8_v_u16mf2x6_tumu(vbool32_t vm,
                                                   vuint16mf2x6_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei8_v_u16mf2x7_tumu(vbool32_t vm,
                                                   vuint16mf2x7_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei8_v_u16mf2x8_tumu(vbool32_t vm,
                                                   vuint16mf2x8_t vd,
                                                   const uint16_t *rs1,
                                                   vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8_v_u16m1x2_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei8_v_u16m1x3_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf2_t rs2, size_t vl);
```

```
vuint16m1x4_t __riscv_vluxseg4ei8_v_u16m1x4_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei8_v_u16m1x5_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei8_v_u16m1x6_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei8_v_u16m1x7_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei8_v_u16m1x8_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei8_v_u16m2x2_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei8_v_u16m2x3_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8_v_u16m2x4_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei8_v_u16m4x2_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16_v_u16mf4x2_tumu(vbool64_t vm,
                                                    vuint16mf4x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16_v_u16mf4x3_tumu(vbool64_t vm,
                                                    vuint16mf4x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16_v_u16mf4x4_tumu(vbool64_t vm,
                                                    vuint16mf4x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei16_v_u16mf4x5_tumu(vbool64_t vm,
                                                    vuint16mf4x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei16_v_u16mf4x6_tumu(vbool64_t vm,
                                                    vuint16mf4x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei16_v_u16mf4x7_tumu(vbool64_t vm,
                                                    vuint16mf4x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei16_v_u16mf4x8_tumu(vbool64_t vm,
                                                    vuint16mf4x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei16_v_u16mf2x2_tumu(vbool32_t vm,
                                                    vuint16mf2x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
```

```
vuint16mf2x3_t __riscv_vluxseg3ei16_v_u16mf2x3_tumu(vbool32_t vm,
                                                    vuint16mf2x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei16_v_u16mf2x4_tumu(vbool32_t vm,
                                                    vuint16mf2x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei16_v_u16mf2x5_tumu(vbool32_t vm,
                                                    vuint16mf2x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei16_v_u16mf2x6_tumu(vbool32_t vm,
                                                    vuint16mf2x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei16_v_u16mf2x7_tumu(vbool32_t vm,
                                                    vuint16mf2x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei16_v_u16mf2x8_tumu(vbool32_t vm,
                                                    vuint16mf2x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint16mf2_t rs2,
                                                    size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16_v_u16m1x2_tumu(vbool16_t vm,
                                                  vuint16m1x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei16_v_u16m1x3_tumu(vbool16_t vm,
                                                  vuint16m1x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16_v_u16m1x4_tumu(vbool16_t vm,
                                                  vuint16m1x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei16_v_u16m1x5_tumu(vbool16_t vm,
                                                  vuint16m1x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei16_v_u16m1x6_tumu(vbool16_t vm,
                                                  vuint16m1x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16_v_u16m1x7_tumu(vbool16_t vm,
                                                  vuint16m1x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16_v_u16m1x8_tumu(vbool16_t vm,
                                                  vuint16m1x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16_v_u16m2x2_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16_v_u16m2x3_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei16_v_u16m2x4_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m2_t rs2, size_t vl);
```

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vuint16m4x2_t __riscv_vluxseg2ei16_v_u16m4x2_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32_v_u16mf4x2_tumu(vbool64_t vm,
                                                    vuint16mf4x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32_v_u16mf4x3_tumu(vbool64_t vm,
                                                    vuint16mf4x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32_v_u16mf4x4_tumu(vbool64_t vm,
                                                    vuint16mf4x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32_v_u16mf4x5_tumu(vbool64_t vm,
                                                    vuint16mf4x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32_v_u16mf4x6_tumu(vbool64_t vm,
                                                    vuint16mf4x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32_v_u16mf4x7_tumu(vbool64_t vm,
                                                    vuint16mf4x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32_v_u16mf4x8_tumu(vbool64_t vm,
                                                    vuint16mf4x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32_v_u16mf2x2_tumu(vbool32_t vm,
                                                    vuint16mf2x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32_v_u16mf2x3_tumu(vbool32_t vm,
                                                    vuint16mf2x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32_v_u16mf2x4_tumu(vbool32_t vm,
                                                    vuint16mf2x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei32_v_u16mf2x5_tumu(vbool32_t vm,
                                                    vuint16mf2x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32_v_u16mf2x6_tumu(vbool32_t vm,
                                                    vuint16mf2x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32_v_u16mf2x7_tumu(vbool32_t vm,
                                                    vuint16mf2x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32_v_u16mf2x8_tumu(vbool32_t vm,
                                                    vuint16mf2x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32_v_u16m1x2_tumu(vbool16_t vm,
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                                                vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32_v_u16m1x3_tumu(vbool16_t vm,
                                                vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei32_v_u16m1x4_tumu(vbool16_t vm,
                                                vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32_v_u16m1x5_tumu(vbool16_t vm,
                                                vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32_v_u16m1x6_tumu(vbool16_t vm,
                                                vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32_v_u16m1x7_tumu(vbool16_t vm,
                                                vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32_v_u16m1x8_tumu(vbool16_t vm,
                                                vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32_v_u16m2x2_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32_v_u16m2x3_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32_v_u16m2x4_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32_v_u16m4x2_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64_v_u16mf4x2_tumu(vbool64_t vm,
                                                  vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64_v_u16mf4x3_tumu(vbool64_t vm,
                                                  vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64_v_u16mf4x4_tumu(vbool64_t vm,
                                                  vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64_v_u16mf4x5_tumu(vbool64_t vm,
                                                  vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64_v_u16mf4x6_tumu(vbool64_t vm,
                                                  vuint16mf4x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei64_v_u16mf4x7_tumu(vbool64_t vm,
                                                  vuint16mf4x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64_v_u16mf4x8_tumu(vbool64_t vm,
                                                  vuint16mf4x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
```

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vuint16mf2x2_t __riscv_vluxseg2ei64_v_u16mf2x2_tumu(vbool32_t vm,
                                                    vuint16mf2x2_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64_v_u16mf2x3_tumu(vbool32_t vm,
                                                    vuint16mf2x3_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64_v_u16mf2x4_tumu(vbool32_t vm,
                                                    vuint16mf2x4_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64_v_u16mf2x5_tumu(vbool32_t vm,
                                                    vuint16mf2x5_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64_v_u16mf2x6_tumu(vbool32_t vm,
                                                    vuint16mf2x6_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei64_v_u16mf2x7_tumu(vbool32_t vm,
                                                    vuint16mf2x7_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64_v_u16mf2x8_tumu(vbool32_t vm,
                                                    vuint16mf2x8_t vd,
                                                    const uint16_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei64_v_u16m1x2_tumu(vbool16_t vm,
                                                  vuint16m1x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64_v_u16m1x3_tumu(vbool16_t vm,
                                                  vuint16m1x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei64_v_u16m1x4_tumu(vbool16_t vm,
                                                  vuint16m1x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64_v_u16m1x5_tumu(vbool16_t vm,
                                                  vuint16m1x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64_v_u16m1x6_tumu(vbool16_t vm,
                                                  vuint16m1x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64_v_u16m1x7_tumu(vbool16_t vm,
                                                  vuint16m1x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64_v_u16m1x8_tumu(vbool16_t vm,
                                                  vuint16m1x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64_v_u16m2x2_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64_v_u16m2x3_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64_v_u16m2x4_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8_v_u32mf2x2_tumu(vbool64_t vm,
                                                   vuint32mf2x2_t vd,
```

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                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8_v_u32mf2x3_tumu(vbool64_t vm,
                                                vuint32mf2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8_v_u32mf2x4_tumu(vbool64_t vm,
                                                vuint32mf2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8_v_u32mf2x5_tumu(vbool64_t vm,
                                                vuint32mf2x5_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8_v_u32mf2x6_tumu(vbool64_t vm,
                                                vuint32mf2x6_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8_v_u32mf2x7_tumu(vbool64_t vm,
                                                vuint32mf2x7_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8_v_u32mf2x8_tumu(vbool64_t vm,
                                                vuint32mf2x8_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8_v_u32m1x2_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8_v_u32m1x3_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8_v_u32m1x4_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei8_v_u32m1x5_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei8_v_u32m1x6_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8_v_u32m1x7_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8_v_u32m1x8_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8_v_u32m2x2_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8_v_u32m2x3_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8_v_u32m2x4_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8_v_u32m4x2_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16_v_u32mf2x2_tumu(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2,
                                                  size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16_v_u32mf2x3_tumu(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
```

```
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16_v_u32mf2x4_tumu(vbool64_t vm,
                                                    vuint32mf2x4_t vd,
                                                    const uint32_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16_v_u32mf2x5_tumu(vbool64_t vm,
                                                    vuint32mf2x5_t vd,
                                                    const uint32_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16_v_u32mf2x6_tumu(vbool64_t vm,
                                                    vuint32mf2x6_t vd,
                                                    const uint32_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16_v_u32mf2x7_tumu(vbool64_t vm,
                                                    vuint32mf2x7_t vd,
                                                    const uint32_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16_v_u32mf2x8_tumu(vbool64_t vm,
                                                    vuint32mf2x8_t vd,
                                                    const uint32_t *rs1,
                                                    vuint16mf4_t rs2,
                                                    size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16_v_u32m1x2_tumu(vbool32_t vm,
                                                  vuint32m1x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16_v_u32m1x3_tumu(vbool32_t vm,
                                                  vuint32m1x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16_v_u32m1x4_tumu(vbool32_t vm,
                                                  vuint32m1x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei16_v_u32m1x5_tumu(vbool32_t vm,
                                                  vuint32m1x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16_v_u32m1x6_tumu(vbool32_t vm,
                                                  vuint32m1x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei16_v_u32m1x7_tumu(vbool32_t vm,
                                                  vuint32m1x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16_v_u32m1x8_tumu(vbool32_t vm,
                                                  vuint32m1x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16_v_u32m2x2_tumu(vbool16_t vm,
                                                  vuint32m2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16_v_u32m2x3_tumu(vbool16_t vm,
                                                  vuint32m2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei16_v_u32m2x4_tumu(vbool16_t vm,
                                                  vuint32m2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
```

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vuint32m4x2_t __riscv_vluxseg2ei16_v_u32m4x2_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32_v_u32mf2x2_tumu(vbool64_t vm,
                                                    vuint32mf2x2_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32_v_u32mf2x3_tumu(vbool64_t vm,
                                                    vuint32mf2x3_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32_v_u32mf2x4_tumu(vbool64_t vm,
                                                    vuint32mf2x4_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32_v_u32mf2x5_tumu(vbool64_t vm,
                                                    vuint32mf2x5_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32_v_u32mf2x6_tumu(vbool64_t vm,
                                                    vuint32mf2x6_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32_v_u32mf2x7_tumu(vbool64_t vm,
                                                    vuint32mf2x7_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32_v_u32mf2x8_tumu(vbool64_t vm,
                                                    vuint32mf2x8_t vd,
                                                    const uint32_t *rs1,
                                                    vuint32mf2_t rs2,
                                                    size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32_v_u32m1x2_tumu(vbool32_t vm,
                                                  vuint32m1x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32_v_u32m1x3_tumu(vbool32_t vm,
                                                  vuint32m1x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32_v_u32m1x4_tumu(vbool32_t vm,
                                                  vuint32m1x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32_v_u32m1x5_tumu(vbool32_t vm,
                                                  vuint32m1x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32_v_u32m1x6_tumu(vbool32_t vm,
                                                  vuint32m1x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei32_v_u32m1x7_tumu(vbool32_t vm,
                                                  vuint32m1x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32_v_u32m1x8_tumu(vbool32_t vm,
                                                  vuint32m1x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei32_v_u32m2x2_tumu(vbool16_t vm,
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                                                vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32_v_u32m2x3_tumu(vbool16_t vm,
                                                vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32_v_u32m2x4_tumu(vbool16_t vm,
                                                vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32_v_u32m4x2_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64_v_u32mf2x2_tumu(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei64_v_u32mf2x3_tumu(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64_v_u32mf2x4_tumu(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64_v_u32mf2x5_tumu(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64_v_u32mf2x6_tumu(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei64_v_u32mf2x7_tumu(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64_v_u32mf2x8_tumu(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64_v_u32m1x2_tumu(vbool32_t vm,
                                                vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64_v_u32m1x3_tumu(vbool32_t vm,
                                                vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64_v_u32m1x4_tumu(vbool32_t vm,
                                                vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei64_v_u32m1x5_tumu(vbool32_t vm,
                                                vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64_v_u32m1x6_tumu(vbool32_t vm,
                                                vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei64_v_u32m1x7_tumu(vbool32_t vm,
                                                vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei64_v_u32m1x8_tumu(vbool32_t vm,
```

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                                                vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64_v_u32m2x2_tumu(vbool16_t vm,
                                                vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64_v_u32m2x3_tumu(vbool16_t vm,
                                                vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei64_v_u32m2x4_tumu(vbool16_t vm,
                                                vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64_v_u32m4x2_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8_v_u64m1x2_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8_v_u64m1x3_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8_v_u64m1x4_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8_v_u64m1x5_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8_v_u64m1x6_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei8_v_u64m1x7_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei8_v_u64m1x8_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8_v_u64m2x2_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8_v_u64m2x3_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei8_v_u64m2x4_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8_v_u64m4x2_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16_v_u64m1x2_tumu(vbool64_t vm,
                                                vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16_v_u64m1x3_tumu(vbool64_t vm,
                                                vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16_v_u64m1x4_tumu(vbool64_t vm,
                                                vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16_v_u64m1x5_tumu(vbool64_t vm,
                                                vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
```

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vuint64m1x6_t __riscv_vluxseg6ei16_v_u64m1x6_tumu(vbool64_t vm,
                                                  vuint64m1x6_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16_v_u64m1x7_tumu(vbool64_t vm,
                                                  vuint64m1x7_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16_v_u64m1x8_tumu(vbool64_t vm,
                                                  vuint64m1x8_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16_v_u64m2x2_tumu(vbool32_t vm,
                                                  vuint64m2x2_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16_v_u64m2x3_tumu(vbool32_t vm,
                                                  vuint64m2x3_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16_v_u64m2x4_tumu(vbool32_t vm,
                                                  vuint64m2x4_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16_v_u64m4x2_tumu(vbool16_t vm,
                                                  vuint64m4x2_t vd,
                                                  const uint64_t *rs1,
                                                  vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32_v_u64m1x2_tumu(vbool64_t vm,
                                                  vuint64m1x2_t vd,
                                                  const uint64_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei32_v_u64m1x3_tumu(vbool64_t vm,
                                                  vuint64m1x3_t vd,
                                                  const uint64_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32_v_u64m1x4_tumu(vbool64_t vm,
                                                  vuint64m1x4_t vd,
                                                  const uint64_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32_v_u64m1x5_tumu(vbool64_t vm,
                                                  vuint64m1x5_t vd,
                                                  const uint64_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32_v_u64m1x6_tumu(vbool64_t vm,
                                                  vuint64m1x6_t vd,
                                                  const uint64_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32_v_u64m1x7_tumu(vbool64_t vm,
                                                  vuint64m1x7_t vd,
                                                  const uint64_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32_v_u64m1x8_tumu(vbool64_t vm,
                                                  vuint64m1x8_t vd,
                                                  const uint64_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei32_v_u64m2x2_tumu(vbool32_t vm,
                                                  vuint64m2x2_t vd,
                                                  const uint64_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32_v_u64m2x3_tumu(vbool32_t vm,
                                                  vuint64m2x3_t vd,
                                                  const uint64_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32_v_u64m2x4_tumu(vbool32_t vm,
                                                  vuint64m2x4_t vd,
                                                  const uint64_t *rs1,
```

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                                                    vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei32_v_u64m4x2_tumu(vbool16_t vm,
                                                    vuint64m4x2_t vd,
                                                    const uint64_t *rs1,
                                                    vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64_v_u64m1x2_tumu(vbool64_t vm,
                                                    vuint64m1x2_t vd,
                                                    const uint64_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64_v_u64m1x3_tumu(vbool64_t vm,
                                                    vuint64m1x3_t vd,
                                                    const uint64_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64_v_u64m1x4_tumu(vbool64_t vm,
                                                    vuint64m1x4_t vd,
                                                    const uint64_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64_v_u64m1x5_tumu(vbool64_t vm,
                                                    vuint64m1x5_t vd,
                                                    const uint64_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64_v_u64m1x6_tumu(vbool64_t vm,
                                                    vuint64m1x6_t vd,
                                                    const uint64_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64_v_u64m1x7_tumu(vbool64_t vm,
                                                    vuint64m1x7_t vd,
                                                    const uint64_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64_v_u64m1x8_tumu(vbool64_t vm,
                                                    vuint64m1x8_t vd,
                                                    const uint64_t *rs1,
                                                    vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei64_v_u64m2x2_tumu(vbool32_t vm,
                                                    vuint64m2x2_t vd,
                                                    const uint64_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64_v_u64m2x3_tumu(vbool32_t vm,
                                                    vuint64m2x3_t vd,
                                                    const uint64_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64_v_u64m2x4_tumu(vbool32_t vm,
                                                    vuint64m2x4_t vd,
                                                    const uint64_t *rs1,
                                                    vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei64_v_u64m4x2_tumu(vbool16_t vm,
                                                    vuint64m4x2_t vd,
                                                    const uint64_t *rs1,
                                                    vuint64m4_t rs2, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vloxseg2ei8_v_f16mf4x2_mu(vbool64_t vm,
                                                    vfloat16mf4x2_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei8_v_f16mf4x3_mu(vbool64_t vm,
                                                    vfloat16mf4x3_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei8_v_f16mf4x4_mu(vbool64_t vm,
                                                    vfloat16mf4x4_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8_v_f16mf4x5_mu(vbool64_t vm,
                                                    vfloat16mf4x5_t vd,
                                                    const _Float16 *rs1,
                                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8_v_f16mf4x6_mu(vbool64_t vm,
```

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                                                vfloat16mf4x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8_v_f16mf4x7_mu(vbool64_t vm,
                                                vfloat16mf4x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8_v_f16mf4x8_mu(vbool64_t vm,
                                                vfloat16mf4x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8_v_f16mf2x2_mu(vbool32_t vm,
                                                vfloat16mf2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8_v_f16mf2x3_mu(vbool32_t vm,
                                                vfloat16mf2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8_v_f16mf2x4_mu(vbool32_t vm,
                                                vfloat16mf2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8_v_f16mf2x5_mu(vbool32_t vm,
                                                vfloat16mf2x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8_v_f16mf2x6_mu(vbool32_t vm,
                                                vfloat16mf2x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8_v_f16mf2x7_mu(vbool32_t vm,
                                                vfloat16mf2x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8_v_f16mf2x8_mu(vbool32_t vm,
                                                vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8_v_f16m1x2_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8_v_f16m1x3_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8_v_f16m1x4_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8_v_f16m1x5_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8_v_f16m1x6_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei8_v_f16m1x7_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8_v_f16m1x8_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8_v_f16m2x2_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8_v_f16m2x3_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8_v_f16m2x4_mu(vbool8_t vm, vfloat16m2x4_t vd,
```

```
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8_v_f16m4x2_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16_v_f16mf4x2_mu(vbool64_t vm,
                                                   vfloat16mf4x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16_v_f16mf4x3_mu(vbool64_t vm,
                                                   vfloat16mf4x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16_v_f16mf4x4_mu(vbool64_t vm,
                                                   vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16_v_f16mf4x5_mu(vbool64_t vm,
                                                   vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16_v_f16mf4x6_mu(vbool64_t vm,
                                                   vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16_v_f16mf4x7_mu(vbool64_t vm,
                                                   vfloat16mf4x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16_v_f16mf4x8_mu(vbool64_t vm,
                                                   vfloat16mf4x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16_v_f16mf2x2_mu(vbool32_t vm,
                                                   vfloat16mf2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16_v_f16mf2x3_mu(vbool32_t vm,
                                                   vfloat16mf2x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16_v_f16mf2x4_mu(vbool32_t vm,
                                                   vfloat16mf2x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16_v_f16mf2x5_mu(vbool32_t vm,
                                                   vfloat16mf2x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei16_v_f16mf2x6_mu(vbool32_t vm,
                                                   vfloat16mf2x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16_v_f16mf2x7_mu(vbool32_t vm,
                                                   vfloat16mf2x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16_v_f16mf2x8_mu(vbool32_t vm,
                                                   vfloat16mf2x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei16_v_f16m1x2_mu(vbool16_t vm,
                                                 vfloat16m1x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16_v_f16m1x3_mu(vbool16_t vm,
                                                 vfloat16m1x3_t vd,
```

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                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei16_v_f16m1x4_mu(vbool16_t vm,
                                                vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16_v_f16m1x5_mu(vbool16_t vm,
                                                vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16_v_f16m1x6_mu(vbool16_t vm,
                                                vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16_v_f16m1x7_mu(vbool16_t vm,
                                                vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16_v_f16m1x8_mu(vbool16_t vm,
                                                vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16_v_f16m2x2_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16_v_f16m2x3_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16_v_f16m2x4_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16_v_f16m4x2_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei32_v_f16mf4x2_mu(vbool64_t vm,
                                                  vfloat16mf4x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32_v_f16mf4x3_mu(vbool64_t vm,
                                                  vfloat16mf4x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32_v_f16mf4x4_mu(vbool64_t vm,
                                                  vfloat16mf4x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32_v_f16mf4x5_mu(vbool64_t vm,
                                                  vfloat16mf4x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32_v_f16mf4x6_mu(vbool64_t vm,
                                                  vfloat16mf4x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32_v_f16mf4x7_mu(vbool64_t vm,
                                                  vfloat16mf4x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32_v_f16mf4x8_mu(vbool64_t vm,
                                                  vfloat16mf4x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32_v_f16mf2x2_mu(vbool32_t vm,
                                                  vfloat16mf2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32_v_f16mf2x3_mu(vbool32_t vm,
```

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                                                vfloat16mf2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32_v_f16mf2x4_mu(vbool32_t vm,
                                                vfloat16mf2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32_v_f16mf2x5_mu(vbool32_t vm,
                                                vfloat16mf2x5_t vd,
                                                const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32_v_f16mf2x6_mu(vbool32_t vm,
                                                vfloat16mf2x6_t vd,
                                                const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32_v_f16mf2x7_mu(vbool32_t vm,
                                                vfloat16mf2x7_t vd,
                                                const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32_v_f16mf2x8_mu(vbool32_t vm,
                                                vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32_v_f16m1x2_mu(vbool16_t vm,
                                                vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32_v_f16m1x3_mu(vbool16_t vm,
                                                vfloat16m1x3_t vd,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei32_v_f16m1x4_mu(vbool16_t vm,
                                                vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32_v_f16m1x5_mu(vbool16_t vm,
                                                vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei32_v_f16m1x6_mu(vbool16_t vm,
                                                vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei32_v_f16m1x7_mu(vbool16_t vm,
                                                vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32_v_f16m1x8_mu(vbool16_t vm,
                                                vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32_v_f16m2x2_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32_v_f16m2x3_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32_v_f16m2x4_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32_v_f16m4x2_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64_v_f16mf4x2_mu(vbool64_t vm,
                                                vfloat16mf4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint64m1_t rs2, size_t vl);
```

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vfloat16mf4x3_t __riscv_vloxseg3ei64_v_f16mf4x3_mu(vbool64_t vm,
                                                   vfloat16mf4x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64_v_f16mf4x4_mu(vbool64_t vm,
                                                   vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64_v_f16mf4x5_mu(vbool64_t vm,
                                                   vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64_v_f16mf4x6_mu(vbool64_t vm,
                                                   vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64_v_f16mf4x7_mu(vbool64_t vm,
                                                   vfloat16mf4x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64_v_f16mf4x8_mu(vbool64_t vm,
                                                   vfloat16mf4x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64_v_f16mf2x2_mu(vbool32_t vm,
                                                   vfloat16mf2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64_v_f16mf2x3_mu(vbool32_t vm,
                                                   vfloat16mf2x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64_v_f16mf2x4_mu(vbool32_t vm,
                                                   vfloat16mf2x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64_v_f16mf2x5_mu(vbool32_t vm,
                                                   vfloat16mf2x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei64_v_f16mf2x6_mu(vbool32_t vm,
                                                   vfloat16mf2x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64_v_f16mf2x7_mu(vbool32_t vm,
                                                   vfloat16mf2x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64_v_f16mf2x8_mu(vbool32_t vm,
                                                   vfloat16mf2x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64_v_f16m1x2_mu(vbool16_t vm,
                                                 vfloat16m1x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64_v_f16m1x3_mu(vbool16_t vm,
                                                 vfloat16m1x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei64_v_f16m1x4_mu(vbool16_t vm,
                                                 vfloat16m1x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64_v_f16m1x5_mu(vbool16_t vm,
                                                 vfloat16m1x5_t vd,
                                                 const _Float16 *rs1,
```

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                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64_v_f16m1x6_mu(vbool16_t vm,
                                                vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64_v_f16m1x7_mu(vbool16_t vm,
                                                vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64_v_f16m1x8_mu(vbool16_t vm,
                                                vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64_v_f16m2x2_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64_v_f16m2x3_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64_v_f16m2x4_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8_v_f32mf2x2_mu(vbool64_t vm,
                                                 vfloat32mf2x2_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8_v_f32mf2x3_mu(vbool64_t vm,
                                                 vfloat32mf2x3_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8_v_f32mf2x4_mu(vbool64_t vm,
                                                 vfloat32mf2x4_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8_v_f32mf2x5_mu(vbool64_t vm,
                                                 vfloat32mf2x5_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei8_v_f32mf2x6_mu(vbool64_t vm,
                                                 vfloat32mf2x6_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8_v_f32mf2x7_mu(vbool64_t vm,
                                                 vfloat32mf2x7_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8_v_f32mf2x8_mu(vbool64_t vm,
                                                 vfloat32mf2x8_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei8_v_f32m1x2_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8_v_f32m1x3_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei8_v_f32m1x4_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8_v_f32m1x5_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8_v_f32m1x6_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8_v_f32m1x7_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                               const float *rs1,
```

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                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8_v_f32m1x8_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8_v_f32m2x2_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8_v_f32m2x3_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8_v_f32m2x4_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8_v_f32m4x2_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei16_v_f32mf2x2_mu(vbool64_t vm,
                                                   vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16_v_f32mf2x3_mu(vbool64_t vm,
                                                   vfloat32mf2x3_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16_v_f32mf2x4_mu(vbool64_t vm,
                                                   vfloat32mf2x4_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16_v_f32mf2x5_mu(vbool64_t vm,
                                                   vfloat32mf2x5_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16_v_f32mf2x6_mu(vbool64_t vm,
                                                   vfloat32mf2x6_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16_v_f32mf2x7_mu(vbool64_t vm,
                                                   vfloat32mf2x7_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16_v_f32mf2x8_mu(vbool64_t vm,
                                                   vfloat32mf2x8_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16_v_f32m1x2_mu(vbool32_t vm,
                                                 vfloat32m1x2_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16_v_f32m1x3_mu(vbool32_t vm,
                                                 vfloat32m1x3_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16_v_f32m1x4_mu(vbool32_t vm,
                                                 vfloat32m1x4_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16_v_f32m1x5_mu(vbool32_t vm,
                                                 vfloat32m1x5_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16_v_f32m1x6_mu(vbool32_t vm,
                                                 vfloat32m1x6_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16_v_f32m1x7_mu(vbool32_t vm,
                                                 vfloat32m1x7_t vd,
                                                 const float *rs1,
```

```
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16_v_f32m1x8_mu(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16_v_f32m2x2_mu(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16_v_f32m2x3_mu(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei16_v_f32m2x4_mu(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16_v_f32m4x2_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei32_v_f32mf2x2_mu(vbool64_t vm,
                                                  vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei32_v_f32mf2x3_mu(vbool64_t vm,
                                                  vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei32_v_f32mf2x4_mu(vbool64_t vm,
                                                  vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32_v_f32mf2x5_mu(vbool64_t vm,
                                                  vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32_v_f32mf2x6_mu(vbool64_t vm,
                                                  vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32_v_f32mf2x7_mu(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32_v_f32mf2x8_mu(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32_v_f32m1x2_mu(vbool32_t vm,
                                                vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32_v_f32m1x3_mu(vbool32_t vm,
                                                vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32_v_f32m1x4_mu(vbool32_t vm,
                                                vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32_v_f32m1x5_mu(vbool32_t vm,
                                                vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32_v_f32m1x6_mu(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
```

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                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei32_v_f32m1x7_mu(vbool32_t vm,
                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32_v_f32m1x8_mu(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32_v_f32m2x2_mu(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32_v_f32m2x3_mu(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32_v_f32m2x4_mu(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32_v_f32m4x2_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei64_v_f32mf2x2_mu(vbool64_t vm,
                                                  vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64_v_f32mf2x3_mu(vbool64_t vm,
                                                  vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64_v_f32mf2x4_mu(vbool64_t vm,
                                                  vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64_v_f32mf2x5_mu(vbool64_t vm,
                                                  vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64_v_f32mf2x6_mu(vbool64_t vm,
                                                  vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64_v_f32mf2x7_mu(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64_v_f32mf2x8_mu(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64_v_f32m1x2_mu(vbool32_t vm,
                                                vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64_v_f32m1x3_mu(vbool32_t vm,
                                                vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64_v_f32m1x4_mu(vbool32_t vm,
                                                vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64_v_f32m1x5_mu(vbool32_t vm,
                                                vfloat32m1x5_t vd,
                                                const float *rs1,
```

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                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64_v_f32m1x6_mu(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64_v_f32m1x7_mu(vbool32_t vm,
                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64_v_f32m1x8_mu(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64_v_f32m2x2_mu(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64_v_f32m2x3_mu(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64_v_f32m2x4_mu(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64_v_f32m4x2_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8_v_f64m1x2_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8_v_f64m1x3_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei8_v_f64m1x4_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8_v_f64m1x5_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei8_v_f64m1x6_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8_v_f64m1x7_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei8_v_f64m1x8_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8_v_f64m2x2_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8_v_f64m2x3_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8_v_f64m2x4_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8_v_f64m4x2_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                               const double *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei16_v_f64m1x2_mu(vbool64_t vm,
                                                vfloat64m1x2_t vd,
                                                const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16_v_f64m1x3_mu(vbool64_t vm,
                                                vfloat64m1x3_t vd,
```

```
                                                const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei16_v_f64m1x4_mu(vbool64_t vm,
                                                vfloat64m1x4_t vd,
                                                const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16_v_f64m1x5_mu(vbool64_t vm,
                                                vfloat64m1x5_t vd,
                                                const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16_v_f64m1x6_mu(vbool64_t vm,
                                                vfloat64m1x6_t vd,
                                                const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16_v_f64m1x7_mu(vbool64_t vm,
                                                vfloat64m1x7_t vd,
                                                const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16_v_f64m1x8_mu(vbool64_t vm,
                                                vfloat64m1x8_t vd,
                                                const double *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16_v_f64m2x2_mu(vbool32_t vm,
                                                vfloat64m2x2_t vd,
                                                const double *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16_v_f64m2x3_mu(vbool32_t vm,
                                                vfloat64m2x3_t vd,
                                                const double *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16_v_f64m2x4_mu(vbool32_t vm,
                                                vfloat64m2x4_t vd,
                                                const double *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16_v_f64m4x2_mu(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32_v_f64m1x2_mu(vbool64_t vm,
                                                vfloat64m1x2_t vd,
                                                const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32_v_f64m1x3_mu(vbool64_t vm,
                                                vfloat64m1x3_t vd,
                                                const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32_v_f64m1x4_mu(vbool64_t vm,
                                                vfloat64m1x4_t vd,
                                                const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32_v_f64m1x5_mu(vbool64_t vm,
                                                vfloat64m1x5_t vd,
                                                const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32_v_f64m1x6_mu(vbool64_t vm,
                                                vfloat64m1x6_t vd,
                                                const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32_v_f64m1x7_mu(vbool64_t vm,
                                                vfloat64m1x7_t vd,
                                                const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32_v_f64m1x8_mu(vbool64_t vm,
                                                vfloat64m1x8_t vd,
                                                const double *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei32_v_f64m2x2_mu(vbool32_t vm,
```

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                                                vfloat64m2x2_t vd,
                                                const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32_v_f64m2x3_mu(vbool32_t vm,
                                                vfloat64m2x3_t vd,
                                                const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei32_v_f64m2x4_mu(vbool32_t vm,
                                                vfloat64m2x4_t vd,
                                                const double *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei32_v_f64m4x2_mu(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei64_v_f64m1x2_mu(vbool64_t vm,
                                                vfloat64m1x2_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64_v_f64m1x3_mu(vbool64_t vm,
                                                vfloat64m1x3_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64_v_f64m1x4_mu(vbool64_t vm,
                                                vfloat64m1x4_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64_v_f64m1x5_mu(vbool64_t vm,
                                                vfloat64m1x5_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64_v_f64m1x6_mu(vbool64_t vm,
                                                vfloat64m1x6_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64_v_f64m1x7_mu(vbool64_t vm,
                                                vfloat64m1x7_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64_v_f64m1x8_mu(vbool64_t vm,
                                                vfloat64m1x8_t vd,
                                                const double *rs1,
                                                vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64_v_f64m2x2_mu(vbool32_t vm,
                                                vfloat64m2x2_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64_v_f64m2x3_mu(vbool32_t vm,
                                                vfloat64m2x3_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64_v_f64m2x4_mu(vbool32_t vm,
                                                vfloat64m2x4_t vd,
                                                const double *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64_v_f64m4x2_mu(vbool16_t vm,
                                                vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8_v_f16mf4x2_mu(vbool64_t vm,
                                                 vfloat16mf4x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8_v_f16mf4x3_mu(vbool64_t vm,
                                                 vfloat16mf4x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
```

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vfloat16mf4x4_t __riscv_vluxseg4ei8_v_f16mf4x4_mu(vbool64_t vm,
                                                  vfloat16mf4x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8_v_f16mf4x5_mu(vbool64_t vm,
                                                  vfloat16mf4x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8_v_f16mf4x6_mu(vbool64_t vm,
                                                  vfloat16mf4x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei8_v_f16mf4x7_mu(vbool64_t vm,
                                                  vfloat16mf4x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8_v_f16mf4x8_mu(vbool64_t vm,
                                                  vfloat16mf4x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8_v_f16mf2x2_mu(vbool32_t vm,
                                                  vfloat16mf2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8_v_f16mf2x3_mu(vbool32_t vm,
                                                  vfloat16mf2x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8_v_f16mf2x4_mu(vbool32_t vm,
                                                  vfloat16mf2x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8_v_f16mf2x5_mu(vbool32_t vm,
                                                  vfloat16mf2x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8_v_f16mf2x6_mu(vbool32_t vm,
                                                  vfloat16mf2x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8_v_f16mf2x7_mu(vbool32_t vm,
                                                  vfloat16mf2x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8_v_f16mf2x8_mu(vbool32_t vm,
                                                  vfloat16mf2x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8_v_f16m1x2_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8_v_f16m1x3_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8_v_f16m1x4_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8_v_f16m1x5_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8_v_f16m1x6_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8_v_f16m1x7_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8_v_f16m1x8_mu(vbool16_t vm, vfloat16m1x8_t vd,
```

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                                                const _Float16 *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8_v_f16m2x2_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8_v_f16m2x3_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8_v_f16m2x4_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8_v_f16m4x2_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei16_v_f16mf4x2_mu(vbool64_t vm,
                                                   vfloat16mf4x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16_v_f16mf4x3_mu(vbool64_t vm,
                                                   vfloat16mf4x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei16_v_f16mf4x4_mu(vbool64_t vm,
                                                   vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16_v_f16mf4x5_mu(vbool64_t vm,
                                                   vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16_v_f16mf4x6_mu(vbool64_t vm,
                                                   vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16_v_f16mf4x7_mu(vbool64_t vm,
                                                   vfloat16mf4x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16_v_f16mf4x8_mu(vbool64_t vm,
                                                   vfloat16mf4x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16_v_f16mf2x2_mu(vbool32_t vm,
                                                   vfloat16mf2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei16_v_f16mf2x3_mu(vbool32_t vm,
                                                   vfloat16mf2x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16_v_f16mf2x4_mu(vbool32_t vm,
                                                   vfloat16mf2x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16_v_f16mf2x5_mu(vbool32_t vm,
                                                   vfloat16mf2x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei16_v_f16mf2x6_mu(vbool32_t vm,
                                                   vfloat16mf2x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16_v_f16mf2x7_mu(vbool32_t vm,
                                                   vfloat16mf2x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16_v_f16mf2x8_mu(vbool32_t vm,
```

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                                                vfloat16mf2x8_t vd,
                                                const _Float16 *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16_v_f16m1x2_mu(vbool16_t vm,
                                                 vfloat16m1x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16_v_f16m1x3_mu(vbool16_t vm,
                                                 vfloat16m1x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16_v_f16m1x4_mu(vbool16_t vm,
                                                 vfloat16m1x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16_v_f16m1x5_mu(vbool16_t vm,
                                                 vfloat16m1x5_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei16_v_f16m1x6_mu(vbool16_t vm,
                                                 vfloat16m1x6_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16_v_f16m1x7_mu(vbool16_t vm,
                                                 vfloat16m1x7_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16_v_f16m1x8_mu(vbool16_t vm,
                                                 vfloat16m1x8_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16_v_f16m2x2_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16_v_f16m2x3_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16_v_f16m2x4_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16_v_f16m4x2_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32_v_f16mf4x2_mu(vbool64_t vm,
                                                   vfloat16mf4x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32_v_f16mf4x3_mu(vbool64_t vm,
                                                   vfloat16mf4x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei32_v_f16mf4x4_mu(vbool64_t vm,
                                                   vfloat16mf4x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32_v_f16mf4x5_mu(vbool64_t vm,
                                                   vfloat16mf4x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei32_v_f16mf4x6_mu(vbool64_t vm,
                                                   vfloat16mf4x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei32_v_f16mf4x7_mu(vbool64_t vm,
                                                   vfloat16mf4x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
```

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vfloat16mf4x8_t __riscv_vluxseg8ei32_v_f16mf4x8_mu(vbool64_t vm,
                                                   vfloat16mf4x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32_v_f16mf2x2_mu(vbool32_t vm,
                                                   vfloat16mf2x2_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32_v_f16mf2x3_mu(vbool32_t vm,
                                                   vfloat16mf2x3_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32_v_f16mf2x4_mu(vbool32_t vm,
                                                   vfloat16mf2x4_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32_v_f16mf2x5_mu(vbool32_t vm,
                                                   vfloat16mf2x5_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32_v_f16mf2x6_mu(vbool32_t vm,
                                                   vfloat16mf2x6_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32_v_f16mf2x7_mu(vbool32_t vm,
                                                   vfloat16mf2x7_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32_v_f16mf2x8_mu(vbool32_t vm,
                                                   vfloat16mf2x8_t vd,
                                                   const _Float16 *rs1,
                                                   vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32_v_f16m1x2_mu(vbool16_t vm,
                                                 vfloat16m1x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32_v_f16m1x3_mu(vbool16_t vm,
                                                 vfloat16m1x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32_v_f16m1x4_mu(vbool16_t vm,
                                                 vfloat16m1x4_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32_v_f16m1x5_mu(vbool16_t vm,
                                                 vfloat16m1x5_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32_v_f16m1x6_mu(vbool16_t vm,
                                                 vfloat16m1x6_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32_v_f16m1x7_mu(vbool16_t vm,
                                                 vfloat16m1x7_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32_v_f16m1x8_mu(vbool16_t vm,
                                                 vfloat16m1x8_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32_v_f16m2x2_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei32_v_f16m2x3_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                                 const _Float16 *rs1,
                                                 vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32_v_f16m2x4_mu(vbool8_t vm, vfloat16m2x4_t vd,
```

```
                                                const _Float16 *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32_v_f16m4x2_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                                const _Float16 *rs1,
                                                vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64_v_f16mf4x2_mu(vbool64_t vm,
                                                  vfloat16mf4x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64_v_f16mf4x3_mu(vbool64_t vm,
                                                  vfloat16mf4x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64_v_f16mf4x4_mu(vbool64_t vm,
                                                  vfloat16mf4x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64_v_f16mf4x5_mu(vbool64_t vm,
                                                  vfloat16mf4x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64_v_f16mf4x6_mu(vbool64_t vm,
                                                  vfloat16mf4x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei64_v_f16mf4x7_mu(vbool64_t vm,
                                                  vfloat16mf4x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64_v_f16mf4x8_mu(vbool64_t vm,
                                                  vfloat16mf4x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64_v_f16mf2x2_mu(vbool32_t vm,
                                                  vfloat16mf2x2_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64_v_f16mf2x3_mu(vbool32_t vm,
                                                  vfloat16mf2x3_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64_v_f16mf2x4_mu(vbool32_t vm,
                                                  vfloat16mf2x4_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64_v_f16mf2x5_mu(vbool32_t vm,
                                                  vfloat16mf2x5_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64_v_f16mf2x6_mu(vbool32_t vm,
                                                  vfloat16mf2x6_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64_v_f16mf2x7_mu(vbool32_t vm,
                                                  vfloat16mf2x7_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64_v_f16mf2x8_mu(vbool32_t vm,
                                                  vfloat16mf2x8_t vd,
                                                  const _Float16 *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64_v_f16m1x2_mu(vbool16_t vm,
                                                vfloat16m1x2_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64_v_f16m1x3_mu(vbool16_t vm,
                                                vfloat16m1x3_t vd,
```

```
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64_v_f16m1x4_mu(vbool16_t vm,
                                                vfloat16m1x4_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei64_v_f16m1x5_mu(vbool16_t vm,
                                                vfloat16m1x5_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64_v_f16m1x6_mu(vbool16_t vm,
                                                vfloat16m1x6_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei64_v_f16m1x7_mu(vbool16_t vm,
                                                vfloat16m1x7_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64_v_f16m1x8_mu(vbool16_t vm,
                                                vfloat16m1x8_t vd,
                                                const _Float16 *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64_v_f16m2x2_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64_v_f16m2x3_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64_v_f16m2x4_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                                const _Float16 *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8_v_f32mf2x2_mu(vbool64_t vm,
                                                 vfloat32mf2x2_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8_v_f32mf2x3_mu(vbool64_t vm,
                                                 vfloat32mf2x3_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8_v_f32mf2x4_mu(vbool64_t vm,
                                                 vfloat32mf2x4_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8_v_f32mf2x5_mu(vbool64_t vm,
                                                 vfloat32mf2x5_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei8_v_f32mf2x6_mu(vbool64_t vm,
                                                 vfloat32mf2x6_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8_v_f32mf2x7_mu(vbool64_t vm,
                                                 vfloat32mf2x7_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8_v_f32mf2x8_mu(vbool64_t vm,
                                                 vfloat32mf2x8_t vd,
                                                 const float *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8_v_f32m1x2_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8_v_f32m1x3_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                               const float *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8_v_f32m1x4_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                               const float *rs1,
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                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8_v_f32m1x5_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8_v_f32m1x6_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8_v_f32m1x7_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8_v_f32m1x8_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8_v_f32m2x2_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8_v_f32m2x3_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8_v_f32m2x4_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8_v_f32m4x2_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16_v_f32mf2x2_mu(vbool64_t vm,
                                                   vfloat32mf2x2_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16_v_f32mf2x3_mu(vbool64_t vm,
                                                   vfloat32mf2x3_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei16_v_f32mf2x4_mu(vbool64_t vm,
                                                   vfloat32mf2x4_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16_v_f32mf2x5_mu(vbool64_t vm,
                                                   vfloat32mf2x5_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei16_v_f32mf2x6_mu(vbool64_t vm,
                                                   vfloat32mf2x6_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei16_v_f32mf2x7_mu(vbool64_t vm,
                                                   vfloat32mf2x7_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16_v_f32mf2x8_mu(vbool64_t vm,
                                                   vfloat32mf2x8_t vd,
                                                   const float *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16_v_f32m1x2_mu(vbool32_t vm,
                                                 vfloat32m1x2_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16_v_f32m1x3_mu(vbool32_t vm,
                                                 vfloat32m1x3_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16_v_f32m1x4_mu(vbool32_t vm,
                                                 vfloat32m1x4_t vd,
                                                 const float *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16_v_f32m1x5_mu(vbool32_t vm,
                                                 vfloat32m1x5_t vd,
```

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                                                const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16_v_f32m1x6_mu(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16_v_f32m1x7_mu(vbool32_t vm,
                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16_v_f32m1x8_mu(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16_v_f32m2x2_mu(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16_v_f32m2x3_mu(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16_v_f32m2x4_mu(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16_v_f32m4x2_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32_v_f32mf2x2_mu(vbool64_t vm,
                                                  vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32_v_f32mf2x3_mu(vbool64_t vm,
                                                  vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32_v_f32mf2x4_mu(vbool64_t vm,
                                                  vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32_v_f32mf2x5_mu(vbool64_t vm,
                                                  vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei32_v_f32mf2x6_mu(vbool64_t vm,
                                                  vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32_v_f32mf2x7_mu(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32_v_f32mf2x8_mu(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei32_v_f32m1x2_mu(vbool32_t vm,
                                                vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32_v_f32m1x3_mu(vbool32_t vm,
                                                vfloat32m1x3_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32_v_f32m1x4_mu(vbool32_t vm,
                                                vfloat32m1x4_t vd,
```

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                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32_v_f32m1x5_mu(vbool32_t vm,
                                                vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32_v_f32m1x6_mu(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32_v_f32m1x7_mu(vbool32_t vm,
                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32_v_f32m1x8_mu(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32_v_f32m2x2_mu(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32_v_f32m2x3_mu(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32_v_f32m2x4_mu(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32_v_f32m4x2_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64_v_f32mf2x2_mu(vbool64_t vm,
                                                  vfloat32mf2x2_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64_v_f32mf2x3_mu(vbool64_t vm,
                                                  vfloat32mf2x3_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64_v_f32mf2x4_mu(vbool64_t vm,
                                                  vfloat32mf2x4_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64_v_f32mf2x5_mu(vbool64_t vm,
                                                  vfloat32mf2x5_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei64_v_f32mf2x6_mu(vbool64_t vm,
                                                  vfloat32mf2x6_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64_v_f32mf2x7_mu(vbool64_t vm,
                                                  vfloat32mf2x7_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei64_v_f32mf2x8_mu(vbool64_t vm,
                                                  vfloat32mf2x8_t vd,
                                                  const float *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64_v_f32m1x2_mu(vbool32_t vm,
                                                vfloat32m1x2_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei64_v_f32m1x3_mu(vbool32_t vm,
                                                vfloat32m1x3_t vd,
```

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                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64_v_f32m1x4_mu(vbool32_t vm,
                                                vfloat32m1x4_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64_v_f32m1x5_mu(vbool32_t vm,
                                                vfloat32m1x5_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64_v_f32m1x6_mu(vbool32_t vm,
                                                vfloat32m1x6_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64_v_f32m1x7_mu(vbool32_t vm,
                                                vfloat32m1x7_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64_v_f32m1x8_mu(vbool32_t vm,
                                                vfloat32m1x8_t vd,
                                                const float *rs1,
                                                vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64_v_f32m2x2_mu(vbool16_t vm,
                                                vfloat32m2x2_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64_v_f32m2x3_mu(vbool16_t vm,
                                                vfloat32m2x3_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei64_v_f32m2x4_mu(vbool16_t vm,
                                                vfloat32m2x4_t vd,
                                                const float *rs1,
                                                vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei64_v_f32m4x2_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                                const float *rs1,
                                                vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8_v_f64m1x2_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei8_v_f64m1x3_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8_v_f64m1x4_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8_v_f64m1x5_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8_v_f64m1x6_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8_v_f64m1x7_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8_v_f64m1x8_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                               const double *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8_v_f64m2x2_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8_v_f64m2x3_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8_v_f64m2x4_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                               const double *rs1,
                                               vuint8mf4_t rs2, size_t vl);
```

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vfloat64m4x2_t __riscv_vluxseg2ei8_v_f64m4x2_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                                const double *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16_v_f64m1x2_mu(vbool64_t vm,
                                                 vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16_v_f64m1x3_mu(vbool64_t vm,
                                                 vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16_v_f64m1x4_mu(vbool64_t vm,
                                                 vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16_v_f64m1x5_mu(vbool64_t vm,
                                                 vfloat64m1x5_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei16_v_f64m1x6_mu(vbool64_t vm,
                                                 vfloat64m1x6_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16_v_f64m1x7_mu(vbool64_t vm,
                                                 vfloat64m1x7_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei16_v_f64m1x8_mu(vbool64_t vm,
                                                 vfloat64m1x8_t vd,
                                                 const double *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei16_v_f64m2x2_mu(vbool32_t vm,
                                                 vfloat64m2x2_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16_v_f64m2x3_mu(vbool32_t vm,
                                                 vfloat64m2x3_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16_v_f64m2x4_mu(vbool32_t vm,
                                                 vfloat64m2x4_t vd,
                                                 const double *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16_v_f64m4x2_mu(vbool16_t vm,
                                                 vfloat64m4x2_t vd,
                                                 const double *rs1,
                                                 vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32_v_f64m1x2_mu(vbool64_t vm,
                                                 vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei32_v_f64m1x3_mu(vbool64_t vm,
                                                 vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32_v_f64m1x4_mu(vbool64_t vm,
                                                 vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32_v_f64m1x5_mu(vbool64_t vm,
                                                 vfloat64m1x5_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32_v_f64m1x6_mu(vbool64_t vm,
                                                 vfloat64m1x6_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
```

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vfloat64m1x7_t __riscv_vluxseg7ei32_v_f64m1x7_mu(vbool64_t vm,
                                                 vfloat64m1x7_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32_v_f64m1x8_mu(vbool64_t vm,
                                                 vfloat64m1x8_t vd,
                                                 const double *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32_v_f64m2x2_mu(vbool32_t vm,
                                                 vfloat64m2x2_t vd,
                                                 const double *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32_v_f64m2x3_mu(vbool32_t vm,
                                                 vfloat64m2x3_t vd,
                                                 const double *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32_v_f64m2x4_mu(vbool32_t vm,
                                                 vfloat64m2x4_t vd,
                                                 const double *rs1,
                                                 vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32_v_f64m4x2_mu(vbool16_t vm,
                                                 vfloat64m4x2_t vd,
                                                 const double *rs1,
                                                 vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64_v_f64m1x2_mu(vbool64_t vm,
                                                 vfloat64m1x2_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64_v_f64m1x3_mu(vbool64_t vm,
                                                 vfloat64m1x3_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei64_v_f64m1x4_mu(vbool64_t vm,
                                                 vfloat64m1x4_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64_v_f64m1x5_mu(vbool64_t vm,
                                                 vfloat64m1x5_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64_v_f64m1x6_mu(vbool64_t vm,
                                                 vfloat64m1x6_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64_v_f64m1x7_mu(vbool64_t vm,
                                                 vfloat64m1x7_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64_v_f64m1x8_mu(vbool64_t vm,
                                                 vfloat64m1x8_t vd,
                                                 const double *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64_v_f64m2x2_mu(vbool32_t vm,
                                                 vfloat64m2x2_t vd,
                                                 const double *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64_v_f64m2x3_mu(vbool32_t vm,
                                                 vfloat64m2x3_t vd,
                                                 const double *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64_v_f64m2x4_mu(vbool32_t vm,
                                                 vfloat64m2x4_t vd,
                                                 const double *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64_v_f64m4x2_mu(vbool16_t vm,
                                                 vfloat64m4x2_t vd,
                                                 const double *rs1,
```

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                                                vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8_v_i8mf8x2_mu(vbool64_t vm, vint8mf8x2_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8_v_i8mf8x3_mu(vbool64_t vm, vint8mf8x3_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8_v_i8mf8x4_mu(vbool64_t vm, vint8mf8x4_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8_v_i8mf8x5_mu(vbool64_t vm, vint8mf8x5_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8_v_i8mf8x6_mu(vbool64_t vm, vint8mf8x6_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8_v_i8mf8x7_mu(vbool64_t vm, vint8mf8x7_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8_v_i8mf8x8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8_v_i8mf4x2_mu(vbool32_t vm, vint8mf4x2_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8_v_i8mf4x3_mu(vbool32_t vm, vint8mf4x3_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8_v_i8mf4x4_mu(vbool32_t vm, vint8mf4x4_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8_v_i8mf4x5_mu(vbool32_t vm, vint8mf4x5_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei8_v_i8mf4x6_mu(vbool32_t vm, vint8mf4x6_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8_v_i8mf4x7_mu(vbool32_t vm, vint8mf4x7_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei8_v_i8mf4x8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8_v_i8mf2x2_mu(vbool16_t vm, vint8mf2x2_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8_v_i8mf2x3_mu(vbool16_t vm, vint8mf2x3_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8_v_i8mf2x4_mu(vbool16_t vm, vint8mf2x4_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8_v_i8mf2x5_mu(vbool16_t vm, vint8mf2x5_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei8_v_i8mf2x6_mu(vbool16_t vm, vint8mf2x6_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8_v_i8mf2x7_mu(vbool16_t vm, vint8mf2x7_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8_v_i8mf2x8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8_v_i8m1x2_mu(vbool8_t vm, vint8m1x2_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
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```
vint8m1x3_t __riscv_vloxseg3ei8_v_i8m1x3_mu(vbool8_t vm, vint8m1x3_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8_v_i8m1x4_mu(vbool8_t vm, vint8m1x4_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m1x5_t __riscv_vloxseg5ei8_v_i8m1x5_mu(vbool8_t vm, vint8m1x5_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8_v_i8m1x6_mu(vbool8_t vm, vint8m1x6_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8_v_i8m1x7_mu(vbool8_t vm, vint8m1x7_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8_v_i8m1x8_mu(vbool8_t vm, vint8m1x8_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m2x2_t __riscv_vloxseg2ei8_v_i8m2x2_mu(vbool4_t vm, vint8m2x2_t vd,
                                            const int8_t *rs1, vuint8m2_t rs2,
                                            size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8_v_i8m2x3_mu(vbool4_t vm, vint8m2x3_t vd,
                                            const int8_t *rs1, vuint8m2_t rs2,
                                            size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8_v_i8m2x4_mu(vbool4_t vm, vint8m2x4_t vd,
                                            const int8_t *rs1, vuint8m2_t rs2,
                                            size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8_v_i8m4x2_mu(vbool2_t vm, vint8m4x2_t vd,
                                            const int8_t *rs1, vuint8m4_t rs2,
                                            size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16_v_i8mf8x2_mu(vbool64_t vm, vint8mf8x2_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16_v_i8mf8x3_mu(vbool64_t vm, vint8mf8x3_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16_v_i8mf8x4_mu(vbool64_t vm, vint8mf8x4_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16_v_i8mf8x5_mu(vbool64_t vm, vint8mf8x5_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16_v_i8mf8x6_mu(vbool64_t vm, vint8mf8x6_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16_v_i8mf8x7_mu(vbool64_t vm, vint8mf8x7_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16_v_i8mf8x8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei16_v_i8mf4x2_mu(vbool32_t vm, vint8mf4x2_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei16_v_i8mf4x3_mu(vbool32_t vm, vint8mf4x3_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei16_v_i8mf4x4_mu(vbool32_t vm, vint8mf4x4_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei16_v_i8mf4x5_mu(vbool32_t vm, vint8mf4x5_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei16_v_i8mf4x6_mu(vbool32_t vm, vint8mf4x6_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16_v_i8mf4x7_mu(vbool32_t vm, vint8mf4x7_t vd,
```

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                                            const int8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16_v_i8mf4x8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                            const int8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16_v_i8mf2x2_mu(vbool16_t vm, vint8mf2x2_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16_v_i8mf2x3_mu(vbool16_t vm, vint8mf2x3_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei16_v_i8mf2x4_mu(vbool16_t vm, vint8mf2x4_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16_v_i8mf2x5_mu(vbool16_t vm, vint8mf2x5_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei16_v_i8mf2x6_mu(vbool16_t vm, vint8mf2x6_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16_v_i8mf2x7_mu(vbool16_t vm, vint8mf2x7_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei16_v_i8mf2x8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16_v_i8m1x2_mu(vbool8_t vm, vint8m1x2_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16_v_i8m1x3_mu(vbool8_t vm, vint8m1x3_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16_v_i8m1x4_mu(vbool8_t vm, vint8m1x4_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16_v_i8m1x5_mu(vbool8_t vm, vint8m1x5_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16_v_i8m1x6_mu(vbool8_t vm, vint8m1x6_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x7_t __riscv_vloxseg7ei16_v_i8m1x7_mu(vbool8_t vm, vint8m1x7_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16_v_i8m1x8_mu(vbool8_t vm, vint8m1x8_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16_v_i8m2x2_mu(vbool4_t vm, vint8m2x2_t vd,
                                          const int8_t *rs1, vuint16m4_t rs2,
                                          size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16_v_i8m2x3_mu(vbool4_t vm, vint8m2x3_t vd,
                                          const int8_t *rs1, vuint16m4_t rs2,
                                          size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16_v_i8m2x4_mu(vbool4_t vm, vint8m2x4_t vd,
                                          const int8_t *rs1, vuint16m4_t rs2,
                                          size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16_v_i8m4x2_mu(vbool2_t vm, vint8m4x2_t vd,
                                          const int8_t *rs1, vuint16m8_t rs2,
                                          size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei32_v_i8mf8x2_mu(vbool64_t vm, vint8mf8x2_t vd,
                                            const int8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32_v_i8mf8x3_mu(vbool64_t vm, vint8mf8x3_t vd,
                                            const int8_t *rs1,
                                            vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32_v_i8mf8x4_mu(vbool64_t vm, vint8mf8x4_t vd,
                                            const int8_t *rs1,
```

```
                                                vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32_v_i8mf8x5_mu(vbool64_t vm, vint8mf8x5_t vd,
                                                const int8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32_v_i8mf8x6_mu(vbool64_t vm, vint8mf8x6_t vd,
                                                const int8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32_v_i8mf8x7_mu(vbool64_t vm, vint8mf8x7_t vd,
                                                const int8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32_v_i8mf8x8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                                const int8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32_v_i8mf4x2_mu(vbool32_t vm, vint8mf4x2_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32_v_i8mf4x3_mu(vbool32_t vm, vint8mf4x3_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32_v_i8mf4x4_mu(vbool32_t vm, vint8mf4x4_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32_v_i8mf4x5_mu(vbool32_t vm, vint8mf4x5_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei32_v_i8mf4x6_mu(vbool32_t vm, vint8mf4x6_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei32_v_i8mf4x7_mu(vbool32_t vm, vint8mf4x7_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32_v_i8mf4x8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                                const int8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei32_v_i8mf2x2_mu(vbool16_t vm, vint8mf2x2_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32_v_i8mf2x3_mu(vbool16_t vm, vint8mf2x3_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei32_v_i8mf2x4_mu(vbool16_t vm, vint8mf2x4_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32_v_i8mf2x5_mu(vbool16_t vm, vint8mf2x5_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32_v_i8mf2x6_mu(vbool16_t vm, vint8mf2x6_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32_v_i8mf2x7_mu(vbool16_t vm, vint8mf2x7_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei32_v_i8mf2x8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                                const int8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32_v_i8m1x2_mu(vbool8_t vm, vint8m1x2_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m1x3_t __riscv_vloxseg3ei32_v_i8m1x3_mu(vbool8_t vm, vint8m1x3_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32_v_i8m1x4_mu(vbool8_t vm, vint8m1x4_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m1x5_t __riscv_vloxseg5ei32_v_i8m1x5_mu(vbool8_t vm, vint8m1x5_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
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vint8m1x6_t __riscv_vloxseg6ei32_v_i8m1x6_mu(vbool8_t vm, vint8m1x6_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32_v_i8m1x7_mu(vbool8_t vm, vint8m1x7_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m1x8_t __riscv_vloxseg8ei32_v_i8m1x8_mu(vbool8_t vm, vint8m1x8_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32_v_i8m2x2_mu(vbool4_t vm, vint8m2x2_t vd,
                                             const int8_t *rs1, vuint32m8_t rs2,
                                             size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32_v_i8m2x3_mu(vbool4_t vm, vint8m2x3_t vd,
                                             const int8_t *rs1, vuint32m8_t rs2,
                                             size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32_v_i8m2x4_mu(vbool4_t vm, vint8m2x4_t vd,
                                             const int8_t *rs1, vuint32m8_t rs2,
                                             size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei64_v_i8mf8x2_mu(vbool64_t vm, vint8mf8x2_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64_v_i8mf8x3_mu(vbool64_t vm, vint8mf8x3_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64_v_i8mf8x4_mu(vbool64_t vm, vint8mf8x4_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64_v_i8mf8x5_mu(vbool64_t vm, vint8mf8x5_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64_v_i8mf8x6_mu(vbool64_t vm, vint8mf8x6_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64_v_i8mf8x7_mu(vbool64_t vm, vint8mf8x7_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64_v_i8mf8x8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64_v_i8mf4x2_mu(vbool32_t vm, vint8mf4x2_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64_v_i8mf4x3_mu(vbool32_t vm, vint8mf4x3_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei64_v_i8mf4x4_mu(vbool32_t vm, vint8mf4x4_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei64_v_i8mf4x5_mu(vbool32_t vm, vint8mf4x5_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei64_v_i8mf4x6_mu(vbool32_t vm, vint8mf4x6_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei64_v_i8mf4x7_mu(vbool32_t vm, vint8mf4x7_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei64_v_i8mf4x8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei64_v_i8mf2x2_mu(vbool16_t vm, vint8mf2x2_t vd,
                                               const int8_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei64_v_i8mf2x3_mu(vbool16_t vm, vint8mf2x3_t vd,
                                               const int8_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei64_v_i8mf2x4_mu(vbool16_t vm, vint8mf2x4_t vd,
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                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei64_v_i8mf2x5_mu(vbool16_t vm, vint8mf2x5_t vd,
                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei64_v_i8mf2x6_mu(vbool16_t vm, vint8mf2x6_t vd,
                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei64_v_i8mf2x7_mu(vbool16_t vm, vint8mf2x7_t vd,
                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei64_v_i8mf2x8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64_v_i8m1x2_mu(vbool8_t vm, vint8m1x2_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64_v_i8m1x3_mu(vbool8_t vm, vint8m1x3_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x4_t __riscv_vloxseg4ei64_v_i8m1x4_mu(vbool8_t vm, vint8m1x4_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x5_t __riscv_vloxseg5ei64_v_i8m1x5_mu(vbool8_t vm, vint8m1x5_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x6_t __riscv_vloxseg6ei64_v_i8m1x6_mu(vbool8_t vm, vint8m1x6_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64_v_i8m1x7_mu(vbool8_t vm, vint8m1x7_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64_v_i8m1x8_mu(vbool8_t vm, vint8m1x8_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8_v_i16mf4x2_mu(vbool64_t vm, vint16mf4x2_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8_v_i16mf4x3_mu(vbool64_t vm, vint16mf4x3_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei8_v_i16mf4x4_mu(vbool64_t vm, vint16mf4x4_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8_v_i16mf4x5_mu(vbool64_t vm, vint16mf4x5_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8_v_i16mf4x6_mu(vbool64_t vm, vint16mf4x6_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8_v_i16mf4x7_mu(vbool64_t vm, vint16mf4x7_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8_v_i16mf4x8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8_v_i16mf2x2_mu(vbool32_t vm, vint16mf2x2_t vd,
                                             const int16_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8_v_i16mf2x3_mu(vbool32_t vm, vint16mf2x3_t vd,
                                             const int16_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8_v_i16mf2x4_mu(vbool32_t vm, vint16mf2x4_t vd,
                                             const int16_t *rs1,
                                             vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8_v_i16mf2x5_mu(vbool32_t vm, vint16mf2x5_t vd,
                                             const int16_t *rs1,
```

```
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8_v_i16mf2x6_mu(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8_v_i16mf2x7_mu(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8_v_i16mf2x8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8_v_i16m1x2_mu(vbool16_t vm, vint16m1x2_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8_v_i16m1x3_mu(vbool16_t vm, vint16m1x3_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8_v_i16m1x4_mu(vbool16_t vm, vint16m1x4_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8_v_i16m1x5_mu(vbool16_t vm, vint16m1x5_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8_v_i16m1x6_mu(vbool16_t vm, vint16m1x6_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8_v_i16m1x7_mu(vbool16_t vm, vint16m1x7_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8_v_i16m1x8_mu(vbool16_t vm, vint16m1x8_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8_v_i16m2x2_mu(vbool8_t vm, vint16m2x2_t vd,
                                              const int16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei8_v_i16m2x3_mu(vbool8_t vm, vint16m2x3_t vd,
                                              const int16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8_v_i16m2x4_mu(vbool8_t vm, vint16m2x4_t vd,
                                              const int16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei8_v_i16m4x2_mu(vbool4_t vm, vint16m4x2_t vd,
                                              const int16_t *rs1,
                                              vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16_v_i16mf4x2_mu(vbool64_t vm, vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16_v_i16mf4x3_mu(vbool64_t vm, vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei16_v_i16mf4x4_mu(vbool64_t vm, vint16mf4x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16_v_i16mf4x5_mu(vbool64_t vm, vint16mf4x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16_v_i16mf4x6_mu(vbool64_t vm, vint16mf4x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16_v_i16mf4x7_mu(vbool64_t vm, vint16mf4x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16_v_i16mf4x8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei16_v_i16mf2x2_mu(vbool32_t vm, vint16mf2x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
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vint16mf2x3_t __riscv_vloxseg3ei16_v_i16mf2x3_mu(vbool32_t vm, vint16mf2x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16_v_i16mf2x4_mu(vbool32_t vm, vint16mf2x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16_v_i16mf2x5_mu(vbool32_t vm, vint16mf2x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16_v_i16mf2x6_mu(vbool32_t vm, vint16mf2x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16_v_i16mf2x7_mu(vbool32_t vm, vint16mf2x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16_v_i16mf2x8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16_v_i16m1x2_mu(vbool16_t vm, vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16_v_i16m1x3_mu(vbool16_t vm, vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16_v_i16m1x4_mu(vbool16_t vm, vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16_v_i16m1x5_mu(vbool16_t vm, vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16_v_i16m1x6_mu(vbool16_t vm, vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16_v_i16m1x7_mu(vbool16_t vm, vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16_v_i16m1x8_mu(vbool16_t vm, vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16_v_i16m2x2_mu(vbool8_t vm, vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16_v_i16m2x3_mu(vbool8_t vm, vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16_v_i16m2x4_mu(vbool8_t vm, vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16_v_i16m4x2_mu(vbool4_t vm, vint16m4x2_t vd,
                                               const int16_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32_v_i16mf4x2_mu(vbool64_t vm, vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei32_v_i16mf4x3_mu(vbool64_t vm, vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei32_v_i16mf4x4_mu(vbool64_t vm, vint16mf4x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32_v_i16mf4x5_mu(vbool64_t vm, vint16mf4x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32_v_i16mf4x6_mu(vbool64_t vm, vint16mf4x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32_v_i16mf4x7_mu(vbool64_t vm, vint16mf4x7_t vd,
```

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                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32_v_i16mf4x8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32_v_i16mf2x2_mu(vbool32_t vm, vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32_v_i16mf2x3_mu(vbool32_t vm, vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32_v_i16mf2x4_mu(vbool32_t vm, vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32_v_i16mf2x5_mu(vbool32_t vm, vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32_v_i16mf2x6_mu(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei32_v_i16mf2x7_mu(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32_v_i16mf2x8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32_v_i16m1x2_mu(vbool16_t vm, vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32_v_i16m1x3_mu(vbool16_t vm, vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32_v_i16m1x4_mu(vbool16_t vm, vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32_v_i16m1x5_mu(vbool16_t vm, vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32_v_i16m1x6_mu(vbool16_t vm, vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei32_v_i16m1x7_mu(vbool16_t vm, vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32_v_i16m1x8_mu(vbool16_t vm, vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32_v_i16m2x2_mu(vbool8_t vm, vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32_v_i16m2x3_mu(vbool8_t vm, vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32_v_i16m2x4_mu(vbool8_t vm, vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32_v_i16m4x2_mu(vbool4_t vm, vint16m4x2_t vd,
                                               const int16_t *rs1,
                                               vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64_v_i16mf4x2_mu(vbool64_t vm, vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64_v_i16mf4x3_mu(vbool64_t vm, vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64_v_i16mf4x4_mu(vbool64_t vm, vint16mf4x4_t vd,
                                                 const int16_t *rs1,
```

```
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64_v_i16mf4x5_mu(vbool64_t vm, vint16mf4x5_t vd,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64_v_i16mf4x6_mu(vbool64_t vm, vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64_v_i16mf4x7_mu(vbool64_t vm, vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64_v_i16mf4x8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64_v_i16mf2x2_mu(vbool32_t vm, vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64_v_i16mf2x3_mu(vbool32_t vm, vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64_v_i16mf2x4_mu(vbool32_t vm, vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64_v_i16mf2x5_mu(vbool32_t vm, vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64_v_i16mf2x6_mu(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64_v_i16mf2x7_mu(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64_v_i16mf2x8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei64_v_i16m1x2_mu(vbool16_t vm, vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64_v_i16m1x3_mu(vbool16_t vm, vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei64_v_i16m1x4_mu(vbool16_t vm, vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64_v_i16m1x5_mu(vbool16_t vm, vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64_v_i16m1x6_mu(vbool16_t vm, vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64_v_i16m1x7_mu(vbool16_t vm, vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64_v_i16m1x8_mu(vbool16_t vm, vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64_v_i16m2x2_mu(vbool8_t vm, vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64_v_i16m2x3_mu(vbool8_t vm, vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64_v_i16m2x4_mu(vbool8_t vm, vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8_v_i32mf2x2_mu(vbool64_t vm, vint32mf2x2_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
```

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vint32mf2x3_t __riscv_vloxseg3ei8_v_i32mf2x3_mu(vbool64_t vm, vint32mf2x3_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8_v_i32mf2x4_mu(vbool64_t vm, vint32mf2x4_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8_v_i32mf2x5_mu(vbool64_t vm, vint32mf2x5_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei8_v_i32mf2x6_mu(vbool64_t vm, vint32mf2x6_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8_v_i32mf2x7_mu(vbool64_t vm, vint32mf2x7_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8_v_i32mf2x8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8_v_i32m1x2_mu(vbool32_t vm, vint32m1x2_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei8_v_i32m1x3_mu(vbool32_t vm, vint32m1x3_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei8_v_i32m1x4_mu(vbool32_t vm, vint32m1x4_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8_v_i32m1x5_mu(vbool32_t vm, vint32m1x5_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei8_v_i32m1x6_mu(vbool32_t vm, vint32m1x6_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei8_v_i32m1x7_mu(vbool32_t vm, vint32m1x7_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei8_v_i32m1x8_mu(vbool32_t vm, vint32m1x8_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8_v_i32m2x2_mu(vbool16_t vm, vint32m2x2_t vd,
                                              const int32_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8_v_i32m2x3_mu(vbool16_t vm, vint32m2x3_t vd,
                                              const int32_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei8_v_i32m2x4_mu(vbool16_t vm, vint32m2x4_t vd,
                                              const int32_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8_v_i32m4x2_mu(vbool8_t vm, vint32m4x2_t vd,
                                              const int32_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16_v_i32mf2x2_mu(vbool64_t vm, vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei16_v_i32mf2x3_mu(vbool64_t vm, vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei16_v_i32mf2x4_mu(vbool64_t vm, vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei16_v_i32mf2x5_mu(vbool64_t vm, vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16_v_i32mf2x6_mu(vbool64_t vm, vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16_v_i32mf2x7_mu(vbool64_t vm, vint32mf2x7_t vd,
```

```
                                                const int32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16_v_i32mf2x8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                                const int32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16_v_i32m1x2_mu(vbool32_t vm, vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16_v_i32m1x3_mu(vbool32_t vm, vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei16_v_i32m1x4_mu(vbool32_t vm, vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16_v_i32m1x5_mu(vbool32_t vm, vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16_v_i32m1x6_mu(vbool32_t vm, vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei16_v_i32m1x7_mu(vbool32_t vm, vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16_v_i32m1x8_mu(vbool32_t vm, vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16_v_i32m2x2_mu(vbool16_t vm, vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16_v_i32m2x3_mu(vbool16_t vm, vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16_v_i32m2x4_mu(vbool16_t vm, vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16_v_i32m4x2_mu(vbool8_t vm, vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32_v_i32mf2x2_mu(vbool64_t vm, vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei32_v_i32mf2x3_mu(vbool64_t vm, vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32_v_i32mf2x4_mu(vbool64_t vm, vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32_v_i32mf2x5_mu(vbool64_t vm, vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32_v_i32mf2x6_mu(vbool64_t vm, vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32_v_i32mf2x7_mu(vbool64_t vm, vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32_v_i32mf2x8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32_v_i32m1x2_mu(vbool32_t vm, vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei32_v_i32m1x3_mu(vbool32_t vm, vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32_v_i32m1x4_mu(vbool32_t vm, vint32m1x4_t vd,
                                               const int32_t *rs1,
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                                                vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32_v_i32m1x5_mu(vbool32_t vm, vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei32_v_i32m1x6_mu(vbool32_t vm, vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei32_v_i32m1x7_mu(vbool32_t vm, vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32_v_i32m1x8_mu(vbool32_t vm, vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32_v_i32m2x2_mu(vbool16_t vm, vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32_v_i32m2x3_mu(vbool16_t vm, vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32_v_i32m2x4_mu(vbool16_t vm, vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32_v_i32m4x2_mu(vbool8_t vm, vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei64_v_i32mf2x2_mu(vbool64_t vm, vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64_v_i32mf2x3_mu(vbool64_t vm, vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64_v_i32mf2x4_mu(vbool64_t vm, vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei64_v_i32mf2x5_mu(vbool64_t vm, vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64_v_i32mf2x6_mu(vbool64_t vm, vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei64_v_i32mf2x7_mu(vbool64_t vm, vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64_v_i32mf2x8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64_v_i32m1x2_mu(vbool32_t vm, vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64_v_i32m1x3_mu(vbool32_t vm, vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei64_v_i32m1x4_mu(vbool32_t vm, vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei64_v_i32m1x5_mu(vbool32_t vm, vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei64_v_i32m1x6_mu(vbool32_t vm, vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei64_v_i32m1x7_mu(vbool32_t vm, vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei64_v_i32m1x8_mu(vbool32_t vm, vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
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vint32m2x2_t __riscv_vloxseg2ei64_v_i32m2x2_mu(vbool16_t vm, vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei64_v_i32m2x3_mu(vbool16_t vm, vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei64_v_i32m2x4_mu(vbool16_t vm, vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei64_v_i32m4x2_mu(vbool8_t vm, vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei8_v_i64m1x2_mu(vbool64_t vm, vint64m1x2_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8_v_i64m1x3_mu(vbool64_t vm, vint64m1x3_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8_v_i64m1x4_mu(vbool64_t vm, vint64m1x4_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei8_v_i64m1x5_mu(vbool64_t vm, vint64m1x5_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei8_v_i64m1x6_mu(vbool64_t vm, vint64m1x6_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei8_v_i64m1x7_mu(vbool64_t vm, vint64m1x7_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei8_v_i64m1x8_mu(vbool64_t vm, vint64m1x8_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei8_v_i64m2x2_mu(vbool32_t vm, vint64m2x2_t vd,
                                              const int64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei8_v_i64m2x3_mu(vbool32_t vm, vint64m2x3_t vd,
                                              const int64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei8_v_i64m2x4_mu(vbool32_t vm, vint64m2x4_t vd,
                                              const int64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei8_v_i64m4x2_mu(vbool16_t vm, vint64m4x2_t vd,
                                              const int64_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16_v_i64m1x2_mu(vbool64_t vm, vint64m1x2_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16_v_i64m1x3_mu(vbool64_t vm, vint64m1x3_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16_v_i64m1x4_mu(vbool64_t vm, vint64m1x4_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei16_v_i64m1x5_mu(vbool64_t vm, vint64m1x5_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei16_v_i64m1x6_mu(vbool64_t vm, vint64m1x6_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16_v_i64m1x7_mu(vbool64_t vm, vint64m1x7_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16_v_i64m1x8_mu(vbool64_t vm, vint64m1x8_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei16_v_i64m2x2_mu(vbool32_t vm, vint64m2x2_t vd,
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                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei16_v_i64m2x3_mu(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei16_v_i64m2x4_mu(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16_v_i64m4x2_mu(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32_v_i64m1x2_mu(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32_v_i64m1x3_mu(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32_v_i64m1x4_mu(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei32_v_i64m1x5_mu(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei32_v_i64m1x6_mu(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei32_v_i64m1x7_mu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32_v_i64m1x8_mu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32_v_i64m2x2_mu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32_v_i64m2x3_mu(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei32_v_i64m2x4_mu(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei32_v_i64m4x2_mu(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64_v_i64m1x2_mu(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64_v_i64m1x3_mu(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64_v_i64m1x4_mu(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64_v_i64m1x5_mu(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64_v_i64m1x6_mu(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64_v_i64m1x7_mu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64_v_i64m1x8_mu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64_v_i64m2x2_mu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
```

```
                                                vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei64_v_i64m2x3_mu(vbool32_t vm, vint64m2x3_t vd,
                                               const int64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64_v_i64m2x4_mu(vbool32_t vm, vint64m2x4_t vd,
                                               const int64_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64_v_i64m4x2_mu(vbool16_t vm, vint64m4x2_t vd,
                                               const int64_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8_v_i8mf8x2_mu(vbool64_t vm, vint8mf8x2_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8_v_i8mf8x3_mu(vbool64_t vm, vint8mf8x3_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8_v_i8mf8x4_mu(vbool64_t vm, vint8mf8x4_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8_v_i8mf8x5_mu(vbool64_t vm, vint8mf8x5_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8_v_i8mf8x6_mu(vbool64_t vm, vint8mf8x6_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8_v_i8mf8x7_mu(vbool64_t vm, vint8mf8x7_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8_v_i8mf8x8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                              const int8_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8_v_i8mf4x2_mu(vbool32_t vm, vint8mf4x2_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei8_v_i8mf4x3_mu(vbool32_t vm, vint8mf4x3_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8_v_i8mf4x4_mu(vbool32_t vm, vint8mf4x4_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei8_v_i8mf4x5_mu(vbool32_t vm, vint8mf4x5_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8_v_i8mf4x6_mu(vbool32_t vm, vint8mf4x6_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8_v_i8mf4x7_mu(vbool32_t vm, vint8mf4x7_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8_v_i8mf4x8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                              const int8_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8_v_i8mf2x2_mu(vbool16_t vm, vint8mf2x2_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei8_v_i8mf2x3_mu(vbool16_t vm, vint8mf2x3_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8_v_i8mf2x4_mu(vbool16_t vm, vint8mf2x4_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8_v_i8mf2x5_mu(vbool16_t vm, vint8mf2x5_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8_v_i8mf2x6_mu(vbool16_t vm, vint8mf2x6_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
```

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vint8mf2x7_t __riscv_vluxseg7ei8_v_i8mf2x7_mu(vbool16_t vm, vint8mf2x7_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8_v_i8mf2x8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                              const int8_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8_v_i8m1x2_mu(vbool8_t vm, vint8m1x2_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8_v_i8m1x3_mu(vbool8_t vm, vint8m1x3_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m1x4_t __riscv_vluxseg4ei8_v_i8m1x4_mu(vbool8_t vm, vint8m1x4_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8_v_i8m1x5_mu(vbool8_t vm, vint8m1x5_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8_v_i8m1x6_mu(vbool8_t vm, vint8m1x6_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8_v_i8m1x7_mu(vbool8_t vm, vint8m1x7_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8_v_i8m1x8_mu(vbool8_t vm, vint8m1x8_t vd,
                                            const int8_t *rs1, vuint8m1_t rs2,
                                            size_t vl);
vint8m2x2_t __riscv_vluxseg2ei8_v_i8m2x2_mu(vbool4_t vm, vint8m2x2_t vd,
                                            const int8_t *rs1, vuint8m2_t rs2,
                                            size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8_v_i8m2x3_mu(vbool4_t vm, vint8m2x3_t vd,
                                            const int8_t *rs1, vuint8m2_t rs2,
                                            size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8_v_i8m2x4_mu(vbool4_t vm, vint8m2x4_t vd,
                                            const int8_t *rs1, vuint8m2_t rs2,
                                            size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8_v_i8m4x2_mu(vbool2_t vm, vint8m4x2_t vd,
                                            const int8_t *rs1, vuint8m4_t rs2,
                                            size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16_v_i8mf8x2_mu(vbool64_t vm, vint8mf8x2_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16_v_i8mf8x3_mu(vbool64_t vm, vint8mf8x3_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16_v_i8mf8x4_mu(vbool64_t vm, vint8mf8x4_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16_v_i8mf8x5_mu(vbool64_t vm, vint8mf8x5_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16_v_i8mf8x6_mu(vbool64_t vm, vint8mf8x6_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei16_v_i8mf8x7_mu(vbool64_t vm, vint8mf8x7_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei16_v_i8mf8x8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                               const int8_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16_v_i8mf4x2_mu(vbool32_t vm, vint8mf4x2_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16_v_i8mf4x3_mu(vbool32_t vm, vint8mf4x3_t vd,
                                               const int8_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16_v_i8mf4x4_mu(vbool32_t vm, vint8mf4x4_t vd,
```

```
                                            const int8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16_v_i8mf4x5_mu(vbool32_t vm, vint8mf4x5_t vd,
                                            const int8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16_v_i8mf4x6_mu(vbool32_t vm, vint8mf4x6_t vd,
                                            const int8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16_v_i8mf4x7_mu(vbool32_t vm, vint8mf4x7_t vd,
                                            const int8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16_v_i8mf4x8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                            const int8_t *rs1,
                                            vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16_v_i8mf2x2_mu(vbool16_t vm, vint8mf2x2_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16_v_i8mf2x3_mu(vbool16_t vm, vint8mf2x3_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16_v_i8mf2x4_mu(vbool16_t vm, vint8mf2x4_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16_v_i8mf2x5_mu(vbool16_t vm, vint8mf2x5_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16_v_i8mf2x6_mu(vbool16_t vm, vint8mf2x6_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16_v_i8mf2x7_mu(vbool16_t vm, vint8mf2x7_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16_v_i8mf2x8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                            const int8_t *rs1,
                                            vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16_v_i8m1x2_mu(vbool8_t vm, vint8m1x2_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16_v_i8m1x3_mu(vbool8_t vm, vint8m1x3_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x4_t __riscv_vluxseg4ei16_v_i8m1x4_mu(vbool8_t vm, vint8m1x4_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x5_t __riscv_vluxseg5ei16_v_i8m1x5_mu(vbool8_t vm, vint8m1x5_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16_v_i8m1x6_mu(vbool8_t vm, vint8m1x6_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16_v_i8m1x7_mu(vbool8_t vm, vint8m1x7_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16_v_i8m1x8_mu(vbool8_t vm, vint8m1x8_t vd,
                                          const int8_t *rs1, vuint16m2_t rs2,
                                          size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16_v_i8m2x2_mu(vbool4_t vm, vint8m2x2_t vd,
                                          const int8_t *rs1, vuint16m4_t rs2,
                                          size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16_v_i8m2x3_mu(vbool4_t vm, vint8m2x3_t vd,
                                          const int8_t *rs1, vuint16m4_t rs2,
                                          size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16_v_i8m2x4_mu(vbool4_t vm, vint8m2x4_t vd,
                                          const int8_t *rs1, vuint16m4_t rs2,
                                          size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16_v_i8m4x2_mu(vbool2_t vm, vint8m4x2_t vd,
                                          const int8_t *rs1, vuint16m8_t rs2,
```

```
                                                size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei32_v_i8mf8x2_mu(vbool64_t vm, vint8mf8x2_t vd,
                                               const int8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32_v_i8mf8x3_mu(vbool64_t vm, vint8mf8x3_t vd,
                                               const int8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32_v_i8mf8x4_mu(vbool64_t vm, vint8mf8x4_t vd,
                                               const int8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32_v_i8mf8x5_mu(vbool64_t vm, vint8mf8x5_t vd,
                                               const int8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32_v_i8mf8x6_mu(vbool64_t vm, vint8mf8x6_t vd,
                                               const int8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32_v_i8mf8x7_mu(vbool64_t vm, vint8mf8x7_t vd,
                                               const int8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32_v_i8mf8x8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                               const int8_t *rs1,
                                               vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32_v_i8mf4x2_mu(vbool32_t vm, vint8mf4x2_t vd,
                                               const int8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32_v_i8mf4x3_mu(vbool32_t vm, vint8mf4x3_t vd,
                                               const int8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32_v_i8mf4x4_mu(vbool32_t vm, vint8mf4x4_t vd,
                                               const int8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei32_v_i8mf4x5_mu(vbool32_t vm, vint8mf4x5_t vd,
                                               const int8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei32_v_i8mf4x6_mu(vbool32_t vm, vint8mf4x6_t vd,
                                               const int8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei32_v_i8mf4x7_mu(vbool32_t vm, vint8mf4x7_t vd,
                                               const int8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei32_v_i8mf4x8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                               const int8_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei32_v_i8mf2x2_mu(vbool16_t vm, vint8mf2x2_t vd,
                                               const int8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei32_v_i8mf2x3_mu(vbool16_t vm, vint8mf2x3_t vd,
                                               const int8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei32_v_i8mf2x4_mu(vbool16_t vm, vint8mf2x4_t vd,
                                               const int8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei32_v_i8mf2x5_mu(vbool16_t vm, vint8mf2x5_t vd,
                                               const int8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei32_v_i8mf2x6_mu(vbool16_t vm, vint8mf2x6_t vd,
                                               const int8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32_v_i8mf2x7_mu(vbool16_t vm, vint8mf2x7_t vd,
                                               const int8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei32_v_i8mf2x8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                               const int8_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32_v_i8m1x2_mu(vbool8_t vm, vint8m1x2_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
```

```
vint8m1x3_t __riscv_vluxseg3ei32_v_i8m1x3_mu(vbool8_t vm, vint8m1x3_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32_v_i8m1x4_mu(vbool8_t vm, vint8m1x4_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32_v_i8m1x5_mu(vbool8_t vm, vint8m1x5_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32_v_i8m1x6_mu(vbool8_t vm, vint8m1x6_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m1x7_t __riscv_vluxseg7ei32_v_i8m1x7_mu(vbool8_t vm, vint8m1x7_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32_v_i8m1x8_mu(vbool8_t vm, vint8m1x8_t vd,
                                             const int8_t *rs1, vuint32m4_t rs2,
                                             size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32_v_i8m2x2_mu(vbool4_t vm, vint8m2x2_t vd,
                                             const int8_t *rs1, vuint32m8_t rs2,
                                             size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32_v_i8m2x3_mu(vbool4_t vm, vint8m2x3_t vd,
                                             const int8_t *rs1, vuint32m8_t rs2,
                                             size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32_v_i8m2x4_mu(vbool4_t vm, vint8m2x4_t vd,
                                             const int8_t *rs1, vuint32m8_t rs2,
                                             size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64_v_i8mf8x2_mu(vbool64_t vm, vint8mf8x2_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64_v_i8mf8x3_mu(vbool64_t vm, vint8mf8x3_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64_v_i8mf8x4_mu(vbool64_t vm, vint8mf8x4_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64_v_i8mf8x5_mu(vbool64_t vm, vint8mf8x5_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64_v_i8mf8x6_mu(vbool64_t vm, vint8mf8x6_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64_v_i8mf8x7_mu(vbool64_t vm, vint8mf8x7_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64_v_i8mf8x8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                               const int8_t *rs1,
                                               vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64_v_i8mf4x2_mu(vbool32_t vm, vint8mf4x2_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64_v_i8mf4x3_mu(vbool32_t vm, vint8mf4x3_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei64_v_i8mf4x4_mu(vbool32_t vm, vint8mf4x4_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei64_v_i8mf4x5_mu(vbool32_t vm, vint8mf4x5_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64_v_i8mf4x6_mu(vbool32_t vm, vint8mf4x6_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei64_v_i8mf4x7_mu(vbool32_t vm, vint8mf4x7_t vd,
                                               const int8_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei64_v_i8mf4x8_mu(vbool32_t vm, vint8mf4x8_t vd,
```

```
                                            const int8_t *rs1,
                                            vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei64_v_i8mf2x2_mu(vbool16_t vm, vint8mf2x2_t vd,
                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei64_v_i8mf2x3_mu(vbool16_t vm, vint8mf2x3_t vd,
                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei64_v_i8mf2x4_mu(vbool16_t vm, vint8mf2x4_t vd,
                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei64_v_i8mf2x5_mu(vbool16_t vm, vint8mf2x5_t vd,
                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei64_v_i8mf2x6_mu(vbool16_t vm, vint8mf2x6_t vd,
                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei64_v_i8mf2x7_mu(vbool16_t vm, vint8mf2x7_t vd,
                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei64_v_i8mf2x8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                            const int8_t *rs1,
                                            vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64_v_i8m1x2_mu(vbool8_t vm, vint8m1x2_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64_v_i8m1x3_mu(vbool8_t vm, vint8m1x3_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64_v_i8m1x4_mu(vbool8_t vm, vint8m1x4_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64_v_i8m1x5_mu(vbool8_t vm, vint8m1x5_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64_v_i8m1x6_mu(vbool8_t vm, vint8m1x6_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64_v_i8m1x7_mu(vbool8_t vm, vint8m1x7_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint8m1x8_t __riscv_vluxseg8ei64_v_i8m1x8_mu(vbool8_t vm, vint8m1x8_t vd,
                                          const int8_t *rs1, vuint64m8_t rs2,
                                          size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8_v_i16mf4x2_mu(vbool64_t vm, vint16mf4x2_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8_v_i16mf4x3_mu(vbool64_t vm, vint16mf4x3_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8_v_i16mf4x4_mu(vbool64_t vm, vint16mf4x4_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8_v_i16mf4x5_mu(vbool64_t vm, vint16mf4x5_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8_v_i16mf4x6_mu(vbool64_t vm, vint16mf4x6_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei8_v_i16mf4x7_mu(vbool64_t vm, vint16mf4x7_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei8_v_i16mf4x8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                             const int16_t *rs1,
                                             vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8_v_i16mf2x2_mu(vbool32_t vm, vint16mf2x2_t vd,
                                             const int16_t *rs1,
```

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                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8_v_i16mf2x3_mu(vbool32_t vm, vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8_v_i16mf2x4_mu(vbool32_t vm, vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8_v_i16mf2x5_mu(vbool32_t vm, vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8_v_i16mf2x6_mu(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8_v_i16mf2x7_mu(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8_v_i16mf2x8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8_v_i16m1x2_mu(vbool16_t vm, vint16m1x2_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8_v_i16m1x3_mu(vbool16_t vm, vint16m1x3_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8_v_i16m1x4_mu(vbool16_t vm, vint16m1x4_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8_v_i16m1x5_mu(vbool16_t vm, vint16m1x5_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8_v_i16m1x6_mu(vbool16_t vm, vint16m1x6_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei8_v_i16m1x7_mu(vbool16_t vm, vint16m1x7_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8_v_i16m1x8_mu(vbool16_t vm, vint16m1x8_t vd,
                                              const int16_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei8_v_i16m2x2_mu(vbool8_t vm, vint16m2x2_t vd,
                                              const int16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8_v_i16m2x3_mu(vbool8_t vm, vint16m2x3_t vd,
                                              const int16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8_v_i16m2x4_mu(vbool8_t vm, vint16m2x4_t vd,
                                              const int16_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8_v_i16m4x2_mu(vbool4_t vm, vint16m4x2_t vd,
                                              const int16_t *rs1,
                                              vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16_v_i16mf4x2_mu(vbool64_t vm, vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16_v_i16mf4x3_mu(vbool64_t vm, vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16_v_i16mf4x4_mu(vbool64_t vm, vint16mf4x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16_v_i16mf4x5_mu(vbool64_t vm, vint16mf4x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16_v_i16mf4x6_mu(vbool64_t vm, vint16mf4x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
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vint16mf4x7_t __riscv_vluxseg7ei16_v_i16mf4x7_mu(vbool64_t vm, vint16mf4x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei16_v_i16mf4x8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16_v_i16mf2x2_mu(vbool32_t vm, vint16mf2x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16_v_i16mf2x3_mu(vbool32_t vm, vint16mf2x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16_v_i16mf2x4_mu(vbool32_t vm, vint16mf2x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16_v_i16mf2x5_mu(vbool32_t vm, vint16mf2x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16_v_i16mf2x6_mu(vbool32_t vm, vint16mf2x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16_v_i16mf2x7_mu(vbool32_t vm, vint16mf2x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16_v_i16mf2x8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16_v_i16m1x2_mu(vbool16_t vm, vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16_v_i16m1x3_mu(vbool16_t vm, vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16_v_i16m1x4_mu(vbool16_t vm, vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16_v_i16m1x5_mu(vbool16_t vm, vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16_v_i16m1x6_mu(vbool16_t vm, vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16_v_i16m1x7_mu(vbool16_t vm, vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16_v_i16m1x8_mu(vbool16_t vm, vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16_v_i16m2x2_mu(vbool8_t vm, vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16_v_i16m2x3_mu(vbool8_t vm, vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei16_v_i16m2x4_mu(vbool8_t vm, vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei16_v_i16m4x2_mu(vbool4_t vm, vint16m4x2_t vd,
                                               const int16_t *rs1,
                                               vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32_v_i16mf4x2_mu(vbool64_t vm, vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32_v_i16mf4x3_mu(vbool64_t vm, vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32_v_i16mf4x4_mu(vbool64_t vm, vint16mf4x4_t vd,
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                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32_v_i16mf4x5_mu(vbool64_t vm, vint16mf4x5_t vd,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32_v_i16mf4x6_mu(vbool64_t vm, vint16mf4x6_t vd,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32_v_i16mf4x7_mu(vbool64_t vm, vint16mf4x7_t vd,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32_v_i16mf4x8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                                const int16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei32_v_i16mf2x2_mu(vbool32_t vm, vint16mf2x2_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32_v_i16mf2x3_mu(vbool32_t vm, vint16mf2x3_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32_v_i16mf2x4_mu(vbool32_t vm, vint16mf2x4_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32_v_i16mf2x5_mu(vbool32_t vm, vint16mf2x5_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32_v_i16mf2x6_mu(vbool32_t vm, vint16mf2x6_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei32_v_i16mf2x7_mu(vbool32_t vm, vint16mf2x7_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32_v_i16mf2x8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                                const int16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32_v_i16m1x2_mu(vbool16_t vm, vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32_v_i16m1x3_mu(vbool16_t vm, vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei32_v_i16m1x4_mu(vbool16_t vm, vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32_v_i16m1x5_mu(vbool16_t vm, vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32_v_i16m1x6_mu(vbool16_t vm, vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32_v_i16m1x7_mu(vbool16_t vm, vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32_v_i16m1x8_mu(vbool16_t vm, vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32_v_i16m2x2_mu(vbool8_t vm, vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei32_v_i16m2x3_mu(vbool8_t vm, vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32_v_i16m2x4_mu(vbool8_t vm, vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32_v_i16m4x2_mu(vbool4_t vm, vint16m4x2_t vd,
                                               const int16_t *rs1,
```

```
                                                vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64_v_i16mf4x2_mu(vbool64_t vm, vint16mf4x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64_v_i16mf4x3_mu(vbool64_t vm, vint16mf4x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64_v_i16mf4x4_mu(vbool64_t vm, vint16mf4x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64_v_i16mf4x5_mu(vbool64_t vm, vint16mf4x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64_v_i16mf4x6_mu(vbool64_t vm, vint16mf4x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64_v_i16mf4x7_mu(vbool64_t vm, vint16mf4x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64_v_i16mf4x8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64_v_i16mf2x2_mu(vbool32_t vm, vint16mf2x2_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei64_v_i16mf2x3_mu(vbool32_t vm, vint16mf2x3_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64_v_i16mf2x4_mu(vbool32_t vm, vint16mf2x4_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64_v_i16mf2x5_mu(vbool32_t vm, vint16mf2x5_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei64_v_i16mf2x6_mu(vbool32_t vm, vint16mf2x6_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64_v_i16mf2x7_mu(vbool32_t vm, vint16mf2x7_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei64_v_i16mf2x8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                                 const int16_t *rs1,
                                                 vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64_v_i16m1x2_mu(vbool16_t vm, vint16m1x2_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64_v_i16m1x3_mu(vbool16_t vm, vint16m1x3_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64_v_i16m1x4_mu(vbool16_t vm, vint16m1x4_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64_v_i16m1x5_mu(vbool16_t vm, vint16m1x5_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64_v_i16m1x6_mu(vbool16_t vm, vint16m1x6_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64_v_i16m1x7_mu(vbool16_t vm, vint16m1x7_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64_v_i16m1x8_mu(vbool16_t vm, vint16m1x8_t vd,
                                               const int16_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64_v_i16m2x2_mu(vbool8_t vm, vint16m2x2_t vd,
                                               const int16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
```

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vint16m2x3_t __riscv_vluxseg3ei64_v_i16m2x3_mu(vbool8_t vm, vint16m2x3_t vd,
                                               const int16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64_v_i16m2x4_mu(vbool8_t vm, vint16m2x4_t vd,
                                               const int16_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8_v_i32mf2x2_mu(vbool64_t vm, vint32mf2x2_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8_v_i32mf2x3_mu(vbool64_t vm, vint32mf2x3_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8_v_i32mf2x4_mu(vbool64_t vm, vint32mf2x4_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8_v_i32mf2x5_mu(vbool64_t vm, vint32mf2x5_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8_v_i32mf2x6_mu(vbool64_t vm, vint32mf2x6_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8_v_i32mf2x7_mu(vbool64_t vm, vint32mf2x7_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8_v_i32mf2x8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                                const int32_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8_v_i32m1x2_mu(vbool32_t vm, vint32m1x2_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8_v_i32m1x3_mu(vbool32_t vm, vint32m1x3_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8_v_i32m1x4_mu(vbool32_t vm, vint32m1x4_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8_v_i32m1x5_mu(vbool32_t vm, vint32m1x5_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8_v_i32m1x6_mu(vbool32_t vm, vint32m1x6_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8_v_i32m1x7_mu(vbool32_t vm, vint32m1x7_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8_v_i32m1x8_mu(vbool32_t vm, vint32m1x8_t vd,
                                              const int32_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8_v_i32m2x2_mu(vbool16_t vm, vint32m2x2_t vd,
                                              const int32_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8_v_i32m2x3_mu(vbool16_t vm, vint32m2x3_t vd,
                                              const int32_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei8_v_i32m2x4_mu(vbool16_t vm, vint32m2x4_t vd,
                                              const int32_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei8_v_i32m4x2_mu(vbool8_t vm, vint32m4x2_t vd,
                                              const int32_t *rs1,
                                              vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16_v_i32mf2x2_mu(vbool64_t vm, vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16_v_i32mf2x3_mu(vbool64_t vm, vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16_v_i32mf2x4_mu(vbool64_t vm, vint32mf2x4_t vd,
```

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                                                const int32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei16_v_i32mf2x5_mu(vbool64_t vm, vint32mf2x5_t vd,
                                                const int32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16_v_i32mf2x6_mu(vbool64_t vm, vint32mf2x6_t vd,
                                                const int32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei16_v_i32mf2x7_mu(vbool64_t vm, vint32mf2x7_t vd,
                                                const int32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16_v_i32mf2x8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                                const int32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16_v_i32m1x2_mu(vbool32_t vm, vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16_v_i32m1x3_mu(vbool32_t vm, vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16_v_i32m1x4_mu(vbool32_t vm, vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16_v_i32m1x5_mu(vbool32_t vm, vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16_v_i32m1x6_mu(vbool32_t vm, vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16_v_i32m1x7_mu(vbool32_t vm, vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16_v_i32m1x8_mu(vbool32_t vm, vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16_v_i32m2x2_mu(vbool16_t vm, vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16_v_i32m2x3_mu(vbool16_t vm, vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei16_v_i32m2x4_mu(vbool16_t vm, vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16_v_i32m4x2_mu(vbool8_t vm, vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32_v_i32mf2x2_mu(vbool64_t vm, vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32_v_i32mf2x3_mu(vbool64_t vm, vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32_v_i32mf2x4_mu(vbool64_t vm, vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32_v_i32mf2x5_mu(vbool64_t vm, vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei32_v_i32mf2x6_mu(vbool64_t vm, vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32_v_i32mf2x7_mu(vbool64_t vm, vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32_v_i32mf2x8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                                 const int32_t *rs1,
```

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                                                vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32_v_i32m1x2_mu(vbool32_t vm, vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32_v_i32m1x3_mu(vbool32_t vm, vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32_v_i32m1x4_mu(vbool32_t vm, vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32_v_i32m1x5_mu(vbool32_t vm, vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32_v_i32m1x6_mu(vbool32_t vm, vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32_v_i32m1x7_mu(vbool32_t vm, vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32_v_i32m1x8_mu(vbool32_t vm, vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei32_v_i32m2x2_mu(vbool16_t vm, vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32_v_i32m2x3_mu(vbool16_t vm, vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32_v_i32m2x4_mu(vbool16_t vm, vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32_v_i32m4x2_mu(vbool8_t vm, vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei64_v_i32mf2x2_mu(vbool64_t vm, vint32mf2x2_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64_v_i32mf2x3_mu(vbool64_t vm, vint32mf2x3_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei64_v_i32mf2x4_mu(vbool64_t vm, vint32mf2x4_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64_v_i32mf2x5_mu(vbool64_t vm, vint32mf2x5_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64_v_i32mf2x6_mu(vbool64_t vm, vint32mf2x6_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64_v_i32mf2x7_mu(vbool64_t vm, vint32mf2x7_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei64_v_i32mf2x8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                                 const int32_t *rs1,
                                                 vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64_v_i32m1x2_mu(vbool32_t vm, vint32m1x2_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64_v_i32m1x3_mu(vbool32_t vm, vint32m1x3_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64_v_i32m1x4_mu(vbool32_t vm, vint32m1x4_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64_v_i32m1x5_mu(vbool32_t vm, vint32m1x5_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
```

```
vint32m1x6_t __riscv_vluxseg6ei64_v_i32m1x6_mu(vbool32_t vm, vint32m1x6_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64_v_i32m1x7_mu(vbool32_t vm, vint32m1x7_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64_v_i32m1x8_mu(vbool32_t vm, vint32m1x8_t vd,
                                               const int32_t *rs1,
                                               vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64_v_i32m2x2_mu(vbool16_t vm, vint32m2x2_t vd,
                                               const int32_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64_v_i32m2x3_mu(vbool16_t vm, vint32m2x3_t vd,
                                               const int32_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64_v_i32m2x4_mu(vbool16_t vm, vint32m2x4_t vd,
                                               const int32_t *rs1,
                                               vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei64_v_i32m4x2_mu(vbool8_t vm, vint32m4x2_t vd,
                                               const int32_t *rs1,
                                               vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8_v_i64m1x2_mu(vbool64_t vm, vint64m1x2_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8_v_i64m1x3_mu(vbool64_t vm, vint64m1x3_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8_v_i64m1x4_mu(vbool64_t vm, vint64m1x4_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8_v_i64m1x5_mu(vbool64_t vm, vint64m1x5_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8_v_i64m1x6_mu(vbool64_t vm, vint64m1x6_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8_v_i64m1x7_mu(vbool64_t vm, vint64m1x7_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8_v_i64m1x8_mu(vbool64_t vm, vint64m1x8_t vd,
                                              const int64_t *rs1,
                                              vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8_v_i64m2x2_mu(vbool32_t vm, vint64m2x2_t vd,
                                              const int64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8_v_i64m2x3_mu(vbool32_t vm, vint64m2x3_t vd,
                                              const int64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8_v_i64m2x4_mu(vbool32_t vm, vint64m2x4_t vd,
                                              const int64_t *rs1,
                                              vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei8_v_i64m4x2_mu(vbool16_t vm, vint64m4x2_t vd,
                                              const int64_t *rs1,
                                              vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei16_v_i64m1x2_mu(vbool64_t vm, vint64m1x2_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei16_v_i64m1x3_mu(vbool64_t vm, vint64m1x3_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16_v_i64m1x4_mu(vbool64_t vm, vint64m1x4_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16_v_i64m1x5_mu(vbool64_t vm, vint64m1x5_t vd,
                                               const int64_t *rs1,
                                               vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16_v_i64m1x6_mu(vbool64_t vm, vint64m1x6_t vd,
```

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                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16_v_i64m1x7_mu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16_v_i64m1x8_mu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16_v_i64m2x2_mu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16_v_i64m2x3_mu(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16_v_i64m2x4_mu(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16_v_i64m4x2_mu(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32_v_i64m1x2_mu(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32_v_i64m1x3_mu(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32_v_i64m1x4_mu(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32_v_i64m1x5_mu(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32_v_i64m1x6_mu(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32_v_i64m1x7_mu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32_v_i64m1x8_mu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei32_v_i64m2x2_mu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32_v_i64m2x3_mu(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32_v_i64m2x4_mu(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32_v_i64m4x2_mu(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64_v_i64m1x2_mu(vbool64_t vm, vint64m1x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64_v_i64m1x3_mu(vbool64_t vm, vint64m1x3_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei64_v_i64m1x4_mu(vbool64_t vm, vint64m1x4_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64_v_i64m1x5_mu(vbool64_t vm, vint64m1x5_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64_v_i64m1x6_mu(vbool64_t vm, vint64m1x6_t vd,
                                                const int64_t *rs1,
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                                                vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64_v_i64m1x7_mu(vbool64_t vm, vint64m1x7_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64_v_i64m1x8_mu(vbool64_t vm, vint64m1x8_t vd,
                                                const int64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64_v_i64m2x2_mu(vbool32_t vm, vint64m2x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64_v_i64m2x3_mu(vbool32_t vm, vint64m2x3_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64_v_i64m2x4_mu(vbool32_t vm, vint64m2x4_t vd,
                                                const int64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64_v_i64m4x2_mu(vbool16_t vm, vint64m4x2_t vd,
                                                const int64_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8_v_u8mf8x2_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei8_v_u8mf8x3_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8_v_u8mf8x4_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8_v_u8mf8x5_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8_v_u8mf8x6_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei8_v_u8mf8x7_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8_v_u8mf8x8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei8_v_u8mf4x2_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8_v_u8mf4x3_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8_v_u8mf4x4_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8_v_u8mf4x5_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8_v_u8mf4x6_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8_v_u8mf4x7_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8_v_u8mf4x8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8_v_u8mf2x2_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8_v_u8mf2x3_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint8mf2_t rs2, size_t vl);
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vuint8mf2x4_t __riscv_vloxseg4ei8_v_u8mf2x4_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8_v_u8mf2x5_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8_v_u8mf2x6_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8_v_u8mf2x7_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8_v_u8mf2x8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8_v_u8m1x2_mu(vbool8_t vm, vuint8m1x2_t vd,
                                             const uint8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei8_v_u8m1x3_mu(vbool8_t vm, vuint8m1x3_t vd,
                                             const uint8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8_v_u8m1x4_mu(vbool8_t vm, vuint8m1x4_t vd,
                                             const uint8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8_v_u8m1x5_mu(vbool8_t vm, vuint8m1x5_t vd,
                                             const uint8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8_v_u8m1x6_mu(vbool8_t vm, vuint8m1x6_t vd,
                                             const uint8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8_v_u8m1x7_mu(vbool8_t vm, vuint8m1x7_t vd,
                                             const uint8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8_v_u8m1x8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                             const uint8_t *rs1, vuint8m1_t rs2,
                                             size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8_v_u8m2x2_mu(vbool4_t vm, vuint8m2x2_t vd,
                                             const uint8_t *rs1, vuint8m2_t rs2,
                                             size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8_v_u8m2x3_mu(vbool4_t vm, vuint8m2x3_t vd,
                                             const uint8_t *rs1, vuint8m2_t rs2,
                                             size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8_v_u8m2x4_mu(vbool4_t vm, vuint8m2x4_t vd,
                                             const uint8_t *rs1, vuint8m2_t rs2,
                                             size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8_v_u8m4x2_mu(vbool2_t vm, vuint8m4x2_t vd,
                                             const uint8_t *rs1, vuint8m4_t rs2,
                                             size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16_v_u8mf8x2_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16_v_u8mf8x3_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei16_v_u8mf8x4_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei16_v_u8mf8x5_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16_v_u8mf8x6_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16_v_u8mf8x7_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16_v_u8mf8x8_mu(vbool64_t vm, vuint8mf8x8_t vd,
```

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                                                const uint8_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16_v_u8mf4x2_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei16_v_u8mf4x3_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16_v_u8mf4x4_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16_v_u8mf4x5_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16_v_u8mf4x6_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16_v_u8mf4x7_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16_v_u8mf4x8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16_v_u8mf2x2_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16_v_u8mf2x3_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16_v_u8mf2x4_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16_v_u8mf2x5_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16_v_u8mf2x6_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16_v_u8mf2x7_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei16_v_u8mf2x8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16_v_u8m1x2_mu(vbool8_t vm, vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16_v_u8m1x3_mu(vbool8_t vm, vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16_v_u8m1x4_mu(vbool8_t vm, vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16_v_u8m1x5_mu(vbool8_t vm, vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16_v_u8m1x6_mu(vbool8_t vm, vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei16_v_u8m1x7_mu(vbool8_t vm, vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16_v_u8m1x8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16_v_u8m2x2_mu(vbool4_t vm, vuint8m2x2_t vd,
                                              const uint8_t *rs1,
```

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                                                vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16_v_u8m2x3_mu(vbool4_t vm, vuint8m2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16_v_u8m2x4_mu(vbool4_t vm, vuint8m2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16_v_u8m4x2_mu(vbool2_t vm, vuint8m4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32_v_u8mf8x2_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32_v_u8mf8x3_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32_v_u8mf8x4_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32_v_u8mf8x5_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32_v_u8mf8x6_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei32_v_u8mf8x7_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32_v_u8mf8x8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32_v_u8mf4x2_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei32_v_u8mf4x3_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32_v_u8mf4x4_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei32_v_u8mf4x5_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32_v_u8mf4x6_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32_v_u8mf4x7_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32_v_u8mf4x8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32_v_u8mf2x2_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32_v_u8mf2x3_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32_v_u8mf2x4_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32_v_u8mf2x5_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32_v_u8mf2x6_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                                  const uint8_t *rs1,
                                                  vuint32m2_t rs2, size_t vl);
```

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vuint8mf2x7_t __riscv_vloxseg7ei32_v_u8mf2x7_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32_v_u8mf2x8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32_v_u8m1x2_mu(vbool8_t vm, vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei32_v_u8m1x3_mu(vbool8_t vm, vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32_v_u8m1x4_mu(vbool8_t vm, vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32_v_u8m1x5_mu(vbool8_t vm, vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei32_v_u8m1x6_mu(vbool8_t vm, vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32_v_u8m1x7_mu(vbool8_t vm, vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32_v_u8m1x8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32_v_u8m2x2_mu(vbool4_t vm, vuint8m2x2_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32_v_u8m2x3_mu(vbool4_t vm, vuint8m2x3_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32_v_u8m2x4_mu(vbool4_t vm, vuint8m2x4_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64_v_u8mf8x2_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64_v_u8mf8x3_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64_v_u8mf8x4_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64_v_u8mf8x5_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64_v_u8mf8x6_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64_v_u8mf8x7_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei64_v_u8mf8x8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei64_v_u8mf4x2_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64_v_u8mf4x3_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64_v_u8mf4x4_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei64_v_u8mf4x5_mu(vbool32_t vm, vuint8mf4x5_t vd,
```

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                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64_v_u8mf4x6_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei64_v_u8mf4x7_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64_v_u8mf4x8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64_v_u8mf2x2_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64_v_u8mf2x3_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64_v_u8mf2x4_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64_v_u8mf2x5_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64_v_u8mf2x6_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64_v_u8mf2x7_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64_v_u8mf2x8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64_v_u8m1x2_mu(vbool8_t vm, vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64_v_u8m1x3_mu(vbool8_t vm, vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64_v_u8m1x4_mu(vbool8_t vm, vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei64_v_u8m1x5_mu(vbool8_t vm, vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64_v_u8m1x6_mu(vbool8_t vm, vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64_v_u8m1x7_mu(vbool8_t vm, vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64_v_u8m1x8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8_v_u16mf4x2_mu(vbool64_t vm,
                                                 vuint16mf4x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8_v_u16mf4x3_mu(vbool64_t vm,
                                                 vuint16mf4x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei8_v_u16mf4x4_mu(vbool64_t vm,
                                                 vuint16mf4x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8_v_u16mf4x5_mu(vbool64_t vm,
                                                 vuint16mf4x5_t vd,
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                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8_v_u16mf4x6_mu(vbool64_t vm,
                                                vuint16mf4x6_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8_v_u16mf4x7_mu(vbool64_t vm,
                                                vuint16mf4x7_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8_v_u16mf4x8_mu(vbool64_t vm,
                                                vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8_v_u16mf2x2_mu(vbool32_t vm,
                                                vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8_v_u16mf2x3_mu(vbool32_t vm,
                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8_v_u16mf2x4_mu(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8_v_u16mf2x5_mu(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8_v_u16mf2x6_mu(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8_v_u16mf2x7_mu(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8_v_u16mf2x8_mu(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8_v_u16m1x2_mu(vbool16_t vm, vuint16m1x2_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8_v_u16m1x3_mu(vbool16_t vm, vuint16m1x3_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei8_v_u16m1x4_mu(vbool16_t vm, vuint16m1x4_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8_v_u16m1x5_mu(vbool16_t vm, vuint16m1x5_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei8_v_u16m1x6_mu(vbool16_t vm, vuint16m1x6_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8_v_u16m1x7_mu(vbool16_t vm, vuint16m1x7_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8_v_u16m1x8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8_v_u16m2x2_mu(vbool8_t vm, vuint16m2x2_t vd,
                                               const uint16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8_v_u16m2x3_mu(vbool8_t vm, vuint16m2x3_t vd,
```

```
                                                const uint16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8_v_u16m2x4_mu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8_v_u16m4x2_mu(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16_v_u16mf4x2_mu(vbool64_t vm,
                                                   vuint16mf4x2_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16_v_u16mf4x3_mu(vbool64_t vm,
                                                   vuint16mf4x3_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei16_v_u16mf4x4_mu(vbool64_t vm,
                                                   vuint16mf4x4_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16_v_u16mf4x5_mu(vbool64_t vm,
                                                   vuint16mf4x5_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16_v_u16mf4x6_mu(vbool64_t vm,
                                                   vuint16mf4x6_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16_v_u16mf4x7_mu(vbool64_t vm,
                                                   vuint16mf4x7_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16_v_u16mf4x8_mu(vbool64_t vm,
                                                   vuint16mf4x8_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16_v_u16mf2x2_mu(vbool32_t vm,
                                                   vuint16mf2x2_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16_v_u16mf2x3_mu(vbool32_t vm,
                                                   vuint16mf2x3_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16_v_u16mf2x4_mu(vbool32_t vm,
                                                   vuint16mf2x4_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16_v_u16mf2x5_mu(vbool32_t vm,
                                                   vuint16mf2x5_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16_v_u16mf2x6_mu(vbool32_t vm,
                                                   vuint16mf2x6_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16_v_u16mf2x7_mu(vbool32_t vm,
                                                   vuint16mf2x7_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16_v_u16mf2x8_mu(vbool32_t vm,
                                                   vuint16mf2x8_t vd,
                                                   const uint16_t *rs1,
                                                   vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16_v_u16m1x2_mu(vbool16_t vm, vuint16m1x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint16m1_t rs2, size_t vl);
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vuint16m1x3_t __riscv_vloxseg3ei16_v_u16m1x3_mu(vbool16_t vm, vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16_v_u16m1x4_mu(vbool16_t vm, vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16_v_u16m1x5_mu(vbool16_t vm, vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16_v_u16m1x6_mu(vbool16_t vm, vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16_v_u16m1x7_mu(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei16_v_u16m1x8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei16_v_u16m2x2_mu(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16_v_u16m2x3_mu(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16_v_u16m2x4_mu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei16_v_u16m4x2_mu(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32_v_u16mf4x2_mu(vbool64_t vm,
                                                  vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei32_v_u16mf4x3_mu(vbool64_t vm,
                                                  vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32_v_u16mf4x4_mu(vbool64_t vm,
                                                  vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32_v_u16mf4x5_mu(vbool64_t vm,
                                                  vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32_v_u16mf4x6_mu(vbool64_t vm,
                                                  vuint16mf4x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32_v_u16mf4x7_mu(vbool64_t vm,
                                                  vuint16mf4x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32_v_u16mf4x8_mu(vbool64_t vm,
                                                  vuint16mf4x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32_v_u16mf2x2_mu(vbool32_t vm,
                                                  vuint16mf2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32_v_u16mf2x3_mu(vbool32_t vm,
                                                  vuint16mf2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32_v_u16mf2x4_mu(vbool32_t vm,
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                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32_v_u16mf2x5_mu(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32_v_u16mf2x6_mu(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32_v_u16mf2x7_mu(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei32_v_u16mf2x8_mu(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32_v_u16m1x2_mu(vbool16_t vm, vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32_v_u16m1x3_mu(vbool16_t vm, vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei32_v_u16m1x4_mu(vbool16_t vm, vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32_v_u16m1x5_mu(vbool16_t vm, vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32_v_u16m1x6_mu(vbool16_t vm, vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei32_v_u16m1x7_mu(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32_v_u16m1x8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32_v_u16m2x2_mu(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei32_v_u16m2x3_mu(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32_v_u16m2x4_mu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32_v_u16m4x2_mu(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64_v_u16mf4x2_mu(vbool64_t vm,
                                                vuint16mf4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64_v_u16mf4x3_mu(vbool64_t vm,
                                                vuint16mf4x3_t vd,
                                                const uint16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64_v_u16mf4x4_mu(vbool64_t vm,
                                                vuint16mf4x4_t vd,
                                                const uint16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64_v_u16mf4x5_mu(vbool64_t vm,
                                                vuint16mf4x5_t vd,
                                                const uint16_t *rs1,
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                                                vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64_v_u16mf4x6_mu(vbool64_t vm,
                                                vuint16mf4x6_t vd,
                                                const uint16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64_v_u16mf4x7_mu(vbool64_t vm,
                                                vuint16mf4x7_t vd,
                                                const uint16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64_v_u16mf4x8_mu(vbool64_t vm,
                                                vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64_v_u16mf2x2_mu(vbool32_t vm,
                                                vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei64_v_u16mf2x3_mu(vbool32_t vm,
                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64_v_u16mf2x4_mu(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei64_v_u16mf2x5_mu(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64_v_u16mf2x6_mu(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64_v_u16mf2x7_mu(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64_v_u16mf2x8_mu(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64_v_u16m1x2_mu(vbool16_t vm, vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64_v_u16m1x3_mu(vbool16_t vm, vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64_v_u16m1x4_mu(vbool16_t vm, vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64_v_u16m1x5_mu(vbool16_t vm, vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64_v_u16m1x6_mu(vbool16_t vm, vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei64_v_u16m1x7_mu(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei64_v_u16m1x8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64_v_u16m2x2_mu(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64_v_u16m2x3_mu(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
```

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                                                vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64_v_u16m2x4_mu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8_v_u32mf2x2_mu(vbool64_t vm,
                                                 vuint32mf2x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8_v_u32mf2x3_mu(vbool64_t vm,
                                                 vuint32mf2x3_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8_v_u32mf2x4_mu(vbool64_t vm,
                                                 vuint32mf2x4_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8_v_u32mf2x5_mu(vbool64_t vm,
                                                 vuint32mf2x5_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8_v_u32mf2x6_mu(vbool64_t vm,
                                                 vuint32mf2x6_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8_v_u32mf2x7_mu(vbool64_t vm,
                                                 vuint32mf2x7_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8_v_u32mf2x8_mu(vbool64_t vm,
                                                 vuint32mf2x8_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8_v_u32m1x2_mu(vbool32_t vm, vuint32m1x2_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8_v_u32m1x3_mu(vbool32_t vm, vuint32m1x3_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8_v_u32m1x4_mu(vbool32_t vm, vuint32m1x4_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8_v_u32m1x5_mu(vbool32_t vm, vuint32m1x5_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8_v_u32m1x6_mu(vbool32_t vm, vuint32m1x6_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8_v_u32m1x7_mu(vbool32_t vm, vuint32m1x7_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei8_v_u32m1x8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei8_v_u32m2x2_mu(vbool16_t vm, vuint32m2x2_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8_v_u32m2x3_mu(vbool16_t vm, vuint32m2x3_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei8_v_u32m2x4_mu(vbool16_t vm, vuint32m2x4_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8_v_u32m4x2_mu(vbool8_t vm, vuint32m4x2_t vd,
                                               const uint32_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16_v_u32mf2x2_mu(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
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                                                const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei16_v_u32mf2x3_mu(vbool64_t vm,
                                                vuint32mf2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16_v_u32mf2x4_mu(vbool64_t vm,
                                                vuint32mf2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei16_v_u32mf2x5_mu(vbool64_t vm,
                                                vuint32mf2x5_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16_v_u32mf2x6_mu(vbool64_t vm,
                                                vuint32mf2x6_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16_v_u32mf2x7_mu(vbool64_t vm,
                                                vuint32mf2x7_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16_v_u32mf2x8_mu(vbool64_t vm,
                                                vuint32mf2x8_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16_v_u32m1x2_mu(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16_v_u32m1x3_mu(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16_v_u32m1x4_mu(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16_v_u32m1x5_mu(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16_v_u32m1x6_mu(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16_v_u32m1x7_mu(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei16_v_u32m1x8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16_v_u32m2x2_mu(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16_v_u32m2x3_mu(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16_v_u32m2x4_mu(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16_v_u32m4x2_mu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei32_v_u32mf2x2_mu(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei32_v_u32mf2x3_mu(vbool64_t vm,
                                                vuint32mf2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
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vuint32mf2x4_t __riscv_vloxseg4ei32_v_u32mf2x4_mu(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32_v_u32mf2x5_mu(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32_v_u32mf2x6_mu(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32_v_u32mf2x7_mu(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32_v_u32mf2x8_mu(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32_v_u32m1x2_mu(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32_v_u32m1x3_mu(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32_v_u32m1x4_mu(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei32_v_u32m1x5_mu(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32_v_u32m1x6_mu(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32_v_u32m1x7_mu(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32_v_u32m1x8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32_v_u32m2x2_mu(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei32_v_u32m2x3_mu(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei32_v_u32m2x4_mu(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei32_v_u32m4x2_mu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64_v_u32mf2x2_mu(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64_v_u32mf2x3_mu(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64_v_u32mf2x4_mu(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64_v_u32mf2x5_mu(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
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                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64_v_u32mf2x6_mu(vbool64_t vm,
                                                vuint32mf2x6_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64_v_u32mf2x7_mu(vbool64_t vm,
                                                vuint32mf2x7_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64_v_u32mf2x8_mu(vbool64_t vm,
                                                vuint32mf2x8_t vd,
                                                const uint32_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64_v_u32m1x2_mu(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei64_v_u32m1x3_mu(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64_v_u32m1x4_mu(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64_v_u32m1x5_mu(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64_v_u32m1x6_mu(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64_v_u32m1x7_mu(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64_v_u32m1x8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64_v_u32m2x2_mu(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei64_v_u32m2x3_mu(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64_v_u32m2x4_mu(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64_v_u32m4x2_mu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8_v_u64m1x2_mu(vbool64_t vm, vuint64m1x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8_v_u64m1x3_mu(vbool64_t vm, vuint64m1x3_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8_v_u64m1x4_mu(vbool64_t vm, vuint64m1x4_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8_v_u64m1x5_mu(vbool64_t vm, vuint64m1x5_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei8_v_u64m1x6_mu(vbool64_t vm, vuint64m1x6_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8_v_u64m1x7_mu(vbool64_t vm, vuint64m1x7_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8_v_u64m1x8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                               const uint64_t *rs1,
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                                                vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8_v_u64m2x2_mu(vbool32_t vm, vuint64m2x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei8_v_u64m2x3_mu(vbool32_t vm, vuint64m2x3_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei8_v_u64m2x4_mu(vbool32_t vm, vuint64m2x4_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8_v_u64m4x2_mu(vbool16_t vm, vuint64m4x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16_v_u64m1x2_mu(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16_v_u64m1x3_mu(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16_v_u64m1x4_mu(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei16_v_u64m1x5_mu(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16_v_u64m1x6_mu(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16_v_u64m1x7_mu(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16_v_u64m1x8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16_v_u64m2x2_mu(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16_v_u64m2x3_mu(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16_v_u64m2x4_mu(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16_v_u64m4x2_mu(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32_v_u64m1x2_mu(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei32_v_u64m1x3_mu(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32_v_u64m1x4_mu(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32_v_u64m1x5_mu(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei32_v_u64m1x6_mu(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32_v_u64m1x7_mu(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32_v_u64m1x8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
```

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vuint64m2x2_t __riscv_vloxseg2ei32_v_u64m2x2_mu(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32_v_u64m2x3_mu(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32_v_u64m2x4_mu(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei32_v_u64m4x2_mu(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64_v_u64m1x2_mu(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64_v_u64m1x3_mu(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64_v_u64m1x4_mu(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64_v_u64m1x5_mu(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64_v_u64m1x6_mu(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64_v_u64m1x7_mu(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64_v_u64m1x8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64_v_u64m2x2_mu(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64_v_u64m2x3_mu(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64_v_u64m2x4_mu(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64_v_u64m4x2_mu(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8_v_u8mf8x2_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8_v_u8mf8x3_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei8_v_u8mf8x4_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8_v_u8mf8x5_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei8_v_u8mf8x6_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8_v_u8mf8x7_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8_v_u8mf8x8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                               const uint8_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8_v_u8mf4x2_mu(vbool32_t vm, vuint8mf4x2_t vd,
```

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                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8_v_u8mf4x3_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8_v_u8mf4x4_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8_v_u8mf4x5_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8_v_u8mf4x6_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8_v_u8mf4x7_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei8_v_u8mf4x8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8_v_u8mf2x2_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8_v_u8mf2x3_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8_v_u8mf2x4_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8_v_u8mf2x5_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8_v_u8mf2x6_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8_v_u8mf2x7_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8_v_u8mf2x8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                            const uint8_t *rs1,
                                            vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8_v_u8m1x2_mu(vbool8_t vm, vuint8m1x2_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8_v_u8m1x3_mu(vbool8_t vm, vuint8m1x3_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8_v_u8m1x4_mu(vbool8_t vm, vuint8m1x4_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8_v_u8m1x5_mu(vbool8_t vm, vuint8m1x5_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8_v_u8m1x6_mu(vbool8_t vm, vuint8m1x6_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8_v_u8m1x7_mu(vbool8_t vm, vuint8m1x7_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei8_v_u8m1x8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                          const uint8_t *rs1, vuint8m1_t rs2,
                                          size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8_v_u8m2x2_mu(vbool4_t vm, vuint8m2x2_t vd,
                                          const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8_v_u8m2x3_mu(vbool4_t vm, vuint8m2x3_t vd,
                                          const uint8_t *rs1, vuint8m2_t rs2,
```

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                                          size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8_v_u8m2x4_mu(vbool4_t vm, vuint8m2x4_t vd,
                                          const uint8_t *rs1, vuint8m2_t rs2,
                                          size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei8_v_u8m4x2_mu(vbool2_t vm, vuint8m4x2_t vd,
                                          const uint8_t *rs1, vuint8m4_t rs2,
                                          size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei16_v_u8mf8x2_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16_v_u8mf8x3_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16_v_u8mf8x4_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16_v_u8mf8x5_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16_v_u8mf8x6_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16_v_u8mf8x7_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16_v_u8mf8x8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16_v_u8mf4x2_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16_v_u8mf4x3_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16_v_u8mf4x4_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16_v_u8mf4x5_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16_v_u8mf4x6_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16_v_u8mf4x7_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16_v_u8mf4x8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                             const uint8_t *rs1,
                                             vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16_v_u8mf2x2_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                             const uint8_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16_v_u8mf2x3_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                             const uint8_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16_v_u8mf2x4_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                             const uint8_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei16_v_u8mf2x5_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                             const uint8_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16_v_u8mf2x6_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                             const uint8_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16_v_u8mf2x7_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                             const uint8_t *rs1,
                                             vuint16m1_t rs2, size_t vl);
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vuint8mf2x8_t __riscv_vluxseg8ei16_v_u8mf2x8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16_v_u8m1x2_mu(vbool8_t vm, vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16_v_u8m1x3_mu(vbool8_t vm, vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei16_v_u8m1x4_mu(vbool8_t vm, vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16_v_u8m1x5_mu(vbool8_t vm, vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16_v_u8m1x6_mu(vbool8_t vm, vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16_v_u8m1x7_mu(vbool8_t vm, vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16_v_u8m1x8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16_v_u8m2x2_mu(vbool4_t vm, vuint8m2x2_t vd,
                                              const uint8_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16_v_u8m2x3_mu(vbool4_t vm, vuint8m2x3_t vd,
                                              const uint8_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16_v_u8m2x4_mu(vbool4_t vm, vuint8m2x4_t vd,
                                              const uint8_t *rs1,
                                              vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16_v_u8m4x2_mu(vbool2_t vm, vuint8m4x2_t vd,
                                              const uint8_t *rs1,
                                              vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32_v_u8mf8x2_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32_v_u8mf8x3_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32_v_u8mf8x4_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32_v_u8mf8x5_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32_v_u8mf8x6_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei32_v_u8mf8x7_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32_v_u8mf8x8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei32_v_u8mf4x2_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32_v_u8mf4x3_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32_v_u8mf4x4_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei32_v_u8mf4x5_mu(vbool32_t vm, vuint8mf4x5_t vd,
```

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                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei32_v_u8mf4x6_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei32_v_u8mf4x7_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei32_v_u8mf4x8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32_v_u8mf2x2_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32_v_u8mf2x3_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei32_v_u8mf2x4_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32_v_u8mf2x5_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32_v_u8mf2x6_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei32_v_u8mf2x7_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei32_v_u8mf2x8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32_v_u8m1x2_mu(vbool8_t vm, vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32_v_u8m1x3_mu(vbool8_t vm, vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32_v_u8m1x4_mu(vbool8_t vm, vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32_v_u8m1x5_mu(vbool8_t vm, vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32_v_u8m1x6_mu(vbool8_t vm, vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32_v_u8m1x7_mu(vbool8_t vm, vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32_v_u8m1x8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32_v_u8m2x2_mu(vbool4_t vm, vuint8m2x2_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32_v_u8m2x3_mu(vbool4_t vm, vuint8m2x3_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei32_v_u8m2x4_mu(vbool4_t vm, vuint8m2x4_t vd,
                                              const uint8_t *rs1,
                                              vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64_v_u8mf8x2_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64_v_u8mf8x3_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                                const uint8_t *rs1,
```

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                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64_v_u8mf8x4_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei64_v_u8mf8x5_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei64_v_u8mf8x6_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64_v_u8mf8x7_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64_v_u8mf8x8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64_v_u8mf4x2_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64_v_u8mf4x3_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64_v_u8mf4x4_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64_v_u8mf4x5_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64_v_u8mf4x6_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64_v_u8mf4x7_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64_v_u8mf4x8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64_v_u8mf2x2_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64_v_u8mf2x3_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64_v_u8mf2x4_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64_v_u8mf2x5_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64_v_u8mf2x6_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64_v_u8mf2x7_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64_v_u8mf2x8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                                const uint8_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei64_v_u8m1x2_mu(vbool8_t vm, vuint8m1x2_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64_v_u8m1x3_mu(vbool8_t vm, vuint8m1x3_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64_v_u8m1x4_mu(vbool8_t vm, vuint8m1x4_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
```

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vuint8m1x5_t __riscv_vluxseg5ei64_v_u8m1x5_mu(vbool8_t vm, vuint8m1x5_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64_v_u8m1x6_mu(vbool8_t vm, vuint8m1x6_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64_v_u8m1x7_mu(vbool8_t vm, vuint8m1x7_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei64_v_u8m1x8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                              const uint8_t *rs1,
                                              vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8_v_u16mf4x2_mu(vbool64_t vm,
                                                 vuint16mf4x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8_v_u16mf4x3_mu(vbool64_t vm,
                                                 vuint16mf4x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8_v_u16mf4x4_mu(vbool64_t vm,
                                                 vuint16mf4x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8_v_u16mf4x5_mu(vbool64_t vm,
                                                 vuint16mf4x5_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei8_v_u16mf4x6_mu(vbool64_t vm,
                                                 vuint16mf4x6_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei8_v_u16mf4x7_mu(vbool64_t vm,
                                                 vuint16mf4x7_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8_v_u16mf4x8_mu(vbool64_t vm,
                                                 vuint16mf4x8_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8_v_u16mf2x2_mu(vbool32_t vm,
                                                 vuint16mf2x2_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8_v_u16mf2x3_mu(vbool32_t vm,
                                                 vuint16mf2x3_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8_v_u16mf2x4_mu(vbool32_t vm,
                                                 vuint16mf2x4_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8_v_u16mf2x5_mu(vbool32_t vm,
                                                 vuint16mf2x5_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei8_v_u16mf2x6_mu(vbool32_t vm,
                                                 vuint16mf2x6_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei8_v_u16mf2x7_mu(vbool32_t vm,
                                                 vuint16mf2x7_t vd,
                                                 const uint16_t *rs1,
                                                 vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei8_v_u16mf2x8_mu(vbool32_t vm,
                                                 vuint16mf2x8_t vd,
                                                 const uint16_t *rs1,
```

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                                                  vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8_v_u16m1x2_mu(vbool16_t vm, vuint16m1x2_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei8_v_u16m1x3_mu(vbool16_t vm, vuint16m1x3_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei8_v_u16m1x4_mu(vbool16_t vm, vuint16m1x4_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei8_v_u16m1x5_mu(vbool16_t vm, vuint16m1x5_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei8_v_u16m1x6_mu(vbool16_t vm, vuint16m1x6_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei8_v_u16m1x7_mu(vbool16_t vm, vuint16m1x7_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei8_v_u16m1x8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                               const uint16_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei8_v_u16m2x2_mu(vbool8_t vm, vuint16m2x2_t vd,
                                               const uint16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei8_v_u16m2x3_mu(vbool8_t vm, vuint16m2x3_t vd,
                                               const uint16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8_v_u16m2x4_mu(vbool8_t vm, vuint16m2x4_t vd,
                                               const uint16_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei8_v_u16m4x2_mu(vbool4_t vm, vuint16m4x2_t vd,
                                               const uint16_t *rs1,
                                               vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16_v_u16mf4x2_mu(vbool64_t vm,
                                                  vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16_v_u16mf4x3_mu(vbool64_t vm,
                                                  vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16_v_u16mf4x4_mu(vbool64_t vm,
                                                  vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei16_v_u16mf4x5_mu(vbool64_t vm,
                                                  vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei16_v_u16mf4x6_mu(vbool64_t vm,
                                                  vuint16mf4x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei16_v_u16mf4x7_mu(vbool64_t vm,
                                                  vuint16mf4x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei16_v_u16mf4x8_mu(vbool64_t vm,
                                                  vuint16mf4x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei16_v_u16mf2x2_mu(vbool32_t vm,
                                                  vuint16mf2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei16_v_u16mf2x3_mu(vbool32_t vm,
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                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei16_v_u16mf2x4_mu(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei16_v_u16mf2x5_mu(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei16_v_u16mf2x6_mu(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei16_v_u16mf2x7_mu(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei16_v_u16mf2x8_mu(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16_v_u16m1x2_mu(vbool16_t vm, vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei16_v_u16m1x3_mu(vbool16_t vm, vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16_v_u16m1x4_mu(vbool16_t vm, vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei16_v_u16m1x5_mu(vbool16_t vm, vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei16_v_u16m1x6_mu(vbool16_t vm, vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16_v_u16m1x7_mu(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16_v_u16m1x8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16_v_u16m2x2_mu(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16_v_u16m2x3_mu(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei16_v_u16m2x4_mu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei16_v_u16m4x2_mu(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32_v_u16mf4x2_mu(vbool64_t vm,
                                                vuint16mf4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32_v_u16mf4x3_mu(vbool64_t vm,
                                                vuint16mf4x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32_v_u16mf4x4_mu(vbool64_t vm,
                                                vuint16mf4x4_t vd,
                                                const uint16_t *rs1,
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                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32_v_u16mf4x5_mu(vbool64_t vm,
                                                vuint16mf4x5_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32_v_u16mf4x6_mu(vbool64_t vm,
                                                vuint16mf4x6_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32_v_u16mf4x7_mu(vbool64_t vm,
                                                vuint16mf4x7_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32_v_u16mf4x8_mu(vbool64_t vm,
                                                vuint16mf4x8_t vd,
                                                const uint16_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32_v_u16mf2x2_mu(vbool32_t vm,
                                                vuint16mf2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32_v_u16mf2x3_mu(vbool32_t vm,
                                                vuint16mf2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32_v_u16mf2x4_mu(vbool32_t vm,
                                                vuint16mf2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei32_v_u16mf2x5_mu(vbool32_t vm,
                                                vuint16mf2x5_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32_v_u16mf2x6_mu(vbool32_t vm,
                                                vuint16mf2x6_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32_v_u16mf2x7_mu(vbool32_t vm,
                                                vuint16mf2x7_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32_v_u16mf2x8_mu(vbool32_t vm,
                                                vuint16mf2x8_t vd,
                                                const uint16_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32_v_u16m1x2_mu(vbool16_t vm, vuint16m1x2_t vd,
                                              const uint16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32_v_u16m1x3_mu(vbool16_t vm, vuint16m1x3_t vd,
                                              const uint16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei32_v_u16m1x4_mu(vbool16_t vm, vuint16m1x4_t vd,
                                              const uint16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32_v_u16m1x5_mu(vbool16_t vm, vuint16m1x5_t vd,
                                              const uint16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32_v_u16m1x6_mu(vbool16_t vm, vuint16m1x6_t vd,
                                              const uint16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32_v_u16m1x7_mu(vbool16_t vm, vuint16m1x7_t vd,
                                              const uint16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32_v_u16m1x8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                              const uint16_t *rs1,
                                              vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32_v_u16m2x2_mu(vbool8_t vm, vuint16m2x2_t vd,
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                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32_v_u16m2x3_mu(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32_v_u16m2x4_mu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32_v_u16m4x2_mu(vbool4_t vm, vuint16m4x2_t vd,
                                                const uint16_t *rs1,
                                                vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64_v_u16mf4x2_mu(vbool64_t vm,
                                                  vuint16mf4x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64_v_u16mf4x3_mu(vbool64_t vm,
                                                  vuint16mf4x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64_v_u16mf4x4_mu(vbool64_t vm,
                                                  vuint16mf4x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64_v_u16mf4x5_mu(vbool64_t vm,
                                                  vuint16mf4x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64_v_u16mf4x6_mu(vbool64_t vm,
                                                  vuint16mf4x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei64_v_u16mf4x7_mu(vbool64_t vm,
                                                  vuint16mf4x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64_v_u16mf4x8_mu(vbool64_t vm,
                                                  vuint16mf4x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei64_v_u16mf2x2_mu(vbool32_t vm,
                                                  vuint16mf2x2_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64_v_u16mf2x3_mu(vbool32_t vm,
                                                  vuint16mf2x3_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64_v_u16mf2x4_mu(vbool32_t vm,
                                                  vuint16mf2x4_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64_v_u16mf2x5_mu(vbool32_t vm,
                                                  vuint16mf2x5_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64_v_u16mf2x6_mu(vbool32_t vm,
                                                  vuint16mf2x6_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei64_v_u16mf2x7_mu(vbool32_t vm,
                                                  vuint16mf2x7_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64_v_u16mf2x8_mu(vbool32_t vm,
                                                  vuint16mf2x8_t vd,
                                                  const uint16_t *rs1,
                                                  vuint64m2_t rs2, size_t vl);
```

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vuint16m1x2_t __riscv_vluxseg2ei64_v_u16m1x2_mu(vbool16_t vm, vuint16m1x2_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64_v_u16m1x3_mu(vbool16_t vm, vuint16m1x3_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei64_v_u16m1x4_mu(vbool16_t vm, vuint16m1x4_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64_v_u16m1x5_mu(vbool16_t vm, vuint16m1x5_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64_v_u16m1x6_mu(vbool16_t vm, vuint16m1x6_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64_v_u16m1x7_mu(vbool16_t vm, vuint16m1x7_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64_v_u16m1x8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                                const uint16_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64_v_u16m2x2_mu(vbool8_t vm, vuint16m2x2_t vd,
                                                const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64_v_u16m2x3_mu(vbool8_t vm, vuint16m2x3_t vd,
                                                const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64_v_u16m2x4_mu(vbool8_t vm, vuint16m2x4_t vd,
                                                const uint16_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8_v_u32mf2x2_mu(vbool64_t vm,
                                                 vuint32mf2x2_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8_v_u32mf2x3_mu(vbool64_t vm,
                                                 vuint32mf2x3_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8_v_u32mf2x4_mu(vbool64_t vm,
                                                 vuint32mf2x4_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8_v_u32mf2x5_mu(vbool64_t vm,
                                                 vuint32mf2x5_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8_v_u32mf2x6_mu(vbool64_t vm,
                                                 vuint32mf2x6_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8_v_u32mf2x7_mu(vbool64_t vm,
                                                 vuint32mf2x7_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8_v_u32mf2x8_mu(vbool64_t vm,
                                                 vuint32mf2x8_t vd,
                                                 const uint32_t *rs1,
                                                 vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8_v_u32m1x2_mu(vbool32_t vm, vuint32m1x2_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8_v_u32m1x3_mu(vbool32_t vm, vuint32m1x3_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8_v_u32m1x4_mu(vbool32_t vm, vuint32m1x4_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
```

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vuint32m1x5_t __riscv_vluxseg5ei8_v_u32m1x5_mu(vbool32_t vm, vuint32m1x5_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei8_v_u32m1x6_mu(vbool32_t vm, vuint32m1x6_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8_v_u32m1x7_mu(vbool32_t vm, vuint32m1x7_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8_v_u32m1x8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8_v_u32m2x2_mu(vbool16_t vm, vuint32m2x2_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8_v_u32m2x3_mu(vbool16_t vm, vuint32m2x3_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8_v_u32m2x4_mu(vbool16_t vm, vuint32m2x4_t vd,
                                               const uint32_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8_v_u32m4x2_mu(vbool8_t vm, vuint32m4x2_t vd,
                                               const uint32_t *rs1,
                                               vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16_v_u32mf2x2_mu(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16_v_u32mf2x3_mu(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16_v_u32mf2x4_mu(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16_v_u32mf2x5_mu(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16_v_u32mf2x6_mu(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16_v_u32mf2x7_mu(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16_v_u32mf2x8_mu(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16_v_u32m1x2_mu(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16_v_u32m1x3_mu(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16_v_u32m1x4_mu(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei16_v_u32m1x5_mu(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16_v_u32m1x6_mu(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
```

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vuint32m1x7_t __riscv_vluxseg7ei16_v_u32m1x7_mu(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16_v_u32m1x8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16_v_u32m2x2_mu(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16_v_u32m2x3_mu(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei16_v_u32m2x4_mu(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei16_v_u32m4x2_mu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32_v_u32mf2x2_mu(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32_v_u32mf2x3_mu(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32_v_u32mf2x4_mu(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32_v_u32mf2x5_mu(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32_v_u32mf2x6_mu(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32_v_u32mf2x7_mu(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32_v_u32mf2x8_mu(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32_v_u32m1x2_mu(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32_v_u32m1x3_mu(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32_v_u32m1x4_mu(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32_v_u32m1x5_mu(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32_v_u32m1x6_mu(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei32_v_u32m1x7_mu(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32_v_u32m1x8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
```

```
vuint32m2x2_t __riscv_vluxseg2ei32_v_u32m2x2_mu(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32_v_u32m2x3_mu(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32_v_u32m2x4_mu(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32_v_u32m4x2_mu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64_v_u32mf2x2_mu(vbool64_t vm,
                                                  vuint32mf2x2_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei64_v_u32mf2x3_mu(vbool64_t vm,
                                                  vuint32mf2x3_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64_v_u32mf2x4_mu(vbool64_t vm,
                                                  vuint32mf2x4_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64_v_u32mf2x5_mu(vbool64_t vm,
                                                  vuint32mf2x5_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64_v_u32mf2x6_mu(vbool64_t vm,
                                                  vuint32mf2x6_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei64_v_u32mf2x7_mu(vbool64_t vm,
                                                  vuint32mf2x7_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64_v_u32mf2x8_mu(vbool64_t vm,
                                                  vuint32mf2x8_t vd,
                                                  const uint32_t *rs1,
                                                  vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64_v_u32m1x2_mu(vbool32_t vm, vuint32m1x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64_v_u32m1x3_mu(vbool32_t vm, vuint32m1x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64_v_u32m1x4_mu(vbool32_t vm, vuint32m1x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei64_v_u32m1x5_mu(vbool32_t vm, vuint32m1x5_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64_v_u32m1x6_mu(vbool32_t vm, vuint32m1x6_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei64_v_u32m1x7_mu(vbool32_t vm, vuint32m1x7_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei64_v_u32m1x8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                                const uint32_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64_v_u32m2x2_mu(vbool16_t vm, vuint32m2x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64_v_u32m2x3_mu(vbool16_t vm, vuint32m2x3_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
```

```
vuint32m2x4_t __riscv_vluxseg4ei64_v_u32m2x4_mu(vbool16_t vm, vuint32m2x4_t vd,
                                                const uint32_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64_v_u32m4x2_mu(vbool8_t vm, vuint32m4x2_t vd,
                                                const uint32_t *rs1,
                                                vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8_v_u64m1x2_mu(vbool64_t vm, vuint64m1x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8_v_u64m1x3_mu(vbool64_t vm, vuint64m1x3_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8_v_u64m1x4_mu(vbool64_t vm, vuint64m1x4_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8_v_u64m1x5_mu(vbool64_t vm, vuint64m1x5_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8_v_u64m1x6_mu(vbool64_t vm, vuint64m1x6_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei8_v_u64m1x7_mu(vbool64_t vm, vuint64m1x7_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei8_v_u64m1x8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8_v_u64m2x2_mu(vbool32_t vm, vuint64m2x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8_v_u64m2x3_mu(vbool32_t vm, vuint64m2x3_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei8_v_u64m2x4_mu(vbool32_t vm, vuint64m2x4_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8_v_u64m4x2_mu(vbool16_t vm, vuint64m4x2_t vd,
                                               const uint64_t *rs1,
                                               vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16_v_u64m1x2_mu(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16_v_u64m1x3_mu(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16_v_u64m1x4_mu(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16_v_u64m1x5_mu(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei16_v_u64m1x6_mu(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16_v_u64m1x7_mu(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16_v_u64m1x8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16_v_u64m2x2_mu(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16_v_u64m2x3_mu(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16_v_u64m2x4_mu(vbool32_t vm, vuint64m2x4_t vd,
```

```
                                                const uint64_t *rs1,
                                                vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16_v_u64m4x2_mu(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32_v_u64m1x2_mu(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei32_v_u64m1x3_mu(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32_v_u64m1x4_mu(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32_v_u64m1x5_mu(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32_v_u64m1x6_mu(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32_v_u64m1x7_mu(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32_v_u64m1x8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei32_v_u64m2x2_mu(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32_v_u64m2x3_mu(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32_v_u64m2x4_mu(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
                                                vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei32_v_u64m4x2_mu(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64_v_u64m1x2_mu(vbool64_t vm, vuint64m1x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64_v_u64m1x3_mu(vbool64_t vm, vuint64m1x3_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64_v_u64m1x4_mu(vbool64_t vm, vuint64m1x4_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64_v_u64m1x5_mu(vbool64_t vm, vuint64m1x5_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64_v_u64m1x6_mu(vbool64_t vm, vuint64m1x6_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64_v_u64m1x7_mu(vbool64_t vm, vuint64m1x7_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64_v_u64m1x8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                                const uint64_t *rs1,
                                                vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei64_v_u64m2x2_mu(vbool32_t vm, vuint64m2x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64_v_u64m2x3_mu(vbool32_t vm, vuint64m2x3_t vd,
                                                const uint64_t *rs1,
                                                vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64_v_u64m2x4_mu(vbool32_t vm, vuint64m2x4_t vd,
                                                const uint64_t *rs1,
```

```
                                                vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei64_v_u64m4x2_mu(vbool16_t vm, vuint64m4x2_t vd,
                                                const uint64_t *rs1,
                                                vuint64m4_t rs2, size_t vl);
```

B.2.6. Vector Indexed Segment Store Intrinsics

Intrinsics here don't have a policy variant.

B.3. Vector Integer Arithmetic Intrinsics

B.3.1. Vector Single-Width Integer Add and Subtract Intrinsics

```
vint8mf8_t __riscv_vadd_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vadd_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vadd_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vadd_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vadd_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vadd_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vadd_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vadd_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vadd_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vadd_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vadd_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vadd_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vadd_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vadd_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vadd_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vadd_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vadd_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vadd_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vadd_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vadd_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vadd_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vadd_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vadd_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vadd_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vadd_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
```

```
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vadd_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vadd_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vadd_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vadd_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vadd_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vadd_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vadd_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vadd_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vadd_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vadd_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vadd_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vadd_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vadd_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vadd_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vadd_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vadd_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vadd_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vadd_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vadd_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vsub_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsub_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vsub_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsub_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vsub_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsub_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vsub_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vsub_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vsub_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vsub_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vsub_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vsub_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vsub_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vsub_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                  size_t vl);
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vint16mf4_t __riscv_vsub_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsub_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsub_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsub_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vsub_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsub_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vsub_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsub_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vsub_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsub_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vsub_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsub_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vsub_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsub_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vsub_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsub_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vsub_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsub_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vsub_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsub_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vsub_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsub_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vsub_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsub_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vsub_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsub_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vsub_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsub_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vsub_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsub_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vrsub_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                     size_t vl);
vint8mf4_t __riscv_vrsub_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                     size_t vl);
vint8mf2_t __riscv_vrsub_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                     size_t vl);
vint8m1_t __riscv_vrsub_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
```

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                                    size_t vl);
vint8m2_t __riscv_vrsub_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m4_t __riscv_vrsub_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                    size_t vl);
vint8m8_t __riscv_vrsub_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                    size_t vl);
vint16mf4_t __riscv_vrsub_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrsub_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       int16_t rs1, size_t vl);
vint16m1_t __riscv_vrsub_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                     size_t vl);
vint16m2_t __riscv_vrsub_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m4_t __riscv_vrsub_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                     size_t vl);
vint16m8_t __riscv_vrsub_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                     size_t vl);
vint32mf2_t __riscv_vrsub_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       int32_t rs1, size_t vl);
vint32m1_t __riscv_vrsub_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                     size_t vl);
vint32m2_t __riscv_vrsub_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                     size_t vl);
vint32m4_t __riscv_vrsub_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vint32m8_t __riscv_vrsub_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                     size_t vl);
vint64m1_t __riscv_vrsub_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                     size_t vl);
vint64m2_t __riscv_vrsub_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                     size_t vl);
vint64m4_t __riscv_vrsub_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                     size_t vl);
vint64m8_t __riscv_vrsub_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                     size_t vl);
vint8mf8_t __riscv_vneg_v_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vneg_v_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vneg_v_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vneg_v_i8m1_tu(vint8m1_t vd, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vneg_v_i8m2_tu(vint8m2_t vd, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vneg_v_i8m4_tu(vint8m4_t vd, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vneg_v_i8m8_tu(vint8m8_t vd, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vneg_v_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vneg_v_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vneg_v_i16m1_tu(vint16m1_t vd, vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vneg_v_i16m2_tu(vint16m2_t vd, vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vneg_v_i16m4_tu(vint16m4_t vd, vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vneg_v_i16m8_tu(vint16m8_t vd, vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vneg_v_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vneg_v_i32m1_tu(vint32m1_t vd, vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vneg_v_i32m2_tu(vint32m2_t vd, vint32m2_t vs, size_t vl);
vint32m4_t __riscv_vneg_v_i32m4_tu(vint32m4_t vd, vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vneg_v_i32m8_tu(vint32m8_t vd, vint32m8_t vs, size_t vl);
vint64m1_t __riscv_vneg_v_i64m1_tu(vint64m1_t vd, vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vneg_v_i64m2_tu(vint64m2_t vd, vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vneg_v_i64m4_tu(vint64m4_t vd, vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vneg_v_i64m8_tu(vint64m8_t vd, vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vadd_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vadd_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vadd_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vadd_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     uint8_t rs1, size_t vl);
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vuint8mf2_t __riscv_vadd_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vadd_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vadd_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vadd_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vadd_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vadd_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vadd_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vadd_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vadd_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vadd_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vadd_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vadd_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vadd_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vadd_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vadd_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vadd_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vadd_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vadd_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vadd_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vadd_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vadd_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vadd_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vadd_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vadd_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vadd_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vadd_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vadd_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vadd_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vadd_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vadd_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vadd_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vadd_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vadd_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vadd_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
```

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                                    uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vadd_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vadd_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vadd_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vadd_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vadd_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vadd_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                    uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsub_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                    vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsub_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsub_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                    vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsub_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsub_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsub_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsub_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsub_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vsub_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsub_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vsub_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsub_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vsub_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsub_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vsub_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsub_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsub_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsub_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsub_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsub_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsub_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsub_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsub_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsub_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsub_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsub_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                    uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsub_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
```

```
vuint32mf2_t __riscv_vsub_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsub_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsub_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsub_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsub_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsub_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsub_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsub_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsub_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsub_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsub_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsub_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsub_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsub_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsub_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsub_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsub_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vrsub_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vrsub_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vrsub_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vrsub_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m2_t __riscv_vrsub_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vrsub_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m8_t __riscv_vrsub_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vrsub_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vrsub_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vrsub_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vrsub_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vrsub_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vrsub_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vrsub_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vrsub_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vrsub_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vrsub_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
```

```
                                     uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vrsub_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vrsub_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vrsub_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vrsub_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vrsub_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vadd_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vadd_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vadd_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vadd_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vadd_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vadd_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vadd_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vadd_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vadd_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vadd_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vadd_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vadd_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vadd_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vadd_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vadd_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vadd_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vadd_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vadd_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vadd_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vadd_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vadd_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vadd_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vint16m4_t __riscv_vadd_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vadd_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint16m8_t __riscv_vadd_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vadd_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vint32mf2_t __riscv_vadd_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
```

```
                                    vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vadd_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vadd_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                   vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vadd_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                   vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vadd_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                   vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vadd_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                   vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vadd_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                   vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vadd_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                   int32_t rs1, size_t vl);
vint32m8_t __riscv_vadd_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                   vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vadd_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                   int32_t rs1, size_t vl);
vint64m1_t __riscv_vadd_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                   vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vadd_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                   vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vadd_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                   vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vadd_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                   vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vadd_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                   vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vadd_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                   vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vadd_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                   vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vadd_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                   int64_t rs1, size_t vl);
vint8mf8_t __riscv_vsub_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                   vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsub_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                   vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsub_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                   vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsub_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                   vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsub_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                   vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsub_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                   vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vsub_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsub_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vsub_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsub_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vsub_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsub_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vsub_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsub_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsub_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                    vint16mf4_t vs2, vint16mf4_t vs1,
                                    size_t vl);
```

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vint16mf4_t __riscv_vsub_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsub_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vsub_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vsub_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsub_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vsub_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsub_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vsub_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsub_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vsub_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsub_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsub_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vsub_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vsub_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsub_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vsub_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsub_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vsub_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsub_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vsub_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsub_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vsub_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsub_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vsub_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsub_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vsub_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsub_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vsub_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsub_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrsub_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrsub_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrsub_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vrsub_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
```

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                                    int8_t rs1, size_t vl);
vint8m2_t __riscv_vrsub_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m4_t __riscv_vrsub_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint8m8_t __riscv_vrsub_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrsub_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vrsub_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vrsub_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vrsub_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vrsub_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vrsub_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrsub_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vrsub_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vrsub_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vrsub_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vrsub_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vrsub_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vrsub_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vrsub_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vrsub_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vneg_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                                    size_t vl);
vint8mf4_t __riscv_vneg_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
                                    size_t vl);
vint8mf2_t __riscv_vneg_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                                    size_t vl);
vint8m1_t __riscv_vneg_v_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs,
                                  size_t vl);
vint8m2_t __riscv_vneg_v_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs,
                                  size_t vl);
vint8m4_t __riscv_vneg_v_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs,
                                  size_t vl);
vint8m8_t __riscv_vneg_v_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs,
                                  size_t vl);
vint16mf4_t __riscv_vneg_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vneg_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vneg_v_i16m1_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
                                    size_t vl);
vint16m2_t __riscv_vneg_v_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                                    size_t vl);
vint16m4_t __riscv_vneg_v_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                                    size_t vl);
vint16m8_t __riscv_vneg_v_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                                    size_t vl);
vint32mf2_t __riscv_vneg_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
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                                    vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vneg_v_i32m1_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                                    size_t vl);
vint32m2_t __riscv_vneg_v_i32m2_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                                    size_t vl);
vint32m4_t __riscv_vneg_v_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                                    size_t vl);
vint32m8_t __riscv_vneg_v_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                                    size_t vl);
vint64m1_t __riscv_vneg_v_i64m1_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                                    size_t vl);
vint64m2_t __riscv_vneg_v_i64m2_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
                                    size_t vl);
vint64m4_t __riscv_vneg_v_i64m4_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                                    size_t vl);
vint64m8_t __riscv_vneg_v_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
                                    size_t vl);
vuint8mf8_t __riscv_vadd_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vadd_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vadd_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vadd_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vadd_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vadd_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vadd_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vadd_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vadd_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vadd_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vadd_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vadd_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vadd_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vadd_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vadd_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vadd_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vadd_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vadd_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vadd_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vadd_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vadd_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
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                                    size_t vl);
vuint16m2_t __riscv_vadd_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vadd_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vadd_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vadd_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vadd_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vadd_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vadd_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vadd_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vadd_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vadd_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vadd_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vadd_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vadd_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vadd_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vadd_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vadd_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vadd_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vadd_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vadd_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vadd_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vadd_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vadd_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vadd_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsub_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vuint8mf8_t __riscv_vsub_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsub_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
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vuint8mf4_t __riscv_vsub_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsub_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vsub_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsub_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsub_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsub_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsub_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsub_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsub_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsub_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsub_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsub_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vsub_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vsub_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vsub_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vsub_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vsub_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsub_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vsub_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsub_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vsub_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsub_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vsub_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsub_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vsub_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vsub_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vsub_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsub_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
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                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vsub_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsub_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vsub_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsub_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vsub_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsub_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vsub_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsub_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vsub_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsub_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vsub_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsub_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vsub_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vrsub_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vrsub_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vrsub_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vrsub_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vrsub_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vrsub_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vrsub_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vrsub_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vrsub_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vrsub_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, uint16_t rs1,
                                     size_t vl);
vuint16m2_t __riscv_vrsub_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, uint16_t rs1,
                                     size_t vl);
vuint16m4_t __riscv_vrsub_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, uint16_t rs1,
                                     size_t vl);
vuint16m8_t __riscv_vrsub_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, uint16_t rs1,
                                     size_t vl);
vuint32mf2_t __riscv_vrsub_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
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                                      vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vrsub_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vrsub_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vrsub_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vrsub_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vrsub_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vrsub_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vrsub_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vrsub_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
// masked functions
vint8mf8_t __riscv_vadd_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, vint8mf8_t vs1,
                                      size_t vl);
vint8mf8_t __riscv_vadd_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vadd_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      size_t vl);
vint8mf4_t __riscv_vadd_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vadd_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vint8mf2_t __riscv_vadd_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vadd_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vadd_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    int8_t rs1, size_t vl);
vint8m2_t __riscv_vadd_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vadd_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m4_t __riscv_vadd_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vadd_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint8m8_t __riscv_vadd_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vadd_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vadd_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vadd_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vadd_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        size_t vl);
```

```
vint16mf2_t __riscv_vadd_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vadd_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vadd_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vadd_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vadd_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vadd_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vadd_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vadd_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      size_t vl);
vint16m8_t __riscv_vadd_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vadd_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vadd_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vadd_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vadd_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vadd_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vadd_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vadd_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vadd_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vadd_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vadd_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vadd_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vadd_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vadd_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint64m2_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vadd_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vadd_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint64m4_t vs1,
                                      size_t vl);
vint64m4_t __riscv_vadd_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vadd_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vint64m8_t vs1,
                                      size_t vl);
```

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vint64m8_t __riscv_vadd_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vsub_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, vint8mf8_t vs1,
                                      size_t vl);
vint8mf8_t __riscv_vsub_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsub_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      size_t vl);
vint8mf4_t __riscv_vsub_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsub_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vint8mf2_t __riscv_vsub_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vsub_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsub_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    int8_t rs1, size_t vl);
vint8m2_t __riscv_vsub_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsub_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m4_t __riscv_vsub_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsub_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint8m8_t __riscv_vsub_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsub_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsub_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vsub_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vsub_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vsub_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vsub_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vsub_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vsub_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vsub_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vsub_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vsub_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vsub_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      size_t vl);
vint16m8_t __riscv_vsub_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsub_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
```

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                                      size_t vl);
vint32mf2_t __riscv_vsub_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vsub_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vsub_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vsub_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vsub_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vsub_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vsub_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vsub_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vsub_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vsub_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vsub_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vsub_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint64m2_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vsub_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vsub_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint64m4_t vs1,
                                      size_t vl);
vint64m4_t __riscv_vsub_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vsub_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vint64m8_t vs1,
                                      size_t vl);
vint64m8_t __riscv_vsub_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrsub_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrsub_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrsub_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vrsub_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                     int8_t rs1, size_t vl);
vint8m2_t __riscv_vrsub_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                     int8_t rs1, size_t vl);
vint8m4_t __riscv_vrsub_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                     int8_t rs1, size_t vl);
vint8m8_t __riscv_vrsub_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                     int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrsub_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, int16_t rs1,
                                         size_t vl);
vint16mf2_t __riscv_vrsub_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, int16_t rs1,
                                         size_t vl);
vint16m1_t __riscv_vrsub_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vrsub_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
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                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vrsub_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vrsub_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrsub_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vrsub_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vrsub_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vrsub_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vrsub_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vrsub_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vrsub_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vrsub_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vrsub_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vneg_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                                    size_t vl);
vint8mf4_t __riscv_vneg_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
                                    size_t vl);
vint8mf2_t __riscv_vneg_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                                    size_t vl);
vint8m1_t __riscv_vneg_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs,
                                  size_t vl);
vint8m2_t __riscv_vneg_v_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs,
                                  size_t vl);
vint8m4_t __riscv_vneg_v_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs,
                                  size_t vl);
vint8m8_t __riscv_vneg_v_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs,
                                  size_t vl);
vint16mf4_t __riscv_vneg_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vneg_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vneg_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
                                    size_t vl);
vint16m2_t __riscv_vneg_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                                    size_t vl);
vint16m4_t __riscv_vneg_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                                    size_t vl);
vint16m8_t __riscv_vneg_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                                    size_t vl);
vint32mf2_t __riscv_vneg_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vneg_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                                    size_t vl);
vint32m2_t __riscv_vneg_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                                    size_t vl);
vint32m4_t __riscv_vneg_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                                    size_t vl);
vint32m8_t __riscv_vneg_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                                    size_t vl);
vint64m1_t __riscv_vneg_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                                    size_t vl);
vint64m2_t __riscv_vneg_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
                                    size_t vl);
vint64m4_t __riscv_vneg_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                                    size_t vl);
vint64m8_t __riscv_vneg_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
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                                    size_t vl);
vuint8mf8_t __riscv_vadd_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vadd_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vadd_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vadd_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vadd_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vadd_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vadd_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vadd_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vadd_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vadd_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vadd_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vadd_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vadd_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vadd_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vadd_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vadd_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vadd_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vadd_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vadd_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vadd_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vadd_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vadd_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vadd_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vadd_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vadd_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vadd_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
```

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                                      size_t vl);
vuint32mf2_t __riscv_vadd_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vadd_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vadd_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vadd_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vadd_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vadd_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vadd_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vadd_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vadd_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vuint32m8_t __riscv_vadd_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vadd_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, vuint64m1_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vadd_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vadd_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, vuint64m2_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vadd_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vadd_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, vuint64m4_t vs1,
                                       size_t vl);
vuint64m4_t __riscv_vadd_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vadd_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vadd_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
vuint8mf8_t __riscv_vsub_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vsub_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsub_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vsub_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsub_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
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                                      size_t vl);
vuint8mf2_t __riscv_vsub_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsub_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsub_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsub_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsub_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsub_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsub_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsub_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsub_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsub_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vsub_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vsub_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vsub_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vsub_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vsub_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vsub_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vsub_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vsub_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vsub_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vsub_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vsub_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vsub_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vsub_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vsub_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vsub_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
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vuint32m2_t __riscv_vsub_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vsub_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vsub_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vsub_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vsub_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vuint32m8_t __riscv_vsub_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vsub_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, vuint64m1_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vsub_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vsub_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, vuint64m2_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vsub_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vsub_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, vuint64m4_t vs1,
                                       size_t vl);
vuint64m4_t __riscv_vsub_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vsub_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vsub_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
vuint8mf8_t __riscv_vrsub_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs2, uint8_t rs1,
                                        size_t vl);
vuint8mf4_t __riscv_vrsub_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs2, uint8_t rs1,
                                        size_t vl);
vuint8mf2_t __riscv_vrsub_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs2, uint8_t rs1,
                                        size_t vl);
vuint8m1_t __riscv_vrsub_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vrsub_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vrsub_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vrsub_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vrsub_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, uint16_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vrsub_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, uint16_t rs1,
                                          size_t vl);
vuint16m1_t __riscv_vrsub_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, uint16_t rs1,
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                                       size_t vl);
vuint16m2_t __riscv_vrsub_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vrsub_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vrsub_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vrsub_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vrsub_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vrsub_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vrsub_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vrsub_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vrsub_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vrsub_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vrsub_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vrsub_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
// masked functions
vint8mf8_t __riscv_vadd_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vadd_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf4_t __riscv_vadd_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vadd_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf2_t __riscv_vadd_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vadd_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m1_t __riscv_vadd_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vadd_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vadd_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vadd_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vadd_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vadd_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vadd_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vadd_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vadd_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
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                                    vint16mf4_t vs2, vint16mf4_t vs1,
                                    size_t vl);
vint16mf4_t __riscv_vadd_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                    vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vadd_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint16mf2_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vadd_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vadd_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                   vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vadd_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                   int16_t rs1, size_t vl);
vint16m2_t __riscv_vadd_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                   vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vadd_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                   int16_t rs1, size_t vl);
vint16m4_t __riscv_vadd_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                   vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vadd_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                   int16_t rs1, size_t vl);
vint16m8_t __riscv_vadd_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                   vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vadd_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                   int16_t rs1, size_t vl);
vint32mf2_t __riscv_vadd_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                    vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vadd_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vadd_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                   vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vadd_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                   int32_t rs1, size_t vl);
vint32m2_t __riscv_vadd_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                   vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vadd_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                   int32_t rs1, size_t vl);
vint32m4_t __riscv_vadd_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                   vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vadd_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                   int32_t rs1, size_t vl);
vint32m8_t __riscv_vadd_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                   vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vadd_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                   int32_t rs1, size_t vl);
vint64m1_t __riscv_vadd_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                   vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vadd_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                   int64_t rs1, size_t vl);
vint64m2_t __riscv_vadd_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                   vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vadd_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                   int64_t rs1, size_t vl);
vint64m4_t __riscv_vadd_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                   vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vadd_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                   int64_t rs1, size_t vl);
vint64m8_t __riscv_vadd_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                   vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vadd_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                   int64_t rs1, size_t vl);
vint8mf8_t __riscv_vsub_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                   vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsub_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                   int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsub_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
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                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsub_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsub_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsub_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m1_t __riscv_vsub_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsub_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vsub_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsub_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vsub_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsub_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vsub_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsub_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsub_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vsub_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsub_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vsub_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vsub_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsub_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    int16_t rs1, size_t vl);
vint16m2_t __riscv_vsub_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsub_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vint16m4_t __riscv_vsub_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsub_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint16m8_t __riscv_vsub_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsub_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsub_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vsub_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vsub_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsub_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    int32_t rs1, size_t vl);
vint32m2_t __riscv_vsub_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsub_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    int32_t rs1, size_t vl);
vint32m4_t __riscv_vsub_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsub_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vint32m8_t __riscv_vsub_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
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                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsub_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, size_t vl);
vint64m1_t __riscv_vsub_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsub_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    int64_t rs1, size_t vl);
vint64m2_t __riscv_vsub_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsub_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    int64_t rs1, size_t vl);
vint64m4_t __riscv_vsub_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsub_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    int64_t rs1, size_t vl);
vint64m8_t __riscv_vsub_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsub_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrsub_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrsub_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrsub_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vrsub_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vrsub_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vrsub_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vrsub_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrsub_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrsub_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vrsub_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vrsub_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vrsub_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vrsub_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrsub_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vrsub_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vrsub_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vrsub_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vrsub_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vrsub_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vrsub_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vrsub_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vrsub_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vint8mf8_t __riscv_vneg_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                                   size_t vl);
vint8mf4_t __riscv_vneg_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
                                   size_t vl);
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vint8mf2_t __riscv_vneg_v_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                                   size_t vl);
vint8m1_t __riscv_vneg_v_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs,
                                 size_t vl);
vint8m2_t __riscv_vneg_v_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs,
                                 size_t vl);
vint8m4_t __riscv_vneg_v_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs,
                                 size_t vl);
vint8m8_t __riscv_vneg_v_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs,
                                 size_t vl);
vint16mf4_t __riscv_vneg_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                     vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vneg_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                     vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vneg_v_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
                                   size_t vl);
vint16m2_t __riscv_vneg_v_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                                   size_t vl);
vint16m4_t __riscv_vneg_v_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                                   size_t vl);
vint16m8_t __riscv_vneg_v_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                                   size_t vl);
vint32mf2_t __riscv_vneg_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                     vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vneg_v_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                                   size_t vl);
vint32m2_t __riscv_vneg_v_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                                   size_t vl);
vint32m4_t __riscv_vneg_v_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                                   size_t vl);
vint32m8_t __riscv_vneg_v_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                                   size_t vl);
vint64m1_t __riscv_vneg_v_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                                   size_t vl);
vint64m2_t __riscv_vneg_v_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
                                   size_t vl);
vint64m4_t __riscv_vneg_v_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                                   size_t vl);
vint64m8_t __riscv_vneg_v_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
                                   size_t vl);
vuint8mf8_t __riscv_vadd_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vadd_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vadd_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vadd_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vadd_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vuint8mf2_t __riscv_vadd_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vadd_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vadd_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vadd_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vadd_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vadd_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vadd_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
```

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vuint8m8_t __riscv_vadd_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vadd_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vadd_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vadd_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vadd_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vadd_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vadd_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vadd_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vadd_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, vuint16m2_t vs1,
                                     size_t vl);
vuint16m2_t __riscv_vadd_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vadd_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, vuint16m4_t vs1,
                                     size_t vl);
vuint16m4_t __riscv_vadd_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vadd_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, vuint16m8_t vs1,
                                     size_t vl);
vuint16m8_t __riscv_vadd_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vadd_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vuint32mf2_t __riscv_vadd_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m1_t __riscv_vadd_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, vuint32m1_t vs1,
                                     size_t vl);
vuint32m1_t __riscv_vadd_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vadd_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs2, vuint32m2_t vs1,
                                     size_t vl);
vuint32m2_t __riscv_vadd_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vadd_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                     vuint32m4_t vs2, vuint32m4_t vs1,
                                     size_t vl);
vuint32m4_t __riscv_vadd_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                     vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vadd_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                     vuint32m8_t vs2, vuint32m8_t vs1,
                                     size_t vl);
vuint32m8_t __riscv_vadd_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                     vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vadd_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                     vuint64m1_t vs2, vuint64m1_t vs1,
                                     size_t vl);
vuint64m1_t __riscv_vadd_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                     vuint64m1_t vs2, uint64_t rs1, size_t vl);
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vuint64m2_t __riscv_vadd_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                     vuint64m2_t vs2, vuint64m2_t vs1,
                                     size_t vl);
vuint64m2_t __riscv_vadd_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                     vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vadd_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                     vuint64m4_t vs2, vuint64m4_t vs1,
                                     size_t vl);
vuint64m4_t __riscv_vadd_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                     vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vadd_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                     vuint64m8_t vs2, vuint64m8_t vs1,
                                     size_t vl);
vuint64m8_t __riscv_vadd_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                     vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsub_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vsub_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsub_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vsub_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsub_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vuint8mf2_t __riscv_vsub_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsub_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsub_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsub_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsub_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsub_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsub_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsub_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsub_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsub_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vsub_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vsub_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vsub_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vsub_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vsub_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsub_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, vuint16m2_t vs1,
                                     size_t vl);
vuint16m2_t __riscv_vsub_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
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                                    vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsub_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vsub_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsub_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vsub_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsub_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vsub_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vsub_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vsub_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsub_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vsub_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsub_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vsub_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsub_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vsub_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsub_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vsub_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsub_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vsub_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsub_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vsub_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsub_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vsub_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vrsub_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vrsub_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vrsub_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vrsub_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vrsub_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
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vuint8m4_t __riscv_vrsub_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vrsub_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vrsub_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vrsub_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vrsub_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vrsub_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vrsub_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vrsub_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vrsub_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vrsub_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vrsub_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vrsub_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vrsub_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vrsub_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vrsub_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vrsub_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vrsub_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint64_t rs1, size_t vl);
```

B.3.2. Vector Widening Integer Add/Subtract Intrinsics

```
vint16mf4_t __riscv_vwadd_vv_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs2,
                                       vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_vx_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs2,
                                       int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwadd_wv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_wx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_vv_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs2,
                                       vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_vx_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs2,
                                       int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_wv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_wx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_vv_i16m1_tu(vint16m1_t vd, vint8mf2_t vs2,
                                     vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_vx_i16m1_tu(vint16m1_t vd, vint8mf2_t vs2, int8_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vwadd_wv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                     vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_wx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int8_t rs1,
                                     size_t vl);
vint16m2_t __riscv_vwadd_vv_i16m2_tu(vint16m2_t vd, vint8m1_t vs2,
```

```
                                    vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_vx_i16m2_tu(vint16m2_t vd, vint8m1_t vs2, int8_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vwadd_wv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_wx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int8_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vwadd_vv_i16m4_tu(vint16m4_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_vx_i16m4_tu(vint16m4_t vd, vint8m2_t vs2, int8_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vwadd_wv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_wx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int8_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vwadd_vv_i16m8_tu(vint16m8_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_vx_i16m8_tu(vint16m8_t vd, vint8m4_t vs2, int8_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vwadd_wv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_wx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int8_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vwadd_vv_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_vx_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_wv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_wx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_vv_i32m1_tu(vint32m1_t vd, vint16mf2_t vs2,
                                    vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_vx_i32m1_tu(vint32m1_t vd, vint16mf2_t vs2,
                                    int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_wv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_wx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int16_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vwadd_vv_i32m2_tu(vint32m2_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_vx_i32m2_tu(vint32m2_t vd, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vwadd_wv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_wx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vwadd_vv_i32m4_tu(vint32m4_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_vx_i32m4_tu(vint32m4_t vd, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vwadd_wv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_wx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int16_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vwadd_vv_i32m8_tu(vint32m8_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_vx_i32m8_tu(vint32m8_t vd, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vwadd_wv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_wx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int16_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vwadd_vv_i64m1_tu(vint64m1_t vd, vint32mf2_t vs2,
                                    vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_vx_i64m1_tu(vint64m1_t vd, vint32mf2_t vs2,
                                    int32_t rs1, size_t vl);
```

```
vint64m1_t __riscv_vwadd_wv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                     vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_wx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int32_t rs1,
                                     size_t vl);
vint64m2_t __riscv_vwadd_vv_i64m2_tu(vint64m2_t vd, vint32m1_t vs2,
                                     vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_vx_i64m2_tu(vint64m2_t vd, vint32m1_t vs2, int32_t rs1,
                                     size_t vl);
vint64m2_t __riscv_vwadd_wv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                     vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_wx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int32_t rs1,
                                     size_t vl);
vint64m4_t __riscv_vwadd_vv_i64m4_tu(vint64m4_t vd, vint32m2_t vs2,
                                     vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_vx_i64m4_tu(vint64m4_t vd, vint32m2_t vs2, int32_t rs1,
                                     size_t vl);
vint64m4_t __riscv_vwadd_wv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                     vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_wx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int32_t rs1,
                                     size_t vl);
vint64m8_t __riscv_vwadd_vv_i64m8_tu(vint64m8_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_vx_i64m8_tu(vint64m8_t vd, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vint64m8_t __riscv_vwadd_wv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_wx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int32_t rs1,
                                     size_t vl);
vint16mf4_t __riscv_vwsub_vv_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs2,
                                       vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_vx_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs2,
                                       int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_wv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_wx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_vv_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs2,
                                       vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_vx_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs2,
                                       int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_wv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_wx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_vv_i16m1_tu(vint16m1_t vd, vint8mf2_t vs2,
                                     vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_vx_i16m1_tu(vint16m1_t vd, vint8mf2_t vs2, int8_t rs1,
                                     size_t vl);
vint16m1_t __riscv_vwsub_wv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                     vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_wx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int8_t rs1,
                                     size_t vl);
vint16m2_t __riscv_vwsub_vv_i16m2_tu(vint16m2_t vd, vint8m1_t vs2,
                                     vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_vx_i16m2_tu(vint16m2_t vd, vint8m1_t vs2, int8_t rs1,
                                     size_t vl);
vint16m2_t __riscv_vwsub_wv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                     vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_wx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int8_t rs1,
                                     size_t vl);
vint16m4_t __riscv_vwsub_vv_i16m4_tu(vint16m4_t vd, vint8m2_t vs2,
                                     vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_vx_i16m4_tu(vint16m4_t vd, vint8m2_t vs2, int8_t rs1,
                                     size_t vl);
vint16m4_t __riscv_vwsub_wv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                     vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_wx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int8_t rs1,
```

```
                                    size_t vl);
vint16m8_t __riscv_vwsub_vv_i16m8_tu(vint16m8_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_vx_i16m8_tu(vint16m8_t vd, vint8m4_t vs2, int8_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vwsub_wv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_wx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int8_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vwsub_vv_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_vx_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_wv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_wx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_vv_i32m1_tu(vint32m1_t vd, vint16mf2_t vs2,
                                    vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_vx_i32m1_tu(vint32m1_t vd, vint16mf2_t vs2,
                                    int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_wv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_wx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int16_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vwsub_vv_i32m2_tu(vint32m2_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_vx_i32m2_tu(vint32m2_t vd, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vwsub_wv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_wx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vwsub_vv_i32m4_tu(vint32m4_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_vx_i32m4_tu(vint32m4_t vd, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vwsub_wv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_wx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int16_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vwsub_vv_i32m8_tu(vint32m8_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_vx_i32m8_tu(vint32m8_t vd, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vwsub_wv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_wx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int16_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vwsub_vv_i64m1_tu(vint64m1_t vd, vint32mf2_t vs2,
                                    vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_vx_i64m1_tu(vint64m1_t vd, vint32mf2_t vs2,
                                    int32_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_wv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_wx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int32_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vwsub_vv_i64m2_tu(vint64m2_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_vx_i64m2_tu(vint64m2_t vd, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vwsub_wv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_wx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int32_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vwsub_vv_i64m4_tu(vint64m4_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
```

```
vint64m4_t __riscv_vwsub_vx_i64m4_tu(vint64m4_t vd, vint32m2_t vs2, int32_t rs1,
                                     size_t vl);
vint64m4_t __riscv_vwsub_wv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                     vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_wx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int32_t rs1,
                                     size_t vl);
vint64m8_t __riscv_vwsub_vv_i64m8_tu(vint64m8_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_vx_i64m8_tu(vint64m8_t vd, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vint64m8_t __riscv_vwsub_wv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_wx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int32_t rs1,
                                     size_t vl);
vuint16mf4_t __riscv_vwaddu_vv_u16mf4_tu(vuint16mf4_t vd, vuint8mf8_t vs2,
                                         vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vx_u16mf4_tu(vuint16mf4_t vd, vuint8mf8_t vs2,
                                         uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                         vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                         uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vv_u16mf2_tu(vuint16mf2_t vd, vuint8mf4_t vs2,
                                         vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vx_u16mf2_tu(vuint16mf2_t vd, vuint8mf4_t vs2,
                                         uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                         vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                         uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vv_u16m1_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                       vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vx_u16m1_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                       vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vv_u16m2_tu(vuint16m2_t vd, vuint8m1_t vs2,
                                       vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vx_u16m2_tu(vuint16m2_t vd, vuint8m1_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                       vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vv_u16m4_tu(vuint16m4_t vd, vuint8m2_t vs2,
                                       vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vx_u16m4_tu(vuint16m4_t vd, vuint8m2_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                       vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vv_u16m8_tu(vuint16m8_t vd, vuint8m4_t vs2,
                                       vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vx_u16m8_tu(vuint16m8_t vd, vuint8m4_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                       vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                       uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_vv_u32mf2_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_vx_u32mf2_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                         uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_wv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
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                                        vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_wx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vv_u32m1_tu(vuint32m1_t vd, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vx_u32m1_tu(vuint32m1_t vd, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vv_u32m2_tu(vuint32m2_t vd, vuint16m1_t vs2,
                                       vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vx_u32m2_tu(vuint32m2_t vd, vuint16m1_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                       vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vv_u32m4_tu(vuint32m4_t vd, vuint16m2_t vs2,
                                       vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vx_u32m4_tu(vuint32m4_t vd, vuint16m2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                       vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vv_u32m8_tu(vuint32m8_t vd, vuint16m4_t vs2,
                                       vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vx_u32m8_tu(vuint32m8_t vd, vuint16m4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                       vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                       uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vv_u64m1_tu(vuint64m1_t vd, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vx_u64m1_tu(vuint64m1_t vd, vuint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vv_u64m2_tu(vuint64m2_t vd, vuint32m1_t vs2,
                                       vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vx_u64m2_tu(vuint64m2_t vd, vuint32m1_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                       vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vv_u64m4_tu(vuint64m4_t vd, vuint32m2_t vs2,
                                       vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vx_u64m4_tu(vuint64m4_t vd, vuint32m2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                       vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vv_u64m8_tu(vuint64m8_t vd, vuint32m4_t vs2,
                                       vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vx_u64m8_tu(vuint64m8_t vd, vuint32m4_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                       vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                       uint32_t rs1, size_t vl);
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vuint16mf4_t __riscv_vwsubu_vv_u16mf4_tu(vuint16mf4_t vd, vuint8mf8_t vs2,
                                         vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vx_u16mf4_tu(vuint16mf4_t vd, vuint8mf8_t vs2,
                                         uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                         vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                         uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vv_u16mf2_tu(vuint16mf2_t vd, vuint8mf4_t vs2,
                                         vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vx_u16mf2_tu(vuint16mf2_t vd, vuint8mf4_t vs2,
                                         uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                         vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                         uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vv_u16m1_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                       vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vx_u16m1_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                       vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vv_u16m2_tu(vuint16m2_t vd, vuint8m1_t vs2,
                                       vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vx_u16m2_tu(vuint16m2_t vd, vuint8m1_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                       vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vv_u16m4_tu(vuint16m4_t vd, vuint8m2_t vs2,
                                       vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vx_u16m4_tu(vuint16m4_t vd, vuint8m2_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                       vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vv_u16m8_tu(vuint16m8_t vd, vuint8m4_t vs2,
                                       vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vx_u16m8_tu(vuint16m8_t vd, vuint8m4_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                       vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                       uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_vv_u32mf2_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_vx_u32mf2_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                         uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_wv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_wx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                         uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vv_u32m1_tu(vuint32m1_t vd, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vx_u32m1_tu(vuint32m1_t vd, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vv_u32m2_tu(vuint32m2_t vd, vuint16m1_t vs2,
                                       vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vx_u32m2_tu(vuint32m2_t vd, vuint16m1_t vs2,
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                                      uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vv_u32m4_tu(vuint32m4_t vd, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vx_u32m4_tu(vuint32m4_t vd, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vv_u32m8_tu(vuint32m8_t vd, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vx_u32m8_tu(vuint32m8_t vd, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_vv_u64m1_tu(vuint64m1_t vd, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
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                                      uint32_t rs1, size_t vl);
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                                      vuint32mf2_t vs1, size_t vl);
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                                      uint32_t rs1, size_t vl);
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                                      vuint32m1_t vs1, size_t vl);
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                                      uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vv_u64m4_tu(vuint64m4_t vd, vuint32m2_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vx_u64m4_tu(vuint64m4_t vd, vuint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vv_u64m8_tu(vuint64m8_t vd, vuint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vx_u64m8_tu(vuint64m8_t vd, vuint32m4_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      uint32_t rs1, size_t vl);
// masked functions
vint16mf4_t __riscv_vwadd_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint8mf8_t vs2, vint8mf8_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vwadd_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwadd_wv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint8mf8_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vwadd_wx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint8mf4_t vs2, vint8mf4_t vs1,
                                       size_t vl);
```

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vint16mf2_t __riscv_vwadd_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_wv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint8mf4_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vwadd_wx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vwadd_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_wv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vwadd_wx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                      vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                      int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_wv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_wx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                      vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                      int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_wv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_wx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                      vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                      int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_wv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_wx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vwadd_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint32mf2_t __riscv_vwadd_wv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vwadd_wx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vwadd_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vwadd_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_wv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vwadd_wx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vwadd_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
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                                    vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_wv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vint16m1_t vs1,
                                    size_t vl);
vint32m2_t __riscv_vwadd_wx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint16m2_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vwadd_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_wv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vwadd_wx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vwadd_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint16m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_wv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vwadd_wx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vwadd_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_wv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vwadd_wx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, vint32m1_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vwadd_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_wv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint32m1_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vwadd_wx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint32m2_t vs2, vint32m2_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vwadd_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_wv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint32m2_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vwadd_wx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vwadd_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint32m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_wv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vwadd_wx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
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                                      vint8mf8_t vs2, vint8mf8_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vwsub_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                      vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_wv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint8mf8_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vwsub_wx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vwsub_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                      vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_wv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vint8mf4_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vwsub_wx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                    vint8mf2_t vs2, vint8mf2_t vs1,
                                    size_t vl);
vint16m1_t __riscv_vwsub_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                    vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_wv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, vint8mf2_t vs1,
                                    size_t vl);
vint16m1_t __riscv_vwsub_wx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                    int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_wv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_wx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                    int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_wv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_wx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_wv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_wx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vwsub_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs2, int16_t rs1,
                                      size_t vl);
vint32mf2_t __riscv_vwsub_wv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vwsub_wx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int16_t rs1,
                                      size_t vl);
vint32m1_t __riscv_vwsub_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                    vint16mf2_t vs2, vint16mf2_t vs1,
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                                    size_t vl);
vint32m1_t __riscv_vwsub_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                    vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_wv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vwsub_wx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint16m1_t vs2, vint16m1_t vs1,
                                    size_t vl);
vint32m2_t __riscv_vwsub_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_wv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vint16m1_t vs1,
                                    size_t vl);
vint32m2_t __riscv_vwsub_wx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint16m2_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vwsub_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_wv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vwsub_wx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vwsub_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint16m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_wv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vwsub_wx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vwsub_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_wv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vwsub_wx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, vint32m1_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vwsub_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_wv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint32m1_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vwsub_wx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint32m2_t vs2, vint32m2_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vwsub_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_wv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint32m2_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vwsub_wx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
```

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                                    vint64m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vwsub_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint32m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_wv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vwsub_wx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, int32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vwaddu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1,
                                       size_t vl);
vuint16mf4_t __riscv_vwaddu_wv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vwaddu_wx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint8_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vwaddu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vwaddu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vwaddu_wv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vwaddu_wx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, uint8_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vwaddu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                     vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vwaddu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                     vuint8mf2_t vs2, uint8_t rs1,
                                     size_t vl);
vuint16m1_t __riscv_vwaddu_wv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vwaddu_wx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, uint8_t rs1,
                                     size_t vl);
vuint16m2_t __riscv_vwaddu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                     vuint8m1_t vs2, vuint8m1_t vs1,
                                     size_t vl);
vuint16m2_t __riscv_vwaddu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                     vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, vuint8m1_t vs1,
                                     size_t vl);
vuint16m2_t __riscv_vwaddu_wx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, uint8_t rs1,
                                     size_t vl);
vuint16m4_t __riscv_vwaddu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                     vuint8m2_t vs2, vuint8m2_t vs1,
                                     size_t vl);
vuint16m4_t __riscv_vwaddu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                     vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, vuint8m2_t vs1,
                                     size_t vl);
vuint16m4_t __riscv_vwaddu_wx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
```

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                                      vuint16m4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m8_t __riscv_vwaddu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint8m4_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vwaddu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vwaddu_wx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint8_t rs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwaddu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vwaddu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32mf2_t __riscv_vwaddu_wv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vwaddu_wx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vwaddu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vwaddu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vwaddu_wv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vwaddu_wx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m2_t __riscv_vwaddu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vwaddu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m2_t __riscv_vwaddu_wv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vwaddu_wx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m4_t __riscv_vwaddu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vwaddu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint16m2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m4_t __riscv_vwaddu_wv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vwaddu_wx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m8_t __riscv_vwaddu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vwaddu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint16m4_t vs2, uint16_t rs1,
                                      size_t vl);
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vuint32m8_t __riscv_vwaddu_wv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vwaddu_wx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, uint16_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vwaddu_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vwaddu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vwaddu_wv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vwaddu_wx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vwaddu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vwaddu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vwaddu_wv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vwaddu_wx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vwaddu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vwaddu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vwaddu_wv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vwaddu_wx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vwaddu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vwaddu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vwaddu_wv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vwaddu_wx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, uint32_t rs1,
                                        size_t vl);
vuint16mf4_t __riscv_vwsubu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          vuint8mf8_t vs2, vuint8mf8_t vs1,
                                          size_t vl);
vuint16mf4_t __riscv_vwsubu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          vuint8mf8_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf4_t __riscv_vwsubu_wv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, vuint8mf8_t vs1,
                                          size_t vl);
vuint16mf4_t __riscv_vwsubu_wx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vwsubu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
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                                        vuint8mf4_t vs2, vuint8mf4_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vwsubu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint8mf4_t vs2, uint8_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vwsubu_wv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint8mf4_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vwsubu_wx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint8_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vwsubu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vwsubu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m1_t __riscv_vwsubu_wv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vwsubu_wx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m2_t __riscv_vwsubu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint8m1_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vwsubu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vwsubu_wx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m4_t __riscv_vwsubu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint8m2_t vs2, vuint8m2_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vwsubu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint8m2_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vwsubu_wx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m8_t __riscv_vwsubu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint8m4_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vwsubu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vwsubu_wx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint8_t rs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwsubu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vwsubu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32mf2_t __riscv_vwsubu_wv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vwsubu_wx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint16_t rs1,
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                                        size_t vl);
vuint32m1_t __riscv_vwsubu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vwsubu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vwsubu_wv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vwsubu_wx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32m2_t __riscv_vwsubu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint16m1_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vwsubu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint16m1_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32m2_t __riscv_vwsubu_wv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vwsubu_wx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32m4_t __riscv_vwsubu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint16m2_t vs2, vuint16m2_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vwsubu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint16m2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32m4_t __riscv_vwsubu_wv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint16m2_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vwsubu_wx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32m8_t __riscv_vwsubu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint16m4_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vwsubu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint16m4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32m8_t __riscv_vwsubu_wv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vwsubu_wx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, uint16_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vwsubu_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vwsubu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vwsubu_wv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vwsubu_wx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vwsubu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vwsubu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
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vuint64m2_t __riscv_vwsubu_wv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vwsubu_wx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vwsubu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vwsubu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vwsubu_wv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vwsubu_wx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vwsubu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vwsubu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vwsubu_wv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vwsubu_wx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, uint32_t rs1,
                                        size_t vl);
// masked functions
vint16mf4_t __riscv_vwadd_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint8mf8_t vs2, vint8mf8_t vs1,
                                         size_t vl);
vint16mf4_t __riscv_vwadd_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwadd_wv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, vint8mf8_t vs1,
                                         size_t vl);
vint16mf4_t __riscv_vwadd_wx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, int8_t rs1,
                                         size_t vl);
vint16mf2_t __riscv_vwadd_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint8mf4_t vs2, vint8mf4_t vs1,
                                         size_t vl);
vint16mf2_t __riscv_vwadd_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_wv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, vint8mf4_t vs1,
                                         size_t vl);
vint16mf2_t __riscv_vwadd_wx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, int8_t rs1,
                                         size_t vl);
vint16m1_t __riscv_vwadd_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint8mf2_t vs2, vint8mf2_t vs1,
                                       size_t vl);
vint16m1_t __riscv_vwadd_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_wv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, vint8mf2_t vs1,
                                       size_t vl);
vint16m1_t __riscv_vwadd_wx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint8m1_t vs2, int8_t rs1, size_t vl);
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vint16m2_t __riscv_vwadd_wv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, vint8m1_t vs1,
                                       size_t vl);
vint16m2_t __riscv_vwadd_wx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_wv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, vint8m2_t vs1,
                                       size_t vl);
vint16m4_t __riscv_vwadd_wx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint8m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_wv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, vint8m4_t vs1,
                                       size_t vl);
vint16m8_t __riscv_vwadd_wx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint16mf4_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vwadd_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint16mf4_t vs2, int16_t rs1,
                                         size_t vl);
vint32mf2_t __riscv_vwadd_wv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vwadd_wx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, int16_t rs1,
                                         size_t vl);
vint32m1_t __riscv_vwadd_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint32m1_t __riscv_vwadd_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_wv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint32m1_t __riscv_vwadd_wx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint16m1_t vs2, vint16m1_t vs1,
                                       size_t vl);
vint32m2_t __riscv_vwadd_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_wv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, vint16m1_t vs1,
                                       size_t vl);
vint32m2_t __riscv_vwadd_wx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint16m2_t vs2, vint16m2_t vs1,
                                       size_t vl);
vint32m4_t __riscv_vwadd_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_wv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, vint16m2_t vs1,
                                       size_t vl);
vint32m4_t __riscv_vwadd_wx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint16m4_t vs2, vint16m4_t vs1,
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```
                                      size_t vl);
vint32m8_t __riscv_vwadd_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_wv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vwadd_wx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vwadd_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_wv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vwadd_wx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vwadd_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_wv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vwadd_wx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint64m4_t __riscv_vwadd_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_wv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint64m4_t __riscv_vwadd_wx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint64m8_t __riscv_vwadd_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_wv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint64m8_t __riscv_vwadd_wx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint8mf8_t vs2, vint8mf8_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vwsub_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_wv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint8mf8_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vwsub_wx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int8_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vwsub_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint8mf4_t vs2, vint8mf4_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vwsub_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_wv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint8mf4_t vs1,
                                        size_t vl);
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vint16mf2_t __riscv_vwsub_wx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, int8_t rs1,
                                         size_t vl);
vint16m1_t __riscv_vwsub_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint8mf2_t vs2, vint8mf2_t vs1,
                                       size_t vl);
vint16m1_t __riscv_vwsub_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_wv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, vint8mf2_t vs1,
                                       size_t vl);
vint16m1_t __riscv_vwsub_wx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint8m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_wv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, vint8m1_t vs1,
                                       size_t vl);
vint16m2_t __riscv_vwsub_wx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_wv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, vint8m2_t vs1,
                                       size_t vl);
vint16m4_t __riscv_vwsub_wx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint8m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_wv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, vint8m4_t vs1,
                                       size_t vl);
vint16m8_t __riscv_vwsub_wx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint16mf4_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vwsub_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint16mf4_t vs2, int16_t rs1,
                                         size_t vl);
vint32mf2_t __riscv_vwsub_wv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vwsub_wx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, int16_t rs1,
                                         size_t vl);
vint32m1_t __riscv_vwsub_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint32m1_t __riscv_vwsub_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_wv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint32m1_t __riscv_vwsub_wx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint16m1_t vs2, vint16m1_t vs1,
                                       size_t vl);
vint32m2_t __riscv_vwsub_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint16m1_t vs2, int16_t rs1, size_t vl);
```

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vint32m2_t __riscv_vwsub_wv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, vint16m1_t vs1,
                                       size_t vl);
vint32m2_t __riscv_vwsub_wx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint16m2_t vs2, vint16m2_t vs1,
                                       size_t vl);
vint32m4_t __riscv_vwsub_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_wv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, vint16m2_t vs1,
                                       size_t vl);
vint32m4_t __riscv_vwsub_wx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint16m4_t vs2, vint16m4_t vs1,
                                       size_t vl);
vint32m8_t __riscv_vwsub_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint16m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_wv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, vint16m4_t vs1,
                                       size_t vl);
vint32m8_t __riscv_vwsub_wx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint64m1_t __riscv_vwsub_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_wv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint64m1_t __riscv_vwsub_wx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       vint32m1_t vs2, vint32m1_t vs1,
                                       size_t vl);
vint64m2_t __riscv_vwsub_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_wv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs2, vint32m1_t vs1,
                                       size_t vl);
vint64m2_t __riscv_vwsub_wx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       vint32m2_t vs2, vint32m2_t vs1,
                                       size_t vl);
vint64m4_t __riscv_vwsub_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_wv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs2, vint32m2_t vs1,
                                       size_t vl);
vint64m4_t __riscv_vwsub_wx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint32m4_t vs2, vint32m4_t vs1,
                                       size_t vl);
vint64m8_t __riscv_vwsub_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint32m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_wv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, vint32m4_t vs1,
                                       size_t vl);
vint64m8_t __riscv_vwsub_wx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, int32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                           vuint8mf8_t vs2, vuint8mf8_t vs1,
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                                          size_t vl);
vuint16mf4_t __riscv_vwaddu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint8mf8_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf4_t __riscv_vwaddu_wv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, vuint8mf8_t vs1,
                                          size_t vl);
vuint16mf4_t __riscv_vwaddu_wx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vwaddu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint8mf4_t vs2, vuint8mf4_t vs1,
                                          size_t vl);
vuint16mf2_t __riscv_vwaddu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint8mf4_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vwaddu_wv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, vuint8mf4_t vs1,
                                          size_t vl);
vuint16mf2_t __riscv_vwaddu_wx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16m1_t __riscv_vwaddu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint8mf2_t vs2, vuint8mf2_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vwaddu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint8mf2_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vwaddu_wv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs2, vuint8mf2_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vwaddu_wx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m2_t __riscv_vwaddu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint8m1_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint16m2_t __riscv_vwaddu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint8m1_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m2_t __riscv_vwaddu_wv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint16m2_t __riscv_vwaddu_wx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m4_t __riscv_vwaddu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint8m2_t vs2, vuint8m2_t vs1,
                                         size_t vl);
vuint16m4_t __riscv_vwaddu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint8m2_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m4_t __riscv_vwaddu_wv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, vuint8m2_t vs1,
                                         size_t vl);
vuint16m4_t __riscv_vwaddu_wx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m8_t __riscv_vwaddu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint8m4_t vs2, vuint8m4_t vs1,
                                         size_t vl);
vuint16m8_t __riscv_vwaddu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint8m4_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m8_t __riscv_vwaddu_wv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, vuint8m4_t vs1,
                                         size_t vl);
```

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vuint16m8_t __riscv_vwaddu_wx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, uint8_t rs1,
                                         size_t vl);
vuint32mf2_t __riscv_vwaddu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint16mf4_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vuint32mf2_t __riscv_vwaddu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint16mf4_t vs2, uint16_t rs1,
                                           size_t vl);
vuint32mf2_t __riscv_vwaddu_wv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vuint32mf2_t __riscv_vwaddu_wx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs2, uint16_t rs1,
                                           size_t vl);
vuint32m1_t __riscv_vwaddu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vwaddu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vwaddu_wv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vwaddu_wx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m2_t __riscv_vwaddu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint16m1_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint32m2_t __riscv_vwaddu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint16m1_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m2_t __riscv_vwaddu_wv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint32m2_t __riscv_vwaddu_wx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m4_t __riscv_vwaddu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint16m2_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vuint32m4_t __riscv_vwaddu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint16m2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m4_t __riscv_vwaddu_wv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vuint32m4_t __riscv_vwaddu_wx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m8_t __riscv_vwaddu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint16m4_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vuint32m8_t __riscv_vwaddu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint16m4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m8_t __riscv_vwaddu_wv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vuint32m8_t __riscv_vwaddu_wx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, uint16_t rs1,
                                         size_t vl);
vuint64m1_t __riscv_vwaddu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint64m1_t __riscv_vwaddu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
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                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vwaddu_wv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vwaddu_wx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vwaddu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vwaddu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vwaddu_wv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vwaddu_wx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vwaddu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vwaddu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vwaddu_wv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vwaddu_wx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vwaddu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vwaddu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vwaddu_wv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vwaddu_wx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, uint32_t rs1,
                                        size_t vl);
vuint16mf4_t __riscv_vwsubu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint8mf8_t vs2, vuint8mf8_t vs1,
                                          size_t vl);
vuint16mf4_t __riscv_vwsubu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint8mf8_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf4_t __riscv_vwsubu_wv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, vuint8mf8_t vs1,
                                          size_t vl);
vuint16mf4_t __riscv_vwsubu_wx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vwsubu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint8mf4_t vs2, vuint8mf4_t vs1,
                                          size_t vl);
vuint16mf2_t __riscv_vwsubu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint8mf4_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vwsubu_wv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, vuint8mf4_t vs1,
                                          size_t vl);
vuint16mf2_t __riscv_vwsubu_wx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, uint8_t rs1,
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                                          size_t vl);
vuint16m1_t __riscv_vwsubu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint8mf2_t vs2, vuint8mf2_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vwsubu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint8mf2_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vwsubu_wv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs2, vuint8mf2_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vwsubu_wx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m2_t __riscv_vwsubu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint8m1_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint16m2_t __riscv_vwsubu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint8m1_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m2_t __riscv_vwsubu_wv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint16m2_t __riscv_vwsubu_wx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m4_t __riscv_vwsubu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint8m2_t vs2, vuint8m2_t vs1,
                                         size_t vl);
vuint16m4_t __riscv_vwsubu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint8m2_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m4_t __riscv_vwsubu_wv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, vuint8m2_t vs1,
                                         size_t vl);
vuint16m4_t __riscv_vwsubu_wx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m8_t __riscv_vwsubu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint8m4_t vs2, vuint8m4_t vs1,
                                         size_t vl);
vuint16m8_t __riscv_vwsubu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint8m4_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m8_t __riscv_vwsubu_wv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, vuint8m4_t vs1,
                                         size_t vl);
vuint16m8_t __riscv_vwsubu_wx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, uint8_t rs1,
                                         size_t vl);
vuint32mf2_t __riscv_vwsubu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint16mf4_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vuint32mf2_t __riscv_vwsubu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint16mf4_t vs2, uint16_t rs1,
                                           size_t vl);
vuint32mf2_t __riscv_vwsubu_wv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vuint32mf2_t __riscv_vwsubu_wx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs2, uint16_t rs1,
                                           size_t vl);
vuint32m1_t __riscv_vwsubu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vwsubu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
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vuint32m1_t __riscv_vwsubu_wv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vwsubu_wx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m2_t __riscv_vwsubu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint16m1_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint32m2_t __riscv_vwsubu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint16m1_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m2_t __riscv_vwsubu_wv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint32m2_t __riscv_vwsubu_wx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m4_t __riscv_vwsubu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint16m2_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vuint32m4_t __riscv_vwsubu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint16m2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m4_t __riscv_vwsubu_wv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vuint32m4_t __riscv_vwsubu_wx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m8_t __riscv_vwsubu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint16m4_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vuint32m8_t __riscv_vwsubu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint16m4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m8_t __riscv_vwsubu_wv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vuint32m8_t __riscv_vwsubu_wx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, uint16_t rs1,
                                         size_t vl);
vuint64m1_t __riscv_vwsubu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint64m1_t __riscv_vwsubu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint64m1_t __riscv_vwsubu_wv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint64m1_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint64m1_t __riscv_vwsubu_wx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint64m1_t vs2, uint32_t rs1,
                                         size_t vl);
vuint64m2_t __riscv_vwsubu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint32m1_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vuint64m2_t __riscv_vwsubu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint32m1_t vs2, uint32_t rs1,
                                         size_t vl);
vuint64m2_t __riscv_vwsubu_wv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint64m2_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vuint64m2_t __riscv_vwsubu_wx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint64m2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint64m4_t __riscv_vwsubu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
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                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vwsubu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint32m2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint64m4_t __riscv_vwsubu_wv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vwsubu_wx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, uint32_t rs1,
                                      size_t vl);
vuint64m8_t __riscv_vwsubu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vwsubu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint32m4_t vs2, uint32_t rs1,
                                      size_t vl);
vuint64m8_t __riscv_vwsubu_wv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vwsubu_wx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint32_t rs1,
                                      size_t vl);
// masked functions
vint16mf4_t __riscv_vwadd_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                    vint8mf8_t vs2, vint8mf8_t vs1,
                                    size_t vl);
vint16mf4_t __riscv_vwadd_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                    vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwadd_wv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                    vint16mf4_t vs2, vint8mf8_t vs1,
                                    size_t vl);
vint16mf4_t __riscv_vwadd_wx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                    vint16mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint8mf4_t vs2, vint8mf4_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vwadd_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_wv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint16mf2_t vs2, vint8mf4_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vwadd_wx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint16mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                   vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                   vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_wv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                   vint16m1_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_wx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                   vint16m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_wv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_wx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                   int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_wv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_wx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
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                                    int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_wv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_wx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vwadd_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_wv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vwadd_wx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint16mf2_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vwadd_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_wv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vwadd_wx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_wv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_wx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_wv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_wx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_wv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_wx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int16_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vwadd_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_wv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vwadd_wx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, int32_t rs1, size_t vl);
```

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vint64m2_t __riscv_vwadd_wv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_wx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_wv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_wx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_wv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_wx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint8mf8_t vs2, vint8mf8_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vwsub_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_wv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint8mf8_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vwsub_wx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint8mf4_t vs2, vint8mf4_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vwsub_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_wv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint8mf4_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vwsub_wx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_wv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_wx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                     vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                     int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_wv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_wx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                     vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                     int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_wv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_wx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                     vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
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                                    int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_wv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_wx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vwsub_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_wv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vwsub_wx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint16mf2_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vwsub_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_wv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vwsub_wx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_wv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_wx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_wv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_wx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_wv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_wx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int16_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vwsub_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_wv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vwsub_wx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_wv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_wx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int32_t rs1, size_t vl);
```

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vint64m4_t __riscv_vwsub_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_wv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_wx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_wv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_wx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint8mf8_t vs2, vuint8mf8_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vwaddu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint8mf8_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16mf4_t __riscv_vwaddu_wv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint8mf8_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vwaddu_wx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vwaddu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint8mf4_t vs2, vuint8mf4_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vwaddu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint8mf4_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vwaddu_wv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint8mf4_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vwaddu_wx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vwaddu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vwaddu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vwaddu_wx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint8m1_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vwaddu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vwaddu_wx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint8m2_t vs2, vuint8m2_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vwaddu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint8m2_t vs1,
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                                      size_t vl);
vuint16m4_t __riscv_vwaddu_wx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint8m4_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vwaddu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vwaddu_wx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vwaddu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32mf2_t __riscv_vwaddu_wv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vwaddu_wx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vwaddu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vwaddu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vwaddu_wv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vwaddu_wx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m2_t __riscv_vwaddu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vwaddu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m2_t __riscv_vwaddu_wv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vwaddu_wx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m4_t __riscv_vwaddu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vwaddu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint16m2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m4_t __riscv_vwaddu_wv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vwaddu_wx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m8_t __riscv_vwaddu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vwaddu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                      vuint16m4_t vs2, uint16_t rs1,
                                      size_t vl);
```

```
vuint32m8_t __riscv_vwaddu_wv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint32m8_t __riscv_vwaddu_wx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vwaddu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vwaddu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       vuint32mf2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vwaddu_wv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vwaddu_wx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vwaddu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vwaddu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vwaddu_wv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vwaddu_wx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vwaddu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint64m4_t __riscv_vwaddu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vwaddu_wv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint64m4_t __riscv_vwaddu_wx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vwaddu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vwaddu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vwaddu_wv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vwaddu_wx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint32_t rs1,
                                       size_t vl);
vuint16mf4_t __riscv_vwsubu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint8mf8_t vs2, vuint8mf8_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vwsubu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint8mf8_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16mf4_t __riscv_vwsubu_wv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint8mf8_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vwsubu_wx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vwsubu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
```

```
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vwsubu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16mf2_t __riscv_vwsubu_wv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vwsubu_wx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m1_t __riscv_vwsubu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vwsubu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vwsubu_wx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vwsubu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vwsubu_wx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vwsubu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vwsubu_wx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vwsubu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vwsubu_wx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwsubu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwsubu_wv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vwsubu_wx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vwsubu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vwsubu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
```

```
                                    vuint16mf2_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32m1_t __riscv_vwsubu_wv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vwsubu_wx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vwsubu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vwsubu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint16m1_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vwsubu_wv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vwsubu_wx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32m4_t __riscv_vwsubu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vwsubu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint16m2_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32m4_t __riscv_vwsubu_wv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vwsubu_wx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vwsubu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vwsubu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint16m4_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vwsubu_wv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vwsubu_wx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint16_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vwsubu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vwsubu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint32mf2_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vwsubu_wv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vwsubu_wx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vwsubu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vwsubu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint32m1_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vwsubu_wv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vwsubu_wx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint32_t rs1,
```

```
                                      size_t vl);
vuint64m4_t __riscv_vwsubu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vwsubu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      vuint32m2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint64m4_t __riscv_vwsubu_wv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vwsubu_wx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, uint32_t rs1,
                                      size_t vl);
vuint64m8_t __riscv_vwsubu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vwsubu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      vuint32m4_t vs2, uint32_t rs1,
                                      size_t vl);
vuint64m8_t __riscv_vwsubu_wv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vwsubu_wx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint32_t rs1,
                                      size_t vl);
```

B.3.3. Vector Integer Widening Intrinsics

```
vint16mf4_t __riscv_vwcvt_x_x_v_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs2,
                                         size_t vl);
vint16mf2_t __riscv_vwcvt_x_x_v_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs2,
                                         size_t vl);
vint16m1_t __riscv_vwcvt_x_x_v_i16m1_tu(vint16m1_t vd, vint8mf2_t vs2,
                                       size_t vl);
vint16m2_t __riscv_vwcvt_x_x_v_i16m2_tu(vint16m2_t vd, vint8m1_t vs2,
                                       size_t vl);
vint16m4_t __riscv_vwcvt_x_x_v_i16m4_tu(vint16m4_t vd, vint8m2_t vs2,
                                       size_t vl);
vint16m8_t __riscv_vwcvt_x_x_v_i16m8_tu(vint16m8_t vd, vint8m4_t vs2,
                                       size_t vl);
vuint16mf4_t __riscv_vwcvtu_x_x_v_u16mf4_tu(vuint16mf4_t vd, vuint8mf8_t vs2,
                                           size_t vl);
vuint16mf2_t __riscv_vwcvtu_x_x_v_u16mf2_tu(vuint16mf2_t vd, vuint8mf4_t vs2,
                                           size_t vl);
vuint16m1_t __riscv_vwcvtu_x_x_v_u16m1_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                         size_t vl);
vuint16m2_t __riscv_vwcvtu_x_x_v_u16m2_tu(vuint16m2_t vd, vuint8m1_t vs2,
                                         size_t vl);
vuint16m4_t __riscv_vwcvtu_x_x_v_u16m4_tu(vuint16m4_t vd, vuint8m2_t vs2,
                                         size_t vl);
vuint16m8_t __riscv_vwcvtu_x_x_v_u16m8_tu(vuint16m8_t vd, vuint8m4_t vs2,
                                         size_t vl);
vint32mf2_t __riscv_vwcvt_x_x_v_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                         size_t vl);
vint32m1_t __riscv_vwcvt_x_x_v_i32m1_tu(vint32m1_t vd, vint16mf2_t vs2,
                                       size_t vl);
vint32m2_t __riscv_vwcvt_x_x_v_i32m2_tu(vint32m2_t vd, vint16m1_t vs2,
                                       size_t vl);
vint32m4_t __riscv_vwcvt_x_x_v_i32m4_tu(vint32m4_t vd, vint16m2_t vs2,
                                       size_t vl);
vint32m8_t __riscv_vwcvt_x_x_v_i32m8_tu(vint32m8_t vd, vint16m4_t vs2,
                                       size_t vl);
vuint32mf2_t __riscv_vwcvtu_x_x_v_u32mf2_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                           size_t vl);
vuint32m1_t __riscv_vwcvtu_x_x_v_u32m1_tu(vuint32m1_t vd, vuint16mf2_t vs2,
```

```
                                          size_t vl);
vuint32m2_t __riscv_vwcvtu_x_x_v_u32m2_tu(vuint32m2_t vd, vuint16m1_t vs2,
                                          size_t vl);
vuint32m4_t __riscv_vwcvtu_x_x_v_u32m4_tu(vuint32m4_t vd, vuint16m2_t vs2,
                                          size_t vl);
vuint32m8_t __riscv_vwcvtu_x_x_v_u32m8_tu(vuint32m8_t vd, vuint16m4_t vs2,
                                          size_t vl);
vint64m1_t __riscv_vwcvt_x_x_v_i64m1_tu(vint64m1_t vd, vint32mf2_t vs2,
                                        size_t vl);
vint64m2_t __riscv_vwcvt_x_x_v_i64m2_tu(vint64m2_t vd, vint32m1_t vs2,
                                        size_t vl);
vint64m4_t __riscv_vwcvt_x_x_v_i64m4_tu(vint64m4_t vd, vint32m2_t vs2,
                                        size_t vl);
vint64m8_t __riscv_vwcvt_x_x_v_i64m8_tu(vint64m8_t vd, vint32m4_t vs2,
                                        size_t vl);
vuint64m1_t __riscv_vwcvtu_x_x_v_u64m1_tu(vuint64m1_t vd, vuint32mf2_t vs2,
                                          size_t vl);
vuint64m2_t __riscv_vwcvtu_x_x_v_u64m2_tu(vuint64m2_t vd, vuint32m1_t vs2,
                                          size_t vl);
vuint64m4_t __riscv_vwcvtu_x_x_v_u64m4_tu(vuint64m4_t vd, vuint32m2_t vs2,
                                          size_t vl);
vuint64m8_t __riscv_vwcvtu_x_x_v_u64m8_tu(vuint64m8_t vd, vuint32m4_t vs2,
                                          size_t vl);
// masked functions
vint16mf4_t __riscv_vwcvt_x_x_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                           vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwcvt_x_x_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                           vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwcvt_x_x_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                         vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwcvt_x_x_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                         vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwcvt_x_x_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                         vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwcvt_x_x_v_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                         vint8m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwcvtu_x_x_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                             vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwcvtu_x_x_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                             vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwcvtu_x_x_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                           vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwcvtu_x_x_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                           vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwcvtu_x_x_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                           vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwcvtu_x_x_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                           vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwcvt_x_x_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                           vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwcvt_x_x_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                         vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwcvt_x_x_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                         vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwcvt_x_x_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                         vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwcvt_x_x_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                         vint16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwcvtu_x_x_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                             vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwcvtu_x_x_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                           vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwcvtu_x_x_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                           vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwcvtu_x_x_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                           vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwcvtu_x_x_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
```

```
                                          vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwcvt_x_x_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                         vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwcvt_x_x_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                         vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwcvt_x_x_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                         vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwcvt_x_x_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                         vint32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwcvtu_x_x_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                           vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwcvtu_x_x_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                           vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwcvtu_x_x_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                           vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vwcvtu_x_x_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                           vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vwcvt_x_x_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                            vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwcvt_x_x_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                            vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwcvt_x_x_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                          vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwcvt_x_x_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                          vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwcvt_x_x_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                          vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwcvt_x_x_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                          vint8m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwcvtu_x_x_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                              vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwcvtu_x_x_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                              vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwcvtu_x_x_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                            vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwcvtu_x_x_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                            vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwcvtu_x_x_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                            vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwcvtu_x_x_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                            vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwcvt_x_x_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                            vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwcvt_x_x_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                          vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwcvt_x_x_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                          vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwcvt_x_x_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                          vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwcvt_x_x_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                          vint16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwcvtu_x_x_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                              vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwcvtu_x_x_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                            vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwcvtu_x_x_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                            vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwcvtu_x_x_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                            vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwcvtu_x_x_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                            vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwcvt_x_x_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                          vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwcvt_x_x_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                          vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwcvt_x_x_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
```

```
                                        vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwcvt_x_x_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        vint32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwcvtu_x_x_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                          vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwcvtu_x_x_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                          vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwcvtu_x_x_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                          vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vwcvtu_x_x_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                          vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vwcvt_x_x_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwcvt_x_x_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwcvt_x_x_v_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                      vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwcvt_x_x_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                      vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwcvt_x_x_v_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                      vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwcvt_x_x_v_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                      vint8m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwcvtu_x_x_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwcvtu_x_x_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwcvtu_x_x_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                        vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwcvtu_x_x_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                        vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwcvtu_x_x_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                        vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwcvtu_x_x_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                        vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwcvt_x_x_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwcvt_x_x_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                      vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwcvt_x_x_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwcvt_x_x_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwcvt_x_x_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                      vint16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwcvtu_x_x_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwcvtu_x_x_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                        vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwcvtu_x_x_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                        vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwcvtu_x_x_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwcvtu_x_x_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                        vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwcvt_x_x_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwcvt_x_x_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwcvt_x_x_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwcvt_x_x_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      vint32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwcvtu_x_x_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                        vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwcvtu_x_x_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
```

```
                                          vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwcvtu_x_x_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                          vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vwcvtu_x_x_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                          vuint32m4_t vs2, size_t vl);
```

B.3.4. Vector Integer Extension Intrinsics

```
vint16mf4_t __riscv_vsext_vf2_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs2,
                                        size_t vl);
vint16mf2_t __riscv_vsext_vf2_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs2,
                                        size_t vl);
vint16m1_t __riscv_vsext_vf2_i16m1_tu(vint16m1_t vd, vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vsext_vf2_i16m2_tu(vint16m2_t vd, vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vsext_vf2_i16m4_tu(vint16m4_t vd, vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vsext_vf2_i16m8_tu(vint16m8_t vd, vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf4_i32mf2_tu(vint32mf2_t vd, vint8mf8_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vsext_vf4_i32m1_tu(vint32m1_t vd, vint8mf4_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf4_i32m2_tu(vint32m2_t vd, vint8mf2_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf4_i32m4_tu(vint32m4_t vd, vint8m1_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf4_i32m8_tu(vint32m8_t vd, vint8m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf8_i64m1_tu(vint64m1_t vd, vint8mf8_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf8_i64m2_tu(vint64m2_t vd, vint8mf4_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf8_i64m4_tu(vint64m4_t vd, vint8mf2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf8_i64m8_tu(vint64m8_t vd, vint8m1_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf2_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vsext_vf2_i32m1_tu(vint32m1_t vd, vint16mf2_t vs2,
                                      size_t vl);
vint32m2_t __riscv_vsext_vf2_i32m2_tu(vint32m2_t vd, vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf2_i32m4_tu(vint32m4_t vd, vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf2_i32m8_tu(vint32m8_t vd, vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf4_i64m1_tu(vint64m1_t vd, vint16mf4_t vs2,
                                      size_t vl);
vint64m2_t __riscv_vsext_vf4_i64m2_tu(vint64m2_t vd, vint16mf2_t vs2,
                                      size_t vl);
vint64m4_t __riscv_vsext_vf4_i64m4_tu(vint64m4_t vd, vint16m1_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf4_i64m8_tu(vint64m8_t vd, vint16m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf2_i64m1_tu(vint64m1_t vd, vint32mf2_t vs2,
                                      size_t vl);
vint64m2_t __riscv_vsext_vf2_i64m2_tu(vint64m2_t vd, vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf2_i64m4_tu(vint64m4_t vd, vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf2_i64m8_tu(vint64m8_t vd, vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vzext_vf2_u16mf4_tu(vuint16mf4_t vd, vuint8mf8_t vs2,
                                         size_t vl);
vuint16mf2_t __riscv_vzext_vf2_u16mf2_tu(vuint16mf2_t vd, vuint8mf4_t vs2,
                                         size_t vl);
vuint16m1_t __riscv_vzext_vf2_u16m1_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                       size_t vl);
vuint16m2_t __riscv_vzext_vf2_u16m2_tu(vuint16m2_t vd, vuint8m1_t vs2,
                                       size_t vl);
vuint16m4_t __riscv_vzext_vf2_u16m4_tu(vuint16m4_t vd, vuint8m2_t vs2,
                                       size_t vl);
vuint16m8_t __riscv_vzext_vf2_u16m8_tu(vuint16m8_t vd, vuint8m4_t vs2,
                                       size_t vl);
vuint32mf2_t __riscv_vzext_vf4_u32mf2_tu(vuint32mf2_t vd, vuint8mf8_t vs2,
                                         size_t vl);
vuint32m1_t __riscv_vzext_vf4_u32m1_tu(vuint32m1_t vd, vuint8mf4_t vs2,
                                       size_t vl);
vuint32m2_t __riscv_vzext_vf4_u32m2_tu(vuint32m2_t vd, vuint8mf2_t vs2,
                                       size_t vl);
vuint32m4_t __riscv_vzext_vf4_u32m4_tu(vuint32m4_t vd, vuint8m1_t vs2,
                                       size_t vl);
vuint32m8_t __riscv_vzext_vf4_u32m8_tu(vuint32m8_t vd, vuint8m2_t vs2,
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                                        size_t vl);
vuint64m1_t __riscv_vzext_vf8_u64m1_tu(vuint64m1_t vd, vuint8mf8_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vzext_vf8_u64m2_tu(vuint64m2_t vd, vuint8mf4_t vs2,
                                        size_t vl);
vuint64m4_t __riscv_vzext_vf8_u64m4_tu(vuint64m4_t vd, vuint8mf2_t vs2,
                                        size_t vl);
vuint64m8_t __riscv_vzext_vf8_u64m8_tu(vuint64m8_t vd, vuint8m1_t vs2,
                                        size_t vl);
vuint32mf2_t __riscv_vzext_vf2_u32mf2_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                         size_t vl);
vuint32m1_t __riscv_vzext_vf2_u32m1_tu(vuint32m1_t vd, vuint16mf2_t vs2,
                                        size_t vl);
vuint32m2_t __riscv_vzext_vf2_u32m2_tu(vuint32m2_t vd, vuint16m1_t vs2,
                                        size_t vl);
vuint32m4_t __riscv_vzext_vf2_u32m4_tu(vuint32m4_t vd, vuint16m2_t vs2,
                                        size_t vl);
vuint32m8_t __riscv_vzext_vf2_u32m8_tu(vuint32m8_t vd, vuint16m4_t vs2,
                                        size_t vl);
vuint64m1_t __riscv_vzext_vf4_u64m1_tu(vuint64m1_t vd, vuint16mf4_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vzext_vf4_u64m2_tu(vuint64m2_t vd, vuint16mf2_t vs2,
                                        size_t vl);
vuint64m4_t __riscv_vzext_vf4_u64m4_tu(vuint64m4_t vd, vuint16m1_t vs2,
                                        size_t vl);
vuint64m8_t __riscv_vzext_vf4_u64m8_tu(vuint64m8_t vd, vuint16m2_t vs2,
                                        size_t vl);
vuint64m1_t __riscv_vzext_vf2_u64m1_tu(vuint64m1_t vd, vuint32mf2_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vzext_vf2_u64m2_tu(vuint64m2_t vd, vuint32m1_t vs2,
                                        size_t vl);
vuint64m4_t __riscv_vzext_vf2_u64m4_tu(vuint64m4_t vd, vuint32m2_t vs2,
                                        size_t vl);
vuint64m8_t __riscv_vzext_vf2_u64m8_tu(vuint64m8_t vd, vuint32m4_t vs2,
                                        size_t vl);
// masked functions
vint16mf4_t __riscv_vsext_vf2_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                         vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vsext_vf2_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                         vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vsext_vf2_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                       vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vsext_vf2_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                       vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vsext_vf2_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                       vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vsext_vf2_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                       vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf4_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                         vint8mf8_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf4_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                       vint8mf4_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf4_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                       vint8mf2_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf4_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                       vint8m1_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf4_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                       vint8m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf8_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                       vint8mf8_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf8_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                       vint8mf4_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf8_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                       vint8mf2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf8_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                       vint8m1_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf2_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
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                                        vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf2_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                       vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf2_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                       vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf2_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                       vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf2_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                       vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf4_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                       vint16mf4_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf4_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                       vint16mf2_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf4_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                       vint16m1_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf4_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                       vint16m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf2_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                       vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf2_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                       vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf2_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                       vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf2_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                       vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vzext_vf2_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vzext_vf2_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                          vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vzext_vf2_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vzext_vf2_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vzext_vf2_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vzext_vf2_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf4_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint8mf8_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf4_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint8mf4_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf4_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint8mf2_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf4_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint8m1_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf4_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint8m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf8_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint8mf8_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf8_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint8mf4_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf8_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint8mf2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf8_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint8m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf2_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf2_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf2_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf2_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf2_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf4_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint16mf4_t vs2, size_t vl);
```

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vuint64m2_t __riscv_vzext_vf4_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint16mf2_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf4_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint16m1_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf4_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint16m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf2_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf2_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf2_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf2_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vsext_vf2_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vsext_vf2_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vsext_vf2_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                        vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vsext_vf2_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                        vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vsext_vf2_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                        vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vsext_vf2_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                        vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf4_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          vint8mf8_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf4_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        vint8mf4_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf4_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        vint8mf2_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf4_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        vint8m1_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf4_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                        vint8m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf8_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        vint8mf8_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf8_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        vint8mf4_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf8_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        vint8mf2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf8_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        vint8m1_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf2_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf2_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf2_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf2_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf2_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                        vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf4_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        vint16mf4_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf4_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        vint16mf2_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf4_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        vint16m1_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf4_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        vint16m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf2_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf2_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        vint32m1_t vs2, size_t vl);
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vint64m4_t __riscv_vsext_vf2_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf2_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vzext_vf2_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                           vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vzext_vf2_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                           vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vzext_vf2_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vzext_vf2_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vzext_vf2_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vzext_vf2_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf4_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint8mf8_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf4_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint8mf4_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf4_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint8mf2_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf4_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint8m1_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf4_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint8m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf8_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint8mf8_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf8_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint8mf4_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf8_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         vuint8mf2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf8_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                         vuint8m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf2_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf2_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf2_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf2_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf2_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf4_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint16mf4_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf4_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint16mf2_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf4_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         vuint16m1_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf4_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                         vuint16m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf2_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf2_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf2_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf2_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                         vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vsext_vf2_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vsext_vf2_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vsext_vf2_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                      vint8mf2_t vs2, size_t vl);
```

```
vint16m2_t __riscv_vsext_vf2_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                      size_t vl);
vint16m4_t __riscv_vsext_vf2_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                      size_t vl);
vint16m8_t __riscv_vsext_vf2_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vsext_vf4_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        vint8mf8_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf4_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                      vint8mf4_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf4_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      vint8mf2_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf4_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint8m1_t vs2,
                                      size_t vl);
vint32m8_t __riscv_vsext_vf4_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint8m2_t vs2,
                                      size_t vl);
vint64m1_t __riscv_vsext_vf8_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      vint8mf8_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf8_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      vint8mf4_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf8_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      vint8mf2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf8_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint8m1_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vsext_vf2_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf2_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                      vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf2_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf2_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf2_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                      vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf4_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      vint16mf4_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf4_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      vint16mf2_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf4_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      vint16m1_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf4_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      vint16m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf2_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf2_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf2_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf2_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vzext_vf2_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vzext_vf2_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vzext_vf2_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vzext_vf2_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vzext_vf2_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vzext_vf2_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf4_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint8mf8_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf4_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       vuint8mf4_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf4_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
```

```
                                        vuint8mf2_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf4_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        vuint8m1_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf4_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                        vuint8m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf8_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                        vuint8mf8_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf8_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                        vuint8mf4_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf8_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                        vuint8mf2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf8_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                        vuint8m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf2_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf2_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                        vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf2_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                        vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf2_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf2_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                        vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf4_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                        vuint16mf4_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf4_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                        vuint16mf2_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf4_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                        vuint16m1_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf4_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                        vuint16m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf2_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                        vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf2_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf2_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf2_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs2, size_t vl);
```

B.3.5. Vector Integer Add-with-Carry / Subtract-with-Borrow Intrinsics

```
vint8mf8_t __riscv_vadc_vvm_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                     vint8mf8_t vs1, vbool64_t v0, size_t vl);
vint8mf8_t __riscv_vadc_vxm_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                     vbool64_t v0, size_t vl);
vint8mf4_t __riscv_vadc_vvm_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                     vint8mf4_t vs1, vbool32_t v0, size_t vl);
vint8mf4_t __riscv_vadc_vxm_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                     vbool32_t v0, size_t vl);
vint8mf2_t __riscv_vadc_vvm_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                     vint8mf2_t vs1, vbool16_t v0, size_t vl);
vint8mf2_t __riscv_vadc_vxm_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                     vbool16_t v0, size_t vl);
vint8m1_t __riscv_vadc_vvm_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                   vbool8_t v0, size_t vl);
vint8m1_t __riscv_vadc_vxm_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                   vbool8_t v0, size_t vl);
vint8m2_t __riscv_vadc_vvm_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                   vbool4_t v0, size_t vl);
vint8m2_t __riscv_vadc_vxm_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                   vbool4_t v0, size_t vl);
vint8m4_t __riscv_vadc_vvm_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                   vbool2_t v0, size_t vl);
vint8m4_t __riscv_vadc_vxm_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
```

```
                                    vbool2_t v0, size_t vl);
vint8m8_t __riscv_vadc_vvm_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                    vbool1_t v0, size_t vl);
vint8m8_t __riscv_vadc_vxm_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                    vbool1_t v0, size_t vl);
vint16mf4_t __riscv_vadc_vvm_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       vint16mf4_t vs1, vbool64_t v0,
                                       size_t vl);
vint16mf4_t __riscv_vadc_vxm_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       int16_t rs1, vbool64_t v0, size_t vl);
vint16mf2_t __riscv_vadc_vvm_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       vint16mf2_t vs1, vbool32_t v0,
                                       size_t vl);
vint16mf2_t __riscv_vadc_vxm_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       int16_t rs1, vbool32_t v0, size_t vl);
vint16m1_t __riscv_vadc_vvm_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                     vint16m1_t vs1, vbool16_t v0, size_t vl);
vint16m1_t __riscv_vadc_vxm_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                     vbool16_t v0, size_t vl);
vint16m2_t __riscv_vadc_vvm_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, vbool8_t v0, size_t vl);
vint16m2_t __riscv_vadc_vxm_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                     vbool8_t v0, size_t vl);
vint16m4_t __riscv_vadc_vvm_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, vbool4_t v0, size_t vl);
vint16m4_t __riscv_vadc_vxm_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                     vbool4_t v0, size_t vl);
vint16m8_t __riscv_vadc_vvm_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, vbool2_t v0, size_t vl);
vint16m8_t __riscv_vadc_vxm_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                     vbool2_t v0, size_t vl);
vint32mf2_t __riscv_vadc_vvm_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       vint32mf2_t vs1, vbool64_t v0,
                                       size_t vl);
vint32mf2_t __riscv_vadc_vxm_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       int32_t rs1, vbool64_t v0, size_t vl);
vint32m1_t __riscv_vadc_vvm_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                     vint32m1_t vs1, vbool32_t v0, size_t vl);
vint32m1_t __riscv_vadc_vxm_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                     vbool32_t v0, size_t vl);
vint32m2_t __riscv_vadc_vvm_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                     vint32m2_t vs1, vbool16_t v0, size_t vl);
vint32m2_t __riscv_vadc_vxm_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                     vbool16_t v0, size_t vl);
vint32m4_t __riscv_vadc_vvm_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, vbool8_t v0, size_t vl);
vint32m4_t __riscv_vadc_vxm_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                     vbool8_t v0, size_t vl);
vint32m8_t __riscv_vadc_vvm_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, vbool4_t v0, size_t vl);
vint32m8_t __riscv_vadc_vxm_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                     vbool4_t v0, size_t vl);
vint64m1_t __riscv_vadc_vvm_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                     vint64m1_t vs1, vbool64_t v0, size_t vl);
vint64m1_t __riscv_vadc_vxm_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                     vbool64_t v0, size_t vl);
vint64m2_t __riscv_vadc_vvm_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                     vint64m2_t vs1, vbool32_t v0, size_t vl);
vint64m2_t __riscv_vadc_vxm_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                     vbool32_t v0, size_t vl);
vint64m4_t __riscv_vadc_vvm_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                     vint64m4_t vs1, vbool16_t v0, size_t vl);
vint64m4_t __riscv_vadc_vxm_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                     vbool16_t v0, size_t vl);
vint64m8_t __riscv_vadc_vvm_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, vbool8_t v0, size_t vl);
vint64m8_t __riscv_vadc_vxm_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
```

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                                    vbool8_t v0, size_t vl);
vint8mf8_t __riscv_vsbc_vvm_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, vbool64_t v0, size_t vl);
vint8mf8_t __riscv_vsbc_vxm_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    vbool64_t v0, size_t vl);
vint8mf4_t __riscv_vsbc_vvm_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, vbool32_t v0, size_t vl);
vint8mf4_t __riscv_vsbc_vxm_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    vbool32_t v0, size_t vl);
vint8mf2_t __riscv_vsbc_vvm_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, vbool16_t v0, size_t vl);
vint8mf2_t __riscv_vsbc_vxm_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    vbool16_t v0, size_t vl);
vint8m1_t __riscv_vsbc_vvm_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                   vbool8_t v0, size_t vl);
vint8m1_t __riscv_vsbc_vxm_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                   vbool8_t v0, size_t vl);
vint8m2_t __riscv_vsbc_vvm_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                   vbool4_t v0, size_t vl);
vint8m2_t __riscv_vsbc_vxm_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                   vbool4_t v0, size_t vl);
vint8m4_t __riscv_vsbc_vvm_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                   vbool2_t v0, size_t vl);
vint8m4_t __riscv_vsbc_vxm_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                   vbool2_t v0, size_t vl);
vint8m8_t __riscv_vsbc_vvm_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                   vbool1_t v0, size_t vl);
vint8m8_t __riscv_vsbc_vxm_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                   vbool1_t v0, size_t vl);
vint16mf4_t __riscv_vsbc_vvm_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       vint16mf4_t vs1, vbool64_t v0,
                                       size_t vl);
vint16mf4_t __riscv_vsbc_vxm_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       int16_t rs1, vbool64_t v0, size_t vl);
vint16mf2_t __riscv_vsbc_vvm_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       vint16mf2_t vs1, vbool32_t v0,
                                       size_t vl);
vint16mf2_t __riscv_vsbc_vxm_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       int16_t rs1, vbool32_t v0, size_t vl);
vint16m1_t __riscv_vsbc_vvm_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                     vint16m1_t vs1, vbool16_t v0, size_t vl);
vint16m1_t __riscv_vsbc_vxm_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                     vbool16_t v0, size_t vl);
vint16m2_t __riscv_vsbc_vvm_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, vbool8_t v0, size_t vl);
vint16m2_t __riscv_vsbc_vxm_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                     vbool8_t v0, size_t vl);
vint16m4_t __riscv_vsbc_vvm_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, vbool4_t v0, size_t vl);
vint16m4_t __riscv_vsbc_vxm_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                     vbool4_t v0, size_t vl);
vint16m8_t __riscv_vsbc_vvm_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, vbool2_t v0, size_t vl);
vint16m8_t __riscv_vsbc_vxm_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                     vbool2_t v0, size_t vl);
vint32mf2_t __riscv_vsbc_vvm_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       vint32mf2_t vs1, vbool64_t v0,
                                       size_t vl);
vint32mf2_t __riscv_vsbc_vxm_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       int32_t rs1, vbool64_t v0, size_t vl);
vint32m1_t __riscv_vsbc_vvm_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                     vint32m1_t vs1, vbool32_t v0, size_t vl);
vint32m1_t __riscv_vsbc_vxm_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                     vbool32_t v0, size_t vl);
vint32m2_t __riscv_vsbc_vvm_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                     vint32m2_t vs1, vbool16_t v0, size_t vl);
vint32m2_t __riscv_vsbc_vxm_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
```

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                                    vbool16_t v0, size_t vl);
vint32m4_t __riscv_vsbc_vvm_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, vbool8_t v0, size_t vl);
vint32m4_t __riscv_vsbc_vxm_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                    vbool8_t v0, size_t vl);
vint32m8_t __riscv_vsbc_vvm_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, vbool4_t v0, size_t vl);
vint32m8_t __riscv_vsbc_vxm_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                    vbool4_t v0, size_t vl);
vint64m1_t __riscv_vsbc_vvm_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, vbool64_t v0, size_t vl);
vint64m1_t __riscv_vsbc_vxm_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                    vbool64_t v0, size_t vl);
vint64m2_t __riscv_vsbc_vvm_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, vbool32_t v0, size_t vl);
vint64m2_t __riscv_vsbc_vxm_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                    vbool32_t v0, size_t vl);
vint64m4_t __riscv_vsbc_vvm_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, vbool16_t v0, size_t vl);
vint64m4_t __riscv_vsbc_vxm_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                    vbool16_t v0, size_t vl);
vint64m8_t __riscv_vsbc_vvm_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, vbool8_t v0, size_t vl);
vint64m8_t __riscv_vsbc_vxm_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                    vbool8_t v0, size_t vl);
vuint8mf8_t __riscv_vadc_vvm_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, vbool64_t v0, size_t vl);
vuint8mf8_t __riscv_vadc_vxm_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     uint8_t rs1, vbool64_t v0, size_t vl);
vuint8mf4_t __riscv_vadc_vvm_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, vbool32_t v0, size_t vl);
vuint8mf4_t __riscv_vadc_vxm_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     uint8_t rs1, vbool32_t v0, size_t vl);
vuint8mf2_t __riscv_vadc_vvm_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, vbool16_t v0, size_t vl);
vuint8mf2_t __riscv_vadc_vxm_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     uint8_t rs1, vbool16_t v0, size_t vl);
vuint8m1_t __riscv_vadc_vvm_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, vbool8_t v0, size_t vl);
vuint8m1_t __riscv_vadc_vxm_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                    vbool8_t v0, size_t vl);
vuint8m2_t __riscv_vadc_vvm_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, vbool4_t v0, size_t vl);
vuint8m2_t __riscv_vadc_vxm_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                    vbool4_t v0, size_t vl);
vuint8m4_t __riscv_vadc_vvm_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, vbool2_t v0, size_t vl);
vuint8m4_t __riscv_vadc_vxm_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                    vbool2_t v0, size_t vl);
vuint8m8_t __riscv_vadc_vvm_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, vbool1_t v0, size_t vl);
vuint8m8_t __riscv_vadc_vxm_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                    vbool1_t v0, size_t vl);
vuint16mf4_t __riscv_vadc_vvm_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, vbool64_t v0,
                                       size_t vl);
vuint16mf4_t __riscv_vadc_vxm_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       uint16_t rs1, vbool64_t v0, size_t vl);
vuint16mf2_t __riscv_vadc_vvm_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, vbool32_t v0,
                                       size_t vl);
vuint16mf2_t __riscv_vadc_vxm_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       uint16_t rs1, vbool32_t v0, size_t vl);
vuint16m1_t __riscv_vadc_vvm_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      vuint16m1_t vs1, vbool16_t v0, size_t vl);
vuint16m1_t __riscv_vadc_vxm_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      uint16_t rs1, vbool16_t v0, size_t vl);
```

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vuint16m2_t __riscv_vadc_vvm_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      vuint16m2_t vs1, vbool8_t v0, size_t vl);
vuint16m2_t __riscv_vadc_vxm_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      uint16_t rs1, vbool8_t v0, size_t vl);
vuint16m4_t __riscv_vadc_vvm_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      vuint16m4_t vs1, vbool4_t v0, size_t vl);
vuint16m4_t __riscv_vadc_vxm_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      uint16_t rs1, vbool4_t v0, size_t vl);
vuint16m8_t __riscv_vadc_vvm_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      vuint16m8_t vs1, vbool2_t v0, size_t vl);
vuint16m8_t __riscv_vadc_vxm_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      uint16_t rs1, vbool2_t v0, size_t vl);
vuint32mf2_t __riscv_vadc_vvm_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        vuint32mf2_t vs1, vbool64_t v0,
                                        size_t vl);
vuint32mf2_t __riscv_vadc_vxm_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        uint32_t rs1, vbool64_t v0, size_t vl);
vuint32m1_t __riscv_vadc_vvm_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      vuint32m1_t vs1, vbool32_t v0, size_t vl);
vuint32m1_t __riscv_vadc_vxm_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      uint32_t rs1, vbool32_t v0, size_t vl);
vuint32m2_t __riscv_vadc_vvm_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      vuint32m2_t vs1, vbool16_t v0, size_t vl);
vuint32m2_t __riscv_vadc_vxm_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      uint32_t rs1, vbool16_t v0, size_t vl);
vuint32m4_t __riscv_vadc_vvm_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      vuint32m4_t vs1, vbool8_t v0, size_t vl);
vuint32m4_t __riscv_vadc_vxm_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      uint32_t rs1, vbool8_t v0, size_t vl);
vuint32m8_t __riscv_vadc_vvm_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      vuint32m8_t vs1, vbool4_t v0, size_t vl);
vuint32m8_t __riscv_vadc_vxm_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      uint32_t rs1, vbool4_t v0, size_t vl);
vuint64m1_t __riscv_vadc_vvm_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      vuint64m1_t vs1, vbool64_t v0, size_t vl);
vuint64m1_t __riscv_vadc_vxm_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      uint64_t rs1, vbool64_t v0, size_t vl);
vuint64m2_t __riscv_vadc_vvm_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      vuint64m2_t vs1, vbool32_t v0, size_t vl);
vuint64m2_t __riscv_vadc_vxm_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      uint64_t rs1, vbool32_t v0, size_t vl);
vuint64m4_t __riscv_vadc_vvm_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      vuint64m4_t vs1, vbool16_t v0, size_t vl);
vuint64m4_t __riscv_vadc_vxm_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      uint64_t rs1, vbool16_t v0, size_t vl);
vuint64m8_t __riscv_vadc_vvm_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      vuint64m8_t vs1, vbool8_t v0, size_t vl);
vuint64m8_t __riscv_vadc_vxm_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      uint64_t rs1, vbool8_t v0, size_t vl);
vuint8mf8_t __riscv_vsbc_vvm_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, vbool64_t v0, size_t vl);
vuint8mf8_t __riscv_vsbc_vxm_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      uint8_t rs1, vbool64_t v0, size_t vl);
vuint8mf4_t __riscv_vsbc_vvm_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, vbool32_t v0, size_t vl);
vuint8mf4_t __riscv_vsbc_vxm_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      uint8_t rs1, vbool32_t v0, size_t vl);
vuint8mf2_t __riscv_vsbc_vvm_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, vbool16_t v0, size_t vl);
vuint8mf2_t __riscv_vsbc_vxm_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      uint8_t rs1, vbool16_t v0, size_t vl);
vuint8m1_t __riscv_vsbc_vvm_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, vbool8_t v0, size_t vl);
vuint8m1_t __riscv_vsbc_vxm_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                    vbool8_t v0, size_t vl);
vuint8m2_t __riscv_vsbc_vvm_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, vbool4_t v0, size_t vl);
```

```
vuint8m2_t __riscv_vsbc_vxm_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                    vbool4_t v0, size_t vl);
vuint8m4_t __riscv_vsbc_vvm_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, vbool2_t v0, size_t vl);
vuint8m4_t __riscv_vsbc_vxm_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                    vbool2_t v0, size_t vl);
vuint8m8_t __riscv_vsbc_vvm_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, vbool1_t v0, size_t vl);
vuint8m8_t __riscv_vsbc_vxm_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                    vbool1_t v0, size_t vl);
vuint16mf4_t __riscv_vsbc_vvm_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        vuint16mf4_t vs1, vbool64_t v0,
                                        size_t vl);
vuint16mf4_t __riscv_vsbc_vxm_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        uint16_t rs1, vbool64_t v0, size_t vl);
vuint16mf2_t __riscv_vsbc_vvm_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        vuint16mf2_t vs1, vbool32_t v0,
                                        size_t vl);
vuint16mf2_t __riscv_vsbc_vxm_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        uint16_t rs1, vbool32_t v0, size_t vl);
vuint16m1_t __riscv_vsbc_vvm_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      vuint16m1_t vs1, vbool16_t v0, size_t vl);
vuint16m1_t __riscv_vsbc_vxm_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      uint16_t rs1, vbool16_t v0, size_t vl);
vuint16m2_t __riscv_vsbc_vvm_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      vuint16m2_t vs1, vbool8_t v0, size_t vl);
vuint16m2_t __riscv_vsbc_vxm_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      uint16_t rs1, vbool8_t v0, size_t vl);
vuint16m4_t __riscv_vsbc_vvm_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      vuint16m4_t vs1, vbool4_t v0, size_t vl);
vuint16m4_t __riscv_vsbc_vxm_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      uint16_t rs1, vbool4_t v0, size_t vl);
vuint16m8_t __riscv_vsbc_vvm_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      vuint16m8_t vs1, vbool2_t v0, size_t vl);
vuint16m8_t __riscv_vsbc_vxm_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      uint16_t rs1, vbool2_t v0, size_t vl);
vuint32mf2_t __riscv_vsbc_vvm_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        vuint32mf2_t vs1, vbool64_t v0,
                                        size_t vl);
vuint32mf2_t __riscv_vsbc_vxm_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        uint32_t rs1, vbool64_t v0, size_t vl);
vuint32m1_t __riscv_vsbc_vvm_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      vuint32m1_t vs1, vbool32_t v0, size_t vl);
vuint32m1_t __riscv_vsbc_vxm_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      uint32_t rs1, vbool32_t v0, size_t vl);
vuint32m2_t __riscv_vsbc_vvm_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      vuint32m2_t vs1, vbool16_t v0, size_t vl);
vuint32m2_t __riscv_vsbc_vxm_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      uint32_t rs1, vbool16_t v0, size_t vl);
vuint32m4_t __riscv_vsbc_vvm_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      vuint32m4_t vs1, vbool8_t v0, size_t vl);
vuint32m4_t __riscv_vsbc_vxm_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      uint32_t rs1, vbool8_t v0, size_t vl);
vuint32m8_t __riscv_vsbc_vvm_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      vuint32m8_t vs1, vbool4_t v0, size_t vl);
vuint32m8_t __riscv_vsbc_vxm_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      uint32_t rs1, vbool4_t v0, size_t vl);
vuint64m1_t __riscv_vsbc_vvm_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      vuint64m1_t vs1, vbool64_t v0, size_t vl);
vuint64m1_t __riscv_vsbc_vxm_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      uint64_t rs1, vbool64_t v0, size_t vl);
vuint64m2_t __riscv_vsbc_vvm_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      vuint64m2_t vs1, vbool32_t v0, size_t vl);
vuint64m2_t __riscv_vsbc_vxm_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      uint64_t rs1, vbool32_t v0, size_t vl);
vuint64m4_t __riscv_vsbc_vvm_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      vuint64m4_t vs1, vbool16_t v0, size_t vl);
```

```
vuint64m4_t __riscv_vsbc_vxm_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      uint64_t rs1, vbool16_t v0, size_t vl);
vuint64m8_t __riscv_vsbc_vvm_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      vuint64m8_t vs1, vbool8_t v0, size_t vl);
vuint64m8_t __riscv_vsbc_vxm_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      uint64_t rs1, vbool8_t v0, size_t vl);
```

B.3.6. Vector Integer Carry-out / Borrow-out Intrinsics

Intrinsics here don't have a policy variant.

B.3.7. Vector Bitwise Binary Logical Intrinsics

```
vint8mf8_t __riscv_vand_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vand_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vand_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vand_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vand_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vand_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vand_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vand_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vand_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vand_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vand_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vand_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vand_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vand_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vand_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vand_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vand_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vand_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vand_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vand_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vand_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vand_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vand_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vand_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vand_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vand_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
```

```
                                    size_t vl);
vint32mf2_t __riscv_vand_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vand_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vand_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vand_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vand_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vand_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vand_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vand_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vand_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vand_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vand_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vand_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vand_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vand_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vand_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vand_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vand_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vand_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vor_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                   vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vor_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf4_t __riscv_vor_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                   vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vor_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                   size_t vl);
vint8mf2_t __riscv_vor_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                   vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vor_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m1_t __riscv_vor_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                 size_t vl);
vint8m1_t __riscv_vor_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                 size_t vl);
vint8m2_t __riscv_vor_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                 size_t vl);
vint8m2_t __riscv_vor_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vor_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                 size_t vl);
vint8m4_t __riscv_vor_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vor_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                 size_t vl);
vint8m8_t __riscv_vor_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vor_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                     vint16mf4_t vs1, size_t vl);
```

```
vint16mf4_t __riscv_vor_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                     int16_t rs1, size_t vl);
vint16mf2_t __riscv_vor_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                     vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vor_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m1_t __riscv_vor_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                   vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vor_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                   size_t vl);
vint16m2_t __riscv_vor_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                   vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vor_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                   size_t vl);
vint16m4_t __riscv_vor_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                   vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vor_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                   size_t vl);
vint16m8_t __riscv_vor_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                   vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vor_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                   size_t vl);
vint32mf2_t __riscv_vor_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                     vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vor_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                     int32_t rs1, size_t vl);
vint32m1_t __riscv_vor_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                   vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vor_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                   size_t vl);
vint32m2_t __riscv_vor_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                   vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vor_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                   size_t vl);
vint32m4_t __riscv_vor_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                   vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vor_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                   size_t vl);
vint32m8_t __riscv_vor_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                   vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vor_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                   size_t vl);
vint64m1_t __riscv_vor_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                   vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vor_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                   size_t vl);
vint64m2_t __riscv_vor_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                   vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vor_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                   size_t vl);
vint64m4_t __riscv_vor_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                   vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vor_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                   size_t vl);
vint64m8_t __riscv_vor_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                   vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vor_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                   size_t vl);
vint8mf8_t __riscv_vxor_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vxor_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vxor_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vxor_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vxor_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
```

```
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vxor_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vxor_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vxor_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vxor_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vxor_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vxor_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vxor_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vxor_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vxor_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vxor_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vxor_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vxor_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vxor_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vxor_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vxor_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vxor_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vxor_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vxor_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vxor_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vxor_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vxor_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vxor_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vxor_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vxor_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vxor_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vxor_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vxor_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vxor_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vxor_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vxor_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vxor_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vxor_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vxor_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
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vint64m2_t __riscv_vxor_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vxor_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vxor_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vxor_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vxor_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vxor_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vand_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vand_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vand_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vand_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vand_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vand_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vand_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vand_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vand_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vand_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vand_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vand_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vand_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vand_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vand_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vand_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vand_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vand_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vand_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vand_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vand_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vand_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vand_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vand_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vand_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vand_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vand_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vand_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
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                                      uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vand_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vand_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vand_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vand_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vand_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vand_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vand_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vand_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vand_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vand_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vand_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vand_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vand_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vand_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vand_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vand_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vor_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                    vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vor_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vor_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                    vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vor_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vor_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vor_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vor_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                                  size_t vl);
vuint8m1_t __riscv_vor_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m2_t __riscv_vor_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                                  size_t vl);
vuint8m2_t __riscv_vor_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m4_t __riscv_vor_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                                  size_t vl);
vuint8m4_t __riscv_vor_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m8_t __riscv_vor_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                                  size_t vl);
vuint8m8_t __riscv_vor_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                  size_t vl);
vuint16mf4_t __riscv_vor_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vor_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vor_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
```

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vuint16mf2_t __riscv_vor_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vor_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vor_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vor_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vor_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vor_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vor_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vor_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vor_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                    uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vor_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vor_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vor_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vor_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vor_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vor_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vor_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vor_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vor_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vor_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                    uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vor_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vor_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vor_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vor_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vor_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vor_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vor_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vor_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                    uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vxor_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vxor_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vxor_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vxor_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vxor_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vxor_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vxor_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
```

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                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vxor_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m2_t __riscv_vxor_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vxor_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vxor_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vxor_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m8_t __riscv_vxor_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vxor_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vxor_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vxor_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vxor_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vxor_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vxor_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vxor_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vxor_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vxor_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vxor_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vxor_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vxor_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vxor_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vxor_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vxor_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vxor_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vxor_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vxor_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vxor_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vxor_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vxor_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vxor_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vxor_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vxor_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vxor_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vxor_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vxor_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     uint64_t rs1, size_t vl);
```

```
vuint64m4_t __riscv_vxor_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vxor_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vxor_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vxor_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vand_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vand_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vand_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vand_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vand_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vand_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vand_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vand_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vand_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vand_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vand_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vand_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vand_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vand_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vand_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vand_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vand_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vand_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vand_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vand_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vand_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vand_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vand_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vand_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vand_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vand_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vand_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vand_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
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                                      vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vand_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vand_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vand_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vand_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vand_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vand_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vand_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vand_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vand_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vand_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vand_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vand_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vand_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vand_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vand_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vand_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vint8mf8_t __riscv_vor_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vor_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf4_t __riscv_vor_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vor_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf2_t __riscv_vor_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vor_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m1_t __riscv_vor_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vor_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vor_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vor_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vor_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vor_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vor_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vor_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vor_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vor_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vor_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
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                                    vint16mf2_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vor_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                    vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vor_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                  vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vor_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                  int16_t rs1, size_t vl);
vint16m2_t __riscv_vor_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                  vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vor_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                  int16_t rs1, size_t vl);
vint16m4_t __riscv_vor_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                  vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vor_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                  int16_t rs1, size_t vl);
vint16m8_t __riscv_vor_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                  vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vor_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                  int16_t rs1, size_t vl);
vint32mf2_t __riscv_vor_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                    vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vor_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vor_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                  vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vor_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                  int32_t rs1, size_t vl);
vint32m2_t __riscv_vor_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                  vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vor_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                  int32_t rs1, size_t vl);
vint32m4_t __riscv_vor_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                  vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vor_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                  int32_t rs1, size_t vl);
vint32m8_t __riscv_vor_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                  vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vor_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                  int32_t rs1, size_t vl);
vint64m1_t __riscv_vor_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                  vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vor_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                  int64_t rs1, size_t vl);
vint64m2_t __riscv_vor_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                  vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vor_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                  int64_t rs1, size_t vl);
vint64m4_t __riscv_vor_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                  vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vor_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                  int64_t rs1, size_t vl);
vint64m8_t __riscv_vor_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                  vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vor_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                  int64_t rs1, size_t vl);
vint8mf8_t __riscv_vxor_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                   vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vxor_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                   vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vxor_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                   vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vxor_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                   vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vxor_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                   vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
```

```
vint8mf2_t __riscv_vxor_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vxor_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vxor_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vxor_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vxor_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vxor_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vxor_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vxor_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vxor_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vxor_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vxor_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vxor_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vxor_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vxor_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vxor_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vxor_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vxor_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vxor_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vxor_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vxor_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vxor_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vxor_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vxor_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vxor_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vxor_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vxor_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vxor_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vxor_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vxor_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vxor_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vxor_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vxor_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1, size_t vl);
```

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vint64m1_t __riscv_vxor_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vxor_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vxor_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vxor_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vxor_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vxor_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vxor_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vand_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vand_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vand_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vand_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vand_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vand_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vand_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vand_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vand_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vand_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vand_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vand_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vand_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vand_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vand_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vand_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vand_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vand_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vand_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vand_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vand_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vand_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint16_t rs1, size_t vl);
```

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vuint16m4_t __riscv_vand_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vand_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vand_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vand_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vand_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vand_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vand_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vand_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vand_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vand_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vand_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vand_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vand_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, vuint32m8_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vand_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vand_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vuint64m1_t __riscv_vand_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vand_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vuint64m2_t __riscv_vand_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vand_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vand_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vand_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vand_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vor_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vor_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vor_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vor_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vor_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
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                                    vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint8mf2_t __riscv_vor_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vor_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vor_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vor_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vor_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vor_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vor_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vor_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vor_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vor_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vor_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vor_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vor_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vor_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vor_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vor_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, vuint16m2_t vs1,
                                     size_t vl);
vuint16m2_t __riscv_vor_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vor_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, vuint16m4_t vs1,
                                     size_t vl);
vuint16m4_t __riscv_vor_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vor_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, vuint16m8_t vs1,
                                     size_t vl);
vuint16m8_t __riscv_vor_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vor_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vuint32mf2_t __riscv_vor_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m1_t __riscv_vor_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, vuint32m1_t vs1,
                                     size_t vl);
vuint32m1_t __riscv_vor_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vor_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs2, vuint32m2_t vs1,
                                     size_t vl);
vuint32m2_t __riscv_vor_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
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                                    vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vor_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vor_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vor_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vor_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vor_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vor_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vor_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vor_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vor_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vor_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vor_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vor_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vxor_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vxor_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vxor_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vxor_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vxor_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vuint8mf2_t __riscv_vxor_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vxor_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vxor_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vxor_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vxor_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vxor_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vxor_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vxor_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vxor_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vxor_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vxor_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
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                                      size_t vl);
vuint16mf2_t __riscv_vxor_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vxor_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m1_t __riscv_vxor_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vxor_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vxor_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vxor_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vxor_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vxor_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vxor_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vxor_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vxor_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vxor_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vxor_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vxor_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vxor_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vxor_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vxor_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vxor_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vxor_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vxor_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vxor_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vxor_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vxor_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vxor_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vxor_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vxor_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
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                                    vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vxor_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vxor_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vand_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vint8mf8_t vs1,
                                    size_t vl);
vint8mf8_t __riscv_vand_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vand_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, vint8mf4_t vs1,
                                    size_t vl);
vint8mf4_t __riscv_vand_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vand_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vint8mf2_t vs1,
                                    size_t vl);
vint8mf2_t __riscv_vand_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vand_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vand_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vand_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vand_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vand_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vand_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vand_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vand_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vand_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vand_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1,
                                      size_t vl);
vint16mf2_t __riscv_vand_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vand_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, int16_t rs1,
                                      size_t vl);
vint16m1_t __riscv_vand_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, vint16m1_t vs1,
                                    size_t vl);
vint16m1_t __riscv_vand_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vand_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vand_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vand_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vand_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vand_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs2, vint16m8_t vs1,
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                                    size_t vl);
vint16m8_t __riscv_vand_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vand_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vand_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vand_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vand_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vand_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vand_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vand_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vand_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vand_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vand_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vand_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vand_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vand_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint64m2_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vand_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vand_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint64m4_t vs1,
                                      size_t vl);
vint64m4_t __riscv_vand_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vand_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vint64m8_t vs1,
                                      size_t vl);
vint64m8_t __riscv_vand_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vor_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vor_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vor_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vor_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vor_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vor_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vor_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vor_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vor_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
```

```
vint8m2_t __riscv_vor_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vor_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vor_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vor_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vor_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vor_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vor_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vor_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vor_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vor_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vor_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vor_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vor_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vor_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vor_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vor_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vor_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vor_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vor_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vor_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vor_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vor_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vor_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vor_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vor_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vor_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vor_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vor_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vor_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vor_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vor_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vor_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1, size_t vl);
```

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vint64m4_t __riscv_vor_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vor_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vor_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vint8mf8_t __riscv_vxor_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, vint8mf8_t vs1,
                                      size_t vl);
vint8mf8_t __riscv_vxor_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vxor_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      size_t vl);
vint8mf4_t __riscv_vxor_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vxor_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vint8mf2_t __riscv_vxor_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vxor_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vxor_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    int8_t rs1, size_t vl);
vint8m2_t __riscv_vxor_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vxor_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m4_t __riscv_vxor_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vxor_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint8m8_t __riscv_vxor_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vxor_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vxor_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vxor_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vxor_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vxor_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vxor_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vxor_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vxor_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vxor_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vxor_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vxor_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vxor_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      size_t vl);
```

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vint16m8_t __riscv_vxor_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vxor_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vxor_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vxor_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vxor_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vxor_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vxor_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vxor_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vxor_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vxor_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vxor_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vxor_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vxor_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vxor_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint64m2_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vxor_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vxor_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint64m4_t vs1,
                                      size_t vl);
vint64m4_t __riscv_vxor_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vxor_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vint64m8_t vs1,
                                      size_t vl);
vint64m8_t __riscv_vxor_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vand_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vand_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vand_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vand_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vand_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vand_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vand_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vand_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     uint8_t rs1, size_t vl);
```

```
vuint8m2_t __riscv_vand_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vand_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vand_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vand_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vand_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vand_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vand_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vand_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vand_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vand_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vand_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vand_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vand_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vand_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vand_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vand_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vand_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vand_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vand_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vand_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vand_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vand_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vand_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vand_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vand_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
```

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                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vand_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vand_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vand_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vand_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vand_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vand_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vand_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vand_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vand_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vand_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vand_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vor_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                   vuint8mf8_t vs2, vuint8mf8_t vs1,
                                   size_t vl);
vuint8mf8_t __riscv_vor_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                   vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vor_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                   vuint8mf4_t vs2, vuint8mf4_t vs1,
                                   size_t vl);
vuint8mf4_t __riscv_vor_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                   vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vor_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                   vuint8mf2_t vs2, vuint8mf2_t vs1,
                                   size_t vl);
vuint8mf2_t __riscv_vor_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                   vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vor_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                  vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vor_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vor_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                  vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vor_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vor_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                  vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vor_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vor_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                  vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vor_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vor_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
```

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                                      vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vor_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16mf2_t __riscv_vor_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vor_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m1_t __riscv_vor_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vor_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vor_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vor_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vor_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vor_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vor_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vor_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vor_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vor_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vor_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vor_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vor_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vor_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vor_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vor_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vor_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vor_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vor_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vor_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vor_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vor_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
```

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vuint64m4_t __riscv_vor_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vor_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vor_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vor_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vxor_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vxor_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vxor_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vxor_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vxor_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vxor_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vxor_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vxor_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vxor_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vxor_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vxor_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vxor_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vxor_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vxor_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vxor_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vxor_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vxor_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vxor_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vxor_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vxor_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vxor_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vxor_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vxor_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
```

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                                      size_t vl);
vuint16m4_t __riscv_vxor_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vxor_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vxor_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vxor_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vxor_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vxor_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vxor_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vxor_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vxor_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vxor_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vxor_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vxor_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vuint32m8_t __riscv_vxor_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vxor_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, vuint64m1_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vxor_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vxor_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, vuint64m2_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vxor_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vxor_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, vuint64m4_t vs1,
                                       size_t vl);
vuint64m4_t __riscv_vxor_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vxor_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vxor_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
// masked functions
vint8mf8_t __riscv_vand_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
```

```
vint8mf8_t __riscv_vand_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf4_t __riscv_vand_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vand_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf2_t __riscv_vand_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vand_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m1_t __riscv_vand_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vand_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vand_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vand_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vand_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vand_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vand_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vand_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vand_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vand_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vand_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vand_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vand_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vand_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    int16_t rs1, size_t vl);
vint16m2_t __riscv_vand_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vand_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vint16m4_t __riscv_vand_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vand_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint16m8_t __riscv_vand_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vand_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vint32mf2_t __riscv_vand_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vand_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vand_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vand_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    int32_t rs1, size_t vl);
vint32m2_t __riscv_vand_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vand_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    int32_t rs1, size_t vl);
vint32m4_t __riscv_vand_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
```

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vint32m4_t __riscv_vand_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vint32m8_t __riscv_vand_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vand_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, size_t vl);
vint64m1_t __riscv_vand_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vand_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    int64_t rs1, size_t vl);
vint64m2_t __riscv_vand_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vand_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    int64_t rs1, size_t vl);
vint64m4_t __riscv_vand_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vand_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    int64_t rs1, size_t vl);
vint64m8_t __riscv_vand_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vand_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, size_t vl);
vint8mf8_t __riscv_vor_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                   vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vor_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                   int8_t rs1, size_t vl);
vint8mf4_t __riscv_vor_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                   vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vor_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                   int8_t rs1, size_t vl);
vint8mf2_t __riscv_vor_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                   vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vor_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m1_t __riscv_vor_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                 vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vor_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                 int8_t rs1, size_t vl);
vint8m2_t __riscv_vor_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                 vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vor_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                 int8_t rs1, size_t vl);
vint8m4_t __riscv_vor_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                 vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vor_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                 int8_t rs1, size_t vl);
vint8m8_t __riscv_vor_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                 vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vor_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                 int8_t rs1, size_t vl);
vint16mf4_t __riscv_vor_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                     vint16mf4_t vs2, vint16mf4_t vs1,
                                     size_t vl);
vint16mf4_t __riscv_vor_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                     vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vor_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                     vint16mf2_t vs2, vint16mf2_t vs1,
                                     size_t vl);
vint16mf2_t __riscv_vor_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                     vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vor_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                   vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vor_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                   int16_t rs1, size_t vl);
vint16m2_t __riscv_vor_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                   vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vor_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
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                                    int16_t rs1, size_t vl);
vint16m4_t __riscv_vor_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vor_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint16m8_t __riscv_vor_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vor_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vint32mf2_t __riscv_vor_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                     vint32mf2_t vs2, vint32mf2_t vs1,
                                     size_t vl);
vint32mf2_t __riscv_vor_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                     vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vor_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vor_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    int32_t rs1, size_t vl);
vint32m2_t __riscv_vor_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vor_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    int32_t rs1, size_t vl);
vint32m4_t __riscv_vor_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vor_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vint32m8_t __riscv_vor_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vor_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, size_t vl);
vint64m1_t __riscv_vor_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vor_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    int64_t rs1, size_t vl);
vint64m2_t __riscv_vor_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vor_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    int64_t rs1, size_t vl);
vint64m4_t __riscv_vor_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vor_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    int64_t rs1, size_t vl);
vint64m8_t __riscv_vor_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vor_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, size_t vl);
vint8mf8_t __riscv_vxor_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                     vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vxor_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                     int8_t rs1, size_t vl);
vint8mf4_t __riscv_vxor_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                     vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vxor_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                     int8_t rs1, size_t vl);
vint8mf2_t __riscv_vxor_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                     vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vxor_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                     int8_t rs1, size_t vl);
vint8m1_t __riscv_vxor_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vxor_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vxor_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vxor_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vxor_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
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                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vxor_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vxor_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vxor_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vxor_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vxor_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vxor_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vxor_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vxor_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vxor_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    int16_t rs1, size_t vl);
vint16m2_t __riscv_vxor_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vxor_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vint16m4_t __riscv_vxor_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vxor_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint16m8_t __riscv_vxor_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vxor_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vint32mf2_t __riscv_vxor_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vxor_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vxor_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vxor_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    int32_t rs1, size_t vl);
vint32m2_t __riscv_vxor_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vxor_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    int32_t rs1, size_t vl);
vint32m4_t __riscv_vxor_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vxor_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vint32m8_t __riscv_vxor_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vxor_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, size_t vl);
vint64m1_t __riscv_vxor_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vxor_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    int64_t rs1, size_t vl);
vint64m2_t __riscv_vxor_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vxor_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    int64_t rs1, size_t vl);
vint64m4_t __riscv_vxor_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vxor_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    int64_t rs1, size_t vl);
vint64m8_t __riscv_vxor_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
```

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                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vxor_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vand_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vand_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vand_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vand_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vand_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vuint8mf2_t __riscv_vand_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vand_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vand_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vand_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vand_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vand_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vand_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vand_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vand_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vand_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vand_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vand_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vand_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vand_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vand_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vand_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, vuint16m2_t vs1,
                                     size_t vl);
vuint16m2_t __riscv_vand_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vand_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, vuint16m4_t vs1,
                                     size_t vl);
vuint16m4_t __riscv_vand_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vand_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, vuint16m8_t vs1,
                                     size_t vl);
vuint16m8_t __riscv_vand_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vand_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
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                                    vuint32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vand_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint32mf2_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m1_t __riscv_vand_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                   vuint32m1_t vs2, vuint32m1_t vs1,
                                   size_t vl);
vuint32m1_t __riscv_vand_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                   vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vand_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                   vuint32m2_t vs2, vuint32m2_t vs1,
                                   size_t vl);
vuint32m2_t __riscv_vand_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                   vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vand_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                   vuint32m4_t vs2, vuint32m4_t vs1,
                                   size_t vl);
vuint32m4_t __riscv_vand_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                   vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vand_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                   vuint32m8_t vs2, vuint32m8_t vs1,
                                   size_t vl);
vuint32m8_t __riscv_vand_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                   vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vand_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                   vuint64m1_t vs2, vuint64m1_t vs1,
                                   size_t vl);
vuint64m1_t __riscv_vand_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                   vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vand_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                   vuint64m2_t vs2, vuint64m2_t vs1,
                                   size_t vl);
vuint64m2_t __riscv_vand_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                   vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vand_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                   vuint64m4_t vs2, vuint64m4_t vs1,
                                   size_t vl);
vuint64m4_t __riscv_vand_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                   vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vand_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                   vuint64m8_t vs2, vuint64m8_t vs1,
                                   size_t vl);
vuint64m8_t __riscv_vand_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                   vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vor_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                  vuint8mf8_t vs2, vuint8mf8_t vs1,
                                  size_t vl);
vuint8mf8_t __riscv_vor_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                  vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vor_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                  vuint8mf4_t vs2, vuint8mf4_t vs1,
                                  size_t vl);
vuint8mf4_t __riscv_vor_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                  vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vor_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                  vuint8mf2_t vs2, vuint8mf2_t vs1,
                                  size_t vl);
vuint8mf2_t __riscv_vor_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                  vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vor_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vor_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vor_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vor_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
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                                  uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vor_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                  vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vor_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vor_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                  vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vor_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vor_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vor_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16mf2_t __riscv_vor_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vor_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m1_t __riscv_vor_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vor_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vor_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vor_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vor_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vor_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vor_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vor_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vor_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vor_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vor_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vor_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vor_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vor_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vor_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vor_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vor_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vor_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
```

```
vuint64m1_t __riscv_vor_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vor_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vor_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vor_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vor_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vor_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vor_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vor_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vxor_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vxor_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vxor_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vxor_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vxor_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vuint8mf2_t __riscv_vxor_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vxor_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vxor_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vxor_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vxor_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vxor_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vxor_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vxor_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vxor_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vxor_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vxor_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vxor_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vxor_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vxor_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vxor_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
```

```
                                    vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vxor_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vxor_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vxor_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vxor_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vxor_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vxor_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vxor_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vxor_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vxor_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vxor_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vxor_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vxor_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vxor_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vxor_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vxor_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vxor_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vxor_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vxor_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vxor_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vxor_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vxor_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vxor_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vxor_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vxor_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
```

B.3.8. Vector Bitwise Unary Logical Intrinsics

```
vint8mf8_t __riscv_vnot_v_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vnot_v_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vnot_v_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vnot_v_i8m1_tu(vint8m1_t vd, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vnot_v_i8m2_tu(vint8m2_t vd, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vnot_v_i8m4_tu(vint8m4_t vd, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vnot_v_i8m8_tu(vint8m8_t vd, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vnot_v_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vnot_v_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vnot_v_i16m1_tu(vint16m1_t vd, vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vnot_v_i16m2_tu(vint16m2_t vd, vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vnot_v_i16m4_tu(vint16m4_t vd, vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vnot_v_i16m8_tu(vint16m8_t vd, vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vnot_v_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vnot_v_i32m1_tu(vint32m1_t vd, vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vnot_v_i32m2_tu(vint32m2_t vd, vint32m2_t vs, size_t vl);
vint32m4_t __riscv_vnot_v_i32m4_tu(vint32m4_t vd, vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vnot_v_i32m8_tu(vint32m8_t vd, vint32m8_t vs, size_t vl);
vint64m1_t __riscv_vnot_v_i64m1_tu(vint64m1_t vd, vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vnot_v_i64m2_tu(vint64m2_t vd, vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vnot_v_i64m4_tu(vint64m4_t vd, vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vnot_v_i64m8_tu(vint64m8_t vd, vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vnot_v_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs, size_t vl);
vuint8mf4_t __riscv_vnot_v_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs, size_t vl);
vuint8mf2_t __riscv_vnot_v_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs, size_t vl);
vuint8m1_t __riscv_vnot_v_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs, size_t vl);
vuint8m2_t __riscv_vnot_v_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs, size_t vl);
vuint8m4_t __riscv_vnot_v_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs, size_t vl);
vuint8m8_t __riscv_vnot_v_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs, size_t vl);
vuint16mf4_t __riscv_vnot_v_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs,
                                      size_t vl);
vuint16mf2_t __riscv_vnot_v_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs,
                                      size_t vl);
vuint16m1_t __riscv_vnot_v_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs, size_t vl);
vuint16m2_t __riscv_vnot_v_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs, size_t vl);
vuint16m4_t __riscv_vnot_v_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs, size_t vl);
vuint16m8_t __riscv_vnot_v_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs, size_t vl);
vuint32mf2_t __riscv_vnot_v_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs,
                                      size_t vl);
vuint32m1_t __riscv_vnot_v_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs, size_t vl);
vuint32m2_t __riscv_vnot_v_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs, size_t vl);
vuint32m4_t __riscv_vnot_v_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs, size_t vl);
vuint32m8_t __riscv_vnot_v_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs, size_t vl);
vuint64m1_t __riscv_vnot_v_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs, size_t vl);
vuint64m2_t __riscv_vnot_v_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs, size_t vl);
vuint64m4_t __riscv_vnot_v_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs, size_t vl);
vuint64m8_t __riscv_vnot_v_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs, size_t vl);
// masked functions
vint8mf8_t __riscv_vnot_v_i8mf8_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                                    size_t vl);
vint8mf4_t __riscv_vnot_v_i8mf4_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
                                    size_t vl);
vint8mf2_t __riscv_vnot_v_i8mf2_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                                    size_t vl);
vint8m1_t __riscv_vnot_v_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs,
                                  size_t vl);
vint8m2_t __riscv_vnot_v_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs,
                                  size_t vl);
vint8m4_t __riscv_vnot_v_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs,
                                  size_t vl);
vint8m8_t __riscv_vnot_v_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs,
                                  size_t vl);
vint16mf4_t __riscv_vnot_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs, size_t vl);
```

```
vint16mf2_t __riscv_vnot_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vnot_v_i16m1_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
                                    size_t vl);
vint16m2_t __riscv_vnot_v_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                                    size_t vl);
vint16m4_t __riscv_vnot_v_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                                    size_t vl);
vint16m8_t __riscv_vnot_v_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                                    size_t vl);
vint32mf2_t __riscv_vnot_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vnot_v_i32m1_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                                    size_t vl);
vint32m2_t __riscv_vnot_v_i32m2_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                                    size_t vl);
vint32m4_t __riscv_vnot_v_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                                    size_t vl);
vint32m8_t __riscv_vnot_v_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                                    size_t vl);
vint64m1_t __riscv_vnot_v_i64m1_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                                    size_t vl);
vint64m2_t __riscv_vnot_v_i64m2_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
                                    size_t vl);
vint64m4_t __riscv_vnot_v_i64m4_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                                    size_t vl);
vint64m8_t __riscv_vnot_v_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
                                    size_t vl);
vuint8mf8_t __riscv_vnot_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs, size_t vl);
vuint8mf4_t __riscv_vnot_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs, size_t vl);
vuint8mf2_t __riscv_vnot_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs, size_t vl);
vuint8m1_t __riscv_vnot_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs,
                                   size_t vl);
vuint8m2_t __riscv_vnot_v_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs,
                                   size_t vl);
vuint8m4_t __riscv_vnot_v_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs,
                                   size_t vl);
vuint8m8_t __riscv_vnot_v_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs,
                                   size_t vl);
vuint16mf4_t __riscv_vnot_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs, size_t vl);
vuint16mf2_t __riscv_vnot_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs, size_t vl);
vuint16m1_t __riscv_vnot_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs, size_t vl);
vuint16m2_t __riscv_vnot_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs, size_t vl);
vuint16m4_t __riscv_vnot_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs, size_t vl);
vuint16m8_t __riscv_vnot_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs, size_t vl);
vuint32mf2_t __riscv_vnot_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs, size_t vl);
vuint32m1_t __riscv_vnot_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs, size_t vl);
vuint32m2_t __riscv_vnot_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs, size_t vl);
vuint32m4_t __riscv_vnot_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                     vuint32m4_t vs, size_t vl);
vuint32m8_t __riscv_vnot_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                     vuint32m8_t vs, size_t vl);
vuint64m1_t __riscv_vnot_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                     vuint64m1_t vs, size_t vl);
vuint64m2_t __riscv_vnot_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
```

```
                                    vuint64m2_t vs, size_t vl);
vuint64m4_t __riscv_vnot_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs, size_t vl);
vuint64m8_t __riscv_vnot_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs, size_t vl);
// masked functions
vint8mf8_t __riscv_vnot_v_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                                    size_t vl);
vint8mf4_t __riscv_vnot_v_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
                                    size_t vl);
vint8mf2_t __riscv_vnot_v_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                                    size_t vl);
vint8m1_t __riscv_vnot_v_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs,
                                   size_t vl);
vint8m2_t __riscv_vnot_v_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs,
                                   size_t vl);
vint8m4_t __riscv_vnot_v_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs,
                                   size_t vl);
vint8m8_t __riscv_vnot_v_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs,
                                   size_t vl);
vint16mf4_t __riscv_vnot_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vnot_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vnot_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
                                    size_t vl);
vint16m2_t __riscv_vnot_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                                    size_t vl);
vint16m4_t __riscv_vnot_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                                    size_t vl);
vint16m8_t __riscv_vnot_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                                    size_t vl);
vint32mf2_t __riscv_vnot_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vnot_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                                    size_t vl);
vint32m2_t __riscv_vnot_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                                    size_t vl);
vint32m4_t __riscv_vnot_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                                    size_t vl);
vint32m8_t __riscv_vnot_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                                    size_t vl);
vint64m1_t __riscv_vnot_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                                    size_t vl);
vint64m2_t __riscv_vnot_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
                                    size_t vl);
vint64m4_t __riscv_vnot_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                                    size_t vl);
vint64m8_t __riscv_vnot_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
                                    size_t vl);
vuint8mf8_t __riscv_vnot_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs, size_t vl);
vuint8mf4_t __riscv_vnot_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs, size_t vl);
vuint8mf2_t __riscv_vnot_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs, size_t vl);
vuint8m1_t __riscv_vnot_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs,
                                    size_t vl);
vuint8m2_t __riscv_vnot_v_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs,
                                    size_t vl);
vuint8m4_t __riscv_vnot_v_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs,
                                    size_t vl);
vuint8m8_t __riscv_vnot_v_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs,
                                    size_t vl);
vuint16mf4_t __riscv_vnot_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs, size_t vl);
vuint16mf2_t __riscv_vnot_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
```

```
                                        vuint16mf2_t vs, size_t vl);
vuint16m1_t __riscv_vnot_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs, size_t vl);
vuint16m2_t __riscv_vnot_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs, size_t vl);
vuint16m4_t __riscv_vnot_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs, size_t vl);
vuint16m8_t __riscv_vnot_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs, size_t vl);
vuint32mf2_t __riscv_vnot_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs, size_t vl);
vuint32m1_t __riscv_vnot_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs, size_t vl);
vuint32m2_t __riscv_vnot_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs, size_t vl);
vuint32m4_t __riscv_vnot_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs, size_t vl);
vuint32m8_t __riscv_vnot_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs, size_t vl);
vuint64m1_t __riscv_vnot_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs, size_t vl);
vuint64m2_t __riscv_vnot_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs, size_t vl);
vuint64m4_t __riscv_vnot_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs, size_t vl);
vuint64m8_t __riscv_vnot_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs, size_t vl);
// masked functions
vint8mf8_t __riscv_vnot_v_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                                   size_t vl);
vint8mf4_t __riscv_vnot_v_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
                                   size_t vl);
vint8mf2_t __riscv_vnot_v_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                                   size_t vl);
vint8m1_t __riscv_vnot_v_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs,
                                 size_t vl);
vint8m2_t __riscv_vnot_v_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs,
                                 size_t vl);
vint8m4_t __riscv_vnot_v_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs,
                                 size_t vl);
vint8m8_t __riscv_vnot_v_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs,
                                 size_t vl);
vint16mf4_t __riscv_vnot_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                     vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vnot_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                     vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vnot_v_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
                                   size_t vl);
vint16m2_t __riscv_vnot_v_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                                   size_t vl);
vint16m4_t __riscv_vnot_v_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                                   size_t vl);
vint16m8_t __riscv_vnot_v_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                                   size_t vl);
vint32mf2_t __riscv_vnot_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                     vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vnot_v_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                                   size_t vl);
vint32m2_t __riscv_vnot_v_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                                   size_t vl);
vint32m4_t __riscv_vnot_v_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                                   size_t vl);
vint32m8_t __riscv_vnot_v_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                                   size_t vl);
vint64m1_t __riscv_vnot_v_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                                   size_t vl);
vint64m2_t __riscv_vnot_v_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
```

```
                                    size_t vl);
vint64m4_t __riscv_vnot_v_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                                    size_t vl);
vint64m8_t __riscv_vnot_v_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
                                    size_t vl);
vuint8mf8_t __riscv_vnot_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs, size_t vl);
vuint8mf4_t __riscv_vnot_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs, size_t vl);
vuint8mf2_t __riscv_vnot_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs, size_t vl);
vuint8m1_t __riscv_vnot_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs,
                                   size_t vl);
vuint8m2_t __riscv_vnot_v_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs,
                                   size_t vl);
vuint8m4_t __riscv_vnot_v_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs,
                                   size_t vl);
vuint8m8_t __riscv_vnot_v_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs,
                                   size_t vl);
vuint16mf4_t __riscv_vnot_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs, size_t vl);
vuint16mf2_t __riscv_vnot_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs, size_t vl);
vuint16m1_t __riscv_vnot_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs, size_t vl);
vuint16m2_t __riscv_vnot_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs,
                                     size_t vl);
vuint16m4_t __riscv_vnot_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs,
                                     size_t vl);
vuint16m8_t __riscv_vnot_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs,
                                     size_t vl);
vuint32mf2_t __riscv_vnot_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs, size_t vl);
vuint32m1_t __riscv_vnot_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs, size_t vl);
vuint32m2_t __riscv_vnot_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs, size_t vl);
vuint32m4_t __riscv_vnot_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs,
                                     size_t vl);
vuint32m8_t __riscv_vnot_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs,
                                     size_t vl);
vuint64m1_t __riscv_vnot_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                     vuint64m1_t vs, size_t vl);
vuint64m2_t __riscv_vnot_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                     vuint64m2_t vs, size_t vl);
vuint64m4_t __riscv_vnot_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                     vuint64m4_t vs, size_t vl);
vuint64m8_t __riscv_vnot_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs,
                                     size_t vl);
```

B.3.9. Vector Single-Width Bit Shift Intrinsics

```
vint8mf8_t __riscv_vsll_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsll_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, size_t rs1,
                                     size_t vl);
vint8mf4_t __riscv_vsll_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsll_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, size_t rs1,
                                     size_t vl);
vint8mf2_t __riscv_vsll_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsll_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, size_t rs1,
                                     size_t vl);
vint8m1_t __riscv_vsll_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vuint8m1_t vs1,
```

```
                                  size_t vl);
vint8m1_t __riscv_vsll_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vsll_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vuint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vsll_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vsll_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vuint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vsll_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vsll_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vuint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vsll_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vsll_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsll_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      size_t rs1, size_t vl);
vint16mf2_t __riscv_vsll_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsll_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      size_t rs1, size_t vl);
vint16m1_t __riscv_vsll_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsll_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, size_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vsll_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsll_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, size_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vsll_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsll_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, size_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vsll_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsll_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, size_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vsll_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsll_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      size_t rs1, size_t vl);
vint32m1_t __riscv_vsll_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsll_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, size_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vsll_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsll_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, size_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vsll_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsll_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, size_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vsll_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsll_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, size_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vsll_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsll_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, size_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vsll_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsll_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, size_t rs1,
                                    size_t vl);
```

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vint64m4_t __riscv_vsll_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsll_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, size_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vsll_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsll_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, size_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vsra_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsra_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, size_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vsra_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsra_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, size_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vsra_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsra_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, size_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vsra_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vuint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vsra_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vsra_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vuint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vsra_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vsra_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vuint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vsra_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vsra_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vuint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vsra_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vsra_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsra_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      size_t rs1, size_t vl);
vint16mf2_t __riscv_vsra_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsra_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      size_t rs1, size_t vl);
vint16m1_t __riscv_vsra_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsra_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, size_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vsra_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsra_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, size_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vsra_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsra_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, size_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vsra_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsra_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, size_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vsra_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsra_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      size_t rs1, size_t vl);
vint32m1_t __riscv_vsra_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsra_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, size_t rs1,
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                                    size_t vl);
vint32m2_t __riscv_vsra_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsra_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, size_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vsra_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsra_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, size_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vsra_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsra_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, size_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vsra_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsra_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, size_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vsra_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsra_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, size_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vsra_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsra_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, size_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vsra_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsra_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, size_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vsll_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsll_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsll_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsll_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsll_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsll_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     size_t rs1, size_t vl);
vuint8m1_t __riscv_vsll_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsll_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, size_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vsll_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsll_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, size_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vsll_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsll_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, size_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vsll_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsll_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, size_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vsll_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsll_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsll_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsll_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       size_t rs1, size_t vl);
vuint16m1_t __riscv_vsll_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
```

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vuint16m1_t __riscv_vsll_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     size_t rs1, size_t vl);
vuint16m2_t __riscv_vsll_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsll_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     size_t rs1, size_t vl);
vuint16m4_t __riscv_vsll_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsll_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     size_t rs1, size_t vl);
vuint16m8_t __riscv_vsll_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsll_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsll_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsll_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       size_t rs1, size_t vl);
vuint32m1_t __riscv_vsll_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsll_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     size_t rs1, size_t vl);
vuint32m2_t __riscv_vsll_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsll_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     size_t rs1, size_t vl);
vuint32m4_t __riscv_vsll_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsll_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     size_t rs1, size_t vl);
vuint32m8_t __riscv_vsll_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsll_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     size_t rs1, size_t vl);
vuint64m1_t __riscv_vsll_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsll_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     size_t rs1, size_t vl);
vuint64m2_t __riscv_vsll_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsll_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     size_t rs1, size_t vl);
vuint64m4_t __riscv_vsll_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsll_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     size_t rs1, size_t vl);
vuint64m8_t __riscv_vsll_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsll_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsrl_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsrl_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsrl_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsrl_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsrl_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsrl_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     size_t rs1, size_t vl);
vuint8m1_t __riscv_vsrl_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsrl_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, size_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vsrl_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
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                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsrl_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, size_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vsrl_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsrl_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, size_t rs1,
                                    size_t vl);
vuint8m8_t __riscv_vsrl_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsrl_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, size_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vsrl_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsrl_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsrl_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsrl_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       size_t rs1, size_t vl);
vuint16m1_t __riscv_vsrl_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsrl_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     size_t rs1, size_t vl);
vuint16m2_t __riscv_vsrl_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsrl_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     size_t rs1, size_t vl);
vuint16m4_t __riscv_vsrl_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsrl_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     size_t rs1, size_t vl);
vuint16m8_t __riscv_vsrl_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsrl_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsrl_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsrl_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       size_t rs1, size_t vl);
vuint32m1_t __riscv_vsrl_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsrl_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     size_t rs1, size_t vl);
vuint32m2_t __riscv_vsrl_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsrl_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     size_t rs1, size_t vl);
vuint32m4_t __riscv_vsrl_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsrl_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     size_t rs1, size_t vl);
vuint32m8_t __riscv_vsrl_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsrl_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     size_t rs1, size_t vl);
vuint64m1_t __riscv_vsrl_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsrl_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     size_t rs1, size_t vl);
vuint64m2_t __riscv_vsrl_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsrl_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     size_t rs1, size_t vl);
vuint64m4_t __riscv_vsrl_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsrl_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     size_t rs1, size_t vl);
```

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vuint64m8_t __riscv_vsrl_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsrl_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsll_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vint8mf8_t __riscv_vsll_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vsll_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vint8mf4_t __riscv_vsll_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vsll_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vint8mf2_t __riscv_vsll_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vsll_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsll_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   size_t rs1, size_t vl);
vint8m2_t __riscv_vsll_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsll_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   size_t rs1, size_t vl);
vint8m4_t __riscv_vsll_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsll_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   size_t rs1, size_t vl);
vint8m8_t __riscv_vsll_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsll_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   size_t rs1, size_t vl);
vint16mf4_t __riscv_vsll_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vsll_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsll_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vsll_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsll_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vint16m1_t __riscv_vsll_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vsll_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsll_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     size_t rs1, size_t vl);
vint16m4_t __riscv_vsll_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsll_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     size_t rs1, size_t vl);
vint16m8_t __riscv_vsll_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsll_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     size_t rs1, size_t vl);
vint32mf2_t __riscv_vsll_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vsll_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
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                                      vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vsll_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vuint32m1_t vs1,
                                     size_t vl);
vint32m1_t __riscv_vsll_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vsll_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vuint32m2_t vs1,
                                     size_t vl);
vint32m2_t __riscv_vsll_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vsll_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsll_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     size_t rs1, size_t vl);
vint32m8_t __riscv_vsll_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsll_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     size_t rs1, size_t vl);
vint64m1_t __riscv_vsll_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vuint64m1_t vs1,
                                     size_t vl);
vint64m1_t __riscv_vsll_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vsll_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vuint64m2_t vs1,
                                     size_t vl);
vint64m2_t __riscv_vsll_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vsll_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vuint64m4_t vs1,
                                     size_t vl);
vint64m4_t __riscv_vsll_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vsll_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsll_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     size_t rs1, size_t vl);
vint8mf8_t __riscv_vsra_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vint8mf8_t __riscv_vsra_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vsra_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vint8mf4_t __riscv_vsra_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vsra_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vint8mf2_t __riscv_vsra_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vsra_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsra_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   size_t rs1, size_t vl);
vint8m2_t __riscv_vsra_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsra_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   size_t rs1, size_t vl);
vint8m4_t __riscv_vsra_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsra_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   size_t rs1, size_t vl);
vint8m8_t __riscv_vsra_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
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vint8m8_t __riscv_vsra_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   size_t rs1, size_t vl);
vint16mf4_t __riscv_vsra_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vsra_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsra_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vsra_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsra_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vint16m1_t __riscv_vsra_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vsra_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsra_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     size_t rs1, size_t vl);
vint16m4_t __riscv_vsra_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsra_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     size_t rs1, size_t vl);
vint16m8_t __riscv_vsra_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsra_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     size_t rs1, size_t vl);
vint32mf2_t __riscv_vsra_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vsra_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vsra_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vuint32m1_t vs1,
                                     size_t vl);
vint32m1_t __riscv_vsra_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vsra_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vuint32m2_t vs1,
                                     size_t vl);
vint32m2_t __riscv_vsra_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vsra_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsra_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     size_t rs1, size_t vl);
vint32m8_t __riscv_vsra_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsra_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     size_t rs1, size_t vl);
vint64m1_t __riscv_vsra_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vuint64m1_t vs1,
                                     size_t vl);
vint64m1_t __riscv_vsra_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vsra_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vuint64m2_t vs1,
                                     size_t vl);
vint64m2_t __riscv_vsra_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vsra_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vuint64m4_t vs1,
                                     size_t vl);
vint64m4_t __riscv_vsra_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, size_t rs1, size_t vl);
```

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vint64m8_t __riscv_vsra_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsra_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsll_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vsll_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsll_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vsll_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsll_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vsll_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsll_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsll_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    size_t rs1, size_t vl);
vuint8m2_t __riscv_vsll_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsll_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    size_t rs1, size_t vl);
vuint8m4_t __riscv_vsll_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsll_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    size_t rs1, size_t vl);
vuint8m8_t __riscv_vsll_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsll_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsll_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vsll_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, size_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vsll_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vsll_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, size_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vsll_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vsll_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsll_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vsll_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsll_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vsll_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsll_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vsll_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, size_t rs1, size_t vl);
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vuint32mf2_t __riscv_vsll_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vsll_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, size_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vsll_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vsll_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vsll_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vsll_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsll_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vsll_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsll_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, vuint32m8_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vsll_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsll_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vuint64m1_t __riscv_vsll_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsll_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vuint64m2_t __riscv_vsll_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsll_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vsll_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsll_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vsll_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsrl_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vsrl_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsrl_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vsrl_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsrl_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vsrl_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsrl_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsrl_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    size_t rs1, size_t vl);
vuint8m2_t __riscv_vsrl_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
```

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vuint8m2_t __riscv_vsrl_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    size_t rs1, size_t vl);
vuint8m4_t __riscv_vsrl_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsrl_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    size_t rs1, size_t vl);
vuint8m8_t __riscv_vsrl_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsrl_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsrl_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vsrl_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, size_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vsrl_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vsrl_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, size_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vsrl_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vsrl_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsrl_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vsrl_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsrl_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vsrl_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsrl_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vsrl_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsrl_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vsrl_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, size_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vsrl_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vsrl_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vsrl_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vsrl_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsrl_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vsrl_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsrl_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, vuint32m8_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vsrl_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
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                                    vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsrl_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vsrl_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsrl_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vsrl_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsrl_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vsrl_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsrl_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vsrl_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsll_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vint8mf8_t __riscv_vsll_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vsll_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vint8mf4_t __riscv_vsll_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vsll_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vint8mf2_t __riscv_vsll_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vsll_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsll_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  size_t rs1, size_t vl);
vint8m2_t __riscv_vsll_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsll_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  size_t rs1, size_t vl);
vint8m4_t __riscv_vsll_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsll_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  size_t rs1, size_t vl);
vint8m8_t __riscv_vsll_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsll_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  size_t rs1, size_t vl);
vint16mf4_t __riscv_vsll_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vsll_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsll_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vsll_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsll_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vint16m1_t __riscv_vsll_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
```

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                                    vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vsll_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vsll_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vsll_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vsll_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vsll_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vsll_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vsll_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vsll_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vsll_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vsll_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vsll_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vint32m2_t __riscv_vsll_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vsll_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vsll_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vsll_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vsll_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vsll_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vsll_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vsll_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vsll_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vsll_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vsll_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vsll_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vsll_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, size_t rs1, size_t vl);
vint8mf8_t __riscv_vsra_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vint8mf8_t __riscv_vsra_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vsra_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
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                                    vint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vint8mf4_t __riscv_vsra_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vsra_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vint8mf2_t __riscv_vsra_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vsra_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsra_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   size_t rs1, size_t vl);
vint8m2_t __riscv_vsra_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsra_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   size_t rs1, size_t vl);
vint8m4_t __riscv_vsra_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsra_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   size_t rs1, size_t vl);
vint8m8_t __riscv_vsra_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsra_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   size_t rs1, size_t vl);
vint16mf4_t __riscv_vsra_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vsra_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsra_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vsra_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsra_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vint16m1_t __riscv_vsra_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vsra_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vint16m2_t __riscv_vsra_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vsra_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vsra_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vsra_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vsra_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vsra_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vsra_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vsra_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vsra_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vsra_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vuint32m2_t vs1,
```

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                                    size_t vl);
vint32m2_t __riscv_vsra_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vsra_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vsra_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vsra_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vsra_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vsra_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vsra_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vsra_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vsra_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vsra_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vsra_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vsra_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vsra_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsll_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vsll_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsll_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vsll_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsll_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vuint8mf2_t __riscv_vsll_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsll_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsll_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   size_t rs1, size_t vl);
vuint8m2_t __riscv_vsll_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsll_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   size_t rs1, size_t vl);
vuint8m4_t __riscv_vsll_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsll_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   size_t rs1, size_t vl);
vuint8m8_t __riscv_vsll_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsll_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsll_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
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vuint16mf4_t __riscv_vsll_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, size_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vsll_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vsll_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, size_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vsll_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vsll_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsll_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vsll_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsll_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vsll_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsll_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vsll_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsll_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vsll_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, size_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vsll_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vsll_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vsll_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vsll_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsll_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vsll_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsll_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vuint32m8_t __riscv_vsll_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsll_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, vuint64m1_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vsll_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsll_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, vuint64m2_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vsll_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsll_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, vuint64m4_t vs1,
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                                      size_t vl);
vuint64m4_t __riscv_vsll_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsll_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vsll_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsrl_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vsrl_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsrl_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vsrl_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsrl_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vsrl_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsrl_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsrl_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     size_t rs1, size_t vl);
vuint8m2_t __riscv_vsrl_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsrl_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     size_t rs1, size_t vl);
vuint8m4_t __riscv_vsrl_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsrl_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     size_t rs1, size_t vl);
vuint8m8_t __riscv_vsrl_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsrl_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsrl_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vsrl_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, size_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vsrl_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vsrl_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, size_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vsrl_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vsrl_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsrl_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vsrl_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsrl_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vsrl_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsrl_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
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                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vsrl_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsrl_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                     vuint32mf2_t vs2, vuint32mf2_t vs1,
                                     size_t vl);
vuint32mf2_t __riscv_vsrl_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                     vuint32mf2_t vs2, size_t rs1,
                                     size_t vl);
vuint32m1_t __riscv_vsrl_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vsrl_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vsrl_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vsrl_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsrl_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vsrl_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsrl_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vsrl_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsrl_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vsrl_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsrl_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vsrl_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsrl_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vsrl_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsrl_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vsrl_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsll_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                  vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsll_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                  size_t rs1, size_t vl);
vint8mf4_t __riscv_vsll_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                  vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsll_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                  size_t rs1, size_t vl);
vint8mf2_t __riscv_vsll_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                  vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsll_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                  size_t rs1, size_t vl);
vint8m1_t __riscv_vsll_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsll_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                size_t rs1, size_t vl);
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vint8m2_t __riscv_vsll_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsll_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  size_t rs1, size_t vl);
vint8m4_t __riscv_vsll_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsll_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  size_t rs1, size_t vl);
vint8m8_t __riscv_vsll_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsll_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  size_t rs1, size_t vl);
vint16mf4_t __riscv_vsll_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vsll_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsll_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vsll_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsll_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsll_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    size_t rs1, size_t vl);
vint16m2_t __riscv_vsll_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsll_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    size_t rs1, size_t vl);
vint16m4_t __riscv_vsll_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsll_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    size_t rs1, size_t vl);
vint16m8_t __riscv_vsll_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsll_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    size_t rs1, size_t vl);
vint32mf2_t __riscv_vsll_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vsll_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vsll_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsll_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    size_t rs1, size_t vl);
vint32m2_t __riscv_vsll_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsll_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    size_t rs1, size_t vl);
vint32m4_t __riscv_vsll_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsll_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    size_t rs1, size_t vl);
vint32m8_t __riscv_vsll_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsll_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    size_t rs1, size_t vl);
vint64m1_t __riscv_vsll_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsll_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    size_t rs1, size_t vl);
vint64m2_t __riscv_vsll_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsll_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    size_t rs1, size_t vl);
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vint64m4_t __riscv_vsll_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsll_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    size_t rs1, size_t vl);
vint64m8_t __riscv_vsll_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsll_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    size_t rs1, size_t vl);
vint8mf8_t __riscv_vsra_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsra_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    size_t rs1, size_t vl);
vint8mf4_t __riscv_vsra_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsra_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    size_t rs1, size_t vl);
vint8mf2_t __riscv_vsra_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsra_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    size_t rs1, size_t vl);
vint8m1_t __riscv_vsra_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsra_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  size_t rs1, size_t vl);
vint8m2_t __riscv_vsra_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsra_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  size_t rs1, size_t vl);
vint8m4_t __riscv_vsra_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsra_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  size_t rs1, size_t vl);
vint8m8_t __riscv_vsra_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsra_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  size_t rs1, size_t vl);
vint16mf4_t __riscv_vsra_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vsra_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsra_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vsra_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsra_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsra_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    size_t rs1, size_t vl);
vint16m2_t __riscv_vsra_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsra_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    size_t rs1, size_t vl);
vint16m4_t __riscv_vsra_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsra_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    size_t rs1, size_t vl);
vint16m8_t __riscv_vsra_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsra_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    size_t rs1, size_t vl);
vint32mf2_t __riscv_vsra_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vsra_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, size_t rs1, size_t vl);
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vint32m1_t __riscv_vsra_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsra_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    size_t rs1, size_t vl);
vint32m2_t __riscv_vsra_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsra_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    size_t rs1, size_t vl);
vint32m4_t __riscv_vsra_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsra_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    size_t rs1, size_t vl);
vint32m8_t __riscv_vsra_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsra_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    size_t rs1, size_t vl);
vint64m1_t __riscv_vsra_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsra_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    size_t rs1, size_t vl);
vint64m2_t __riscv_vsra_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsra_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    size_t rs1, size_t vl);
vint64m4_t __riscv_vsra_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsra_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    size_t rs1, size_t vl);
vint64m8_t __riscv_vsra_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsra_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsll_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vsll_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsll_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vsll_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsll_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vuint8mf2_t __riscv_vsll_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsll_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsll_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   size_t rs1, size_t vl);
vuint8m2_t __riscv_vsll_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsll_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   size_t rs1, size_t vl);
vuint8m4_t __riscv_vsll_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsll_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   size_t rs1, size_t vl);
vuint8m8_t __riscv_vsll_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsll_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsll_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vsll_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
```

```
                                      vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsll_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vsll_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vsll_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vsll_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsll_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, vuint16m2_t vs1,
                                     size_t vl);
vuint16m2_t __riscv_vsll_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsll_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, vuint16m4_t vs1,
                                     size_t vl);
vuint16m4_t __riscv_vsll_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsll_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, vuint16m8_t vs1,
                                     size_t vl);
vuint16m8_t __riscv_vsll_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsll_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vuint32mf2_t __riscv_vsll_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vsll_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, vuint32m1_t vs1,
                                     size_t vl);
vuint32m1_t __riscv_vsll_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vsll_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs2, vuint32m2_t vs1,
                                     size_t vl);
vuint32m2_t __riscv_vsll_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsll_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                     vuint32m4_t vs2, vuint32m4_t vs1,
                                     size_t vl);
vuint32m4_t __riscv_vsll_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                     vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsll_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                     vuint32m8_t vs2, vuint32m8_t vs1,
                                     size_t vl);
vuint32m8_t __riscv_vsll_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                     vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsll_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                     vuint64m1_t vs2, vuint64m1_t vs1,
                                     size_t vl);
vuint64m1_t __riscv_vsll_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                     vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsll_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                     vuint64m2_t vs2, vuint64m2_t vs1,
                                     size_t vl);
vuint64m2_t __riscv_vsll_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                     vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsll_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                     vuint64m4_t vs2, vuint64m4_t vs1,
                                     size_t vl);
vuint64m4_t __riscv_vsll_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                     vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsll_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
```

```
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vsll_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsrl_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vuint8mf8_t __riscv_vsrl_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsrl_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vuint8mf4_t __riscv_vsrl_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsrl_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint8mf2_t __riscv_vsrl_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsrl_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsrl_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   size_t rs1, size_t vl);
vuint8m2_t __riscv_vsrl_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsrl_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   size_t rs1, size_t vl);
vuint8m4_t __riscv_vsrl_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsrl_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   size_t rs1, size_t vl);
vuint8m8_t __riscv_vsrl_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsrl_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsrl_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vsrl_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsrl_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vsrl_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vsrl_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vsrl_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsrl_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vsrl_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsrl_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vsrl_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsrl_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vsrl_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsrl_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, vuint32mf2_t vs1,
```

```
                                      size_t vl);
vuint32mf2_t __riscv_vsrl_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vsrl_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, vuint32m1_t vs1,
                                     size_t vl);
vuint32m1_t __riscv_vsrl_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vsrl_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs2, vuint32m2_t vs1,
                                     size_t vl);
vuint32m2_t __riscv_vsrl_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsrl_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                     vuint32m4_t vs2, vuint32m4_t vs1,
                                     size_t vl);
vuint32m4_t __riscv_vsrl_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                     vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsrl_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                     vuint32m8_t vs2, vuint32m8_t vs1,
                                     size_t vl);
vuint32m8_t __riscv_vsrl_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                     vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsrl_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                     vuint64m1_t vs2, vuint64m1_t vs1,
                                     size_t vl);
vuint64m1_t __riscv_vsrl_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                     vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsrl_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                     vuint64m2_t vs2, vuint64m2_t vs1,
                                     size_t vl);
vuint64m2_t __riscv_vsrl_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                     vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsrl_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                     vuint64m4_t vs2, vuint64m4_t vs1,
                                     size_t vl);
vuint64m4_t __riscv_vsrl_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                     vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsrl_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                     vuint64m8_t vs2, vuint64m8_t vs1,
                                     size_t vl);
vuint64m8_t __riscv_vsrl_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                     vuint64m8_t vs2, size_t rs1, size_t vl);
```

B.3.10. Vector Narrowing Integer Right Shift Intrinsics

```
vint8mf8_t __riscv_vnsra_wv_i8mf8_tu(vint8mf8_t vd, vint16mf4_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vnsra_wx_i8mf8_tu(vint8mf8_t vd, vint16mf4_t vs2, size_t rs1,
                                     size_t vl);
vint8mf4_t __riscv_vnsra_wv_i8mf4_tu(vint8mf4_t vd, vint16mf2_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vnsra_wx_i8mf4_tu(vint8mf4_t vd, vint16mf2_t vs2, size_t rs1,
                                     size_t vl);
vint8mf2_t __riscv_vnsra_wv_i8mf2_tu(vint8mf2_t vd, vint16m1_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vnsra_wx_i8mf2_tu(vint8mf2_t vd, vint16m1_t vs2, size_t rs1,
                                     size_t vl);
vint8m1_t __riscv_vnsra_wv_i8m1_tu(vint8m1_t vd, vint16m2_t vs2, vuint8m1_t vs1,
                                   size_t vl);
vint8m1_t __riscv_vnsra_wx_i8m1_tu(vint8m1_t vd, vint16m2_t vs2, size_t rs1,
                                   size_t vl);
vint8m2_t __riscv_vnsra_wv_i8m2_tu(vint8m2_t vd, vint16m4_t vs2, vuint8m2_t vs1,
                                   size_t vl);
vint8m2_t __riscv_vnsra_wx_i8m2_tu(vint8m2_t vd, vint16m4_t vs2, size_t rs1,
```

```
                                    size_t vl);
vint8m4_t __riscv_vnsra_wv_i8m4_tu(vint8m4_t vd, vint16m8_t vs2, vuint8m4_t vs1,
                                   size_t vl);
vint8m4_t __riscv_vnsra_wx_i8m4_tu(vint8m4_t vd, vint16m8_t vs2, size_t rs1,
                                   size_t vl);
vint16mf4_t __riscv_vnsra_wv_i16mf4_tu(vint16mf4_t vd, vint32mf2_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vnsra_wx_i16mf4_tu(vint16mf4_t vd, vint32mf2_t vs2,
                                       size_t rs1, size_t vl);
vint16mf2_t __riscv_vnsra_wv_i16mf2_tu(vint16mf2_t vd, vint32m1_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vnsra_wx_i16mf2_tu(vint16mf2_t vd, vint32m1_t vs2,
                                       size_t rs1, size_t vl);
vint16m1_t __riscv_vnsra_wv_i16m1_tu(vint16m1_t vd, vint32m2_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vnsra_wx_i16m1_tu(vint16m1_t vd, vint32m2_t vs2, size_t rs1,
                                     size_t vl);
vint16m2_t __riscv_vnsra_wv_i16m2_tu(vint16m2_t vd, vint32m4_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vnsra_wx_i16m2_tu(vint16m2_t vd, vint32m4_t vs2, size_t rs1,
                                     size_t vl);
vint16m4_t __riscv_vnsra_wv_i16m4_tu(vint16m4_t vd, vint32m8_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vnsra_wx_i16m4_tu(vint16m4_t vd, vint32m8_t vs2, size_t rs1,
                                     size_t vl);
vint32mf2_t __riscv_vnsra_wv_i32mf2_tu(vint32mf2_t vd, vint64m1_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vnsra_wx_i32mf2_tu(vint32mf2_t vd, vint64m1_t vs2,
                                       size_t rs1, size_t vl);
vint32m1_t __riscv_vnsra_wv_i32m1_tu(vint32m1_t vd, vint64m2_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vnsra_wx_i32m1_tu(vint32m1_t vd, vint64m2_t vs2, size_t rs1,
                                     size_t vl);
vint32m2_t __riscv_vnsra_wv_i32m2_tu(vint32m2_t vd, vint64m4_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vnsra_wx_i32m2_tu(vint32m2_t vd, vint64m4_t vs2, size_t rs1,
                                     size_t vl);
vint32m4_t __riscv_vnsra_wv_i32m4_tu(vint32m4_t vd, vint64m8_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vnsra_wx_i32m4_tu(vint32m4_t vd, vint64m8_t vs2, size_t rs1,
                                     size_t vl);
vuint8mf8_t __riscv_vnsrl_wv_u8mf8_tu(vuint8mf8_t vd, vuint16mf4_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_wx_u8mf8_tu(vuint8mf8_t vd, vuint16mf4_t vs2,
                                      size_t rs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_wv_u8mf4_tu(vuint8mf4_t vd, vuint16mf2_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_wx_u8mf4_tu(vuint8mf4_t vd, vuint16mf2_t vs2,
                                      size_t rs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_wv_u8mf2_tu(vuint8mf2_t vd, vuint16m1_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_wx_u8mf2_tu(vuint8mf2_t vd, vuint16m1_t vs2,
                                      size_t rs1, size_t vl);
vuint8m1_t __riscv_vnsrl_wv_u8m1_tu(vuint8m1_t vd, vuint16m2_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vnsrl_wx_u8m1_tu(vuint8m1_t vd, vuint16m2_t vs2, size_t rs1,
                                    size_t vl);
vuint8m2_t __riscv_vnsrl_wv_u8m2_tu(vuint8m2_t vd, vuint16m4_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vnsrl_wx_u8m2_tu(vuint8m2_t vd, vuint16m4_t vs2, size_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vnsrl_wv_u8m4_tu(vuint8m4_t vd, vuint16m8_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vnsrl_wx_u8m4_tu(vuint8m4_t vd, vuint16m8_t vs2, size_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vnsrl_wv_u16mf4_tu(vuint16mf4_t vd, vuint32mf2_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
```

```
vuint16mf4_t __riscv_vnsrl_wx_u16mf4_tu(vuint16mf4_t vd, vuint32mf2_t vs2,
                                        size_t rs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_wv_u16mf2_tu(vuint16mf2_t vd, vuint32m1_t vs2,
                                        vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_wx_u16mf2_tu(vuint16mf2_t vd, vuint32m1_t vs2,
                                        size_t rs1, size_t vl);
vuint16m1_t __riscv_vnsrl_wv_u16m1_tu(vuint16m1_t vd, vuint32m2_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vnsrl_wx_u16m1_tu(vuint16m1_t vd, vuint32m2_t vs2,
                                      size_t rs1, size_t vl);
vuint16m2_t __riscv_vnsrl_wv_u16m2_tu(vuint16m2_t vd, vuint32m4_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vnsrl_wx_u16m2_tu(vuint16m2_t vd, vuint32m4_t vs2,
                                      size_t rs1, size_t vl);
vuint16m4_t __riscv_vnsrl_wv_u16m4_tu(vuint16m4_t vd, vuint32m8_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vnsrl_wx_u16m4_tu(vuint16m4_t vd, vuint32m8_t vs2,
                                      size_t rs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_wv_u32mf2_tu(vuint32mf2_t vd, vuint64m1_t vs2,
                                        vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_wx_u32mf2_tu(vuint32mf2_t vd, vuint64m1_t vs2,
                                        size_t rs1, size_t vl);
vuint32m1_t __riscv_vnsrl_wv_u32m1_tu(vuint32m1_t vd, vuint64m2_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vnsrl_wx_u32m1_tu(vuint32m1_t vd, vuint64m2_t vs2,
                                      size_t rs1, size_t vl);
vuint32m2_t __riscv_vnsrl_wv_u32m2_tu(vuint32m2_t vd, vuint64m4_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vnsrl_wx_u32m2_tu(vuint32m2_t vd, vuint64m4_t vs2,
                                      size_t rs1, size_t vl);
vuint32m4_t __riscv_vnsrl_wv_u32m4_tu(vuint32m4_t vd, vuint64m8_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vnsrl_wx_u32m4_tu(vuint32m4_t vd, vuint64m8_t vs2,
                                      size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vnsra_wv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint16mf4_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vint8mf8_t __riscv_vnsra_wx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint16mf4_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vnsra_wv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint16mf2_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vint8mf4_t __riscv_vnsra_wx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint16mf2_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vnsra_wv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint16m1_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vint8mf2_t __riscv_vnsra_wx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint16m1_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vnsra_wv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vnsra_wx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                    size_t rs1, size_t vl);
vint8m2_t __riscv_vnsra_wv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vnsra_wx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                    size_t rs1, size_t vl);
vint8m4_t __riscv_vnsra_wv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vnsra_wx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                    size_t rs1, size_t vl);
vint16mf4_t __riscv_vnsra_wv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint32mf2_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vnsra_wx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint32mf2_t vs2, size_t rs1, size_t vl);
```

```
vint16mf2_t __riscv_vnsra_wv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint32m1_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vnsra_wx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint32m1_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vnsra_wv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint32m2_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vnsra_wx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint32m2_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vnsra_wv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint32m4_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vnsra_wx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint32m4_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vnsra_wv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint32m8_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vnsra_wx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint32m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vnsra_wv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint64m1_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vnsra_wx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint64m1_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vnsra_wv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint64m2_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vnsra_wx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint64m2_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vnsra_wv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint64m4_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vnsra_wx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint64m4_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vnsra_wv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint64m8_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vnsra_wx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_wv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint16mf4_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vnsrl_wx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_wv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint16mf2_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vnsrl_wx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_wv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint16m1_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vnsrl_wx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint16m1_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vnsrl_wv_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                     vuint16m2_t vs2, vuint8m1_t vs1,
                                     size_t vl);
vuint8m1_t __riscv_vnsrl_wx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                     vuint16m2_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vnsrl_wv_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                     vuint16m4_t vs2, vuint8m2_t vs1,
                                     size_t vl);
vuint8m2_t __riscv_vnsrl_wx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                     vuint16m4_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vnsrl_wv_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                     vuint16m8_t vs2, vuint8m4_t vs1,
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                                     size_t vl);
vuint8m4_t __riscv_vnsrl_wx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                     vuint16m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vnsrl_wv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint32mf2_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vnsrl_wx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint32mf2_t vs2, size_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vnsrl_wv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint32m1_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vnsrl_wx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint32m1_t vs2, size_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vnsrl_wv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint32m2_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vnsrl_wx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint32m2_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vnsrl_wv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint32m4_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vnsrl_wx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint32m4_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vnsrl_wv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint32m8_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vnsrl_wx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint32m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_wv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint64m1_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vnsrl_wx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint64m1_t vs2, size_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vnsrl_wv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint64m2_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vnsrl_wx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint64m2_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vnsrl_wv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint64m4_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vnsrl_wx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint64m4_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vnsrl_wv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint64m8_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vnsrl_wx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint64m8_t vs2, size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vnsra_wv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       vint16mf4_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vint8mf8_t __riscv_vnsra_wx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       vint16mf4_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vnsra_wv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       vint16mf2_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vint8mf4_t __riscv_vnsra_wx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       vint16mf2_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vnsra_wv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       vint16m1_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vint8mf2_t __riscv_vnsra_wx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       vint16m1_t vs2, size_t rs1, size_t vl);
```

```
vint8m1_t __riscv_vnsra_wv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vnsra_wx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                     size_t rs1, size_t vl);
vint8m2_t __riscv_vnsra_wv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vnsra_wx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                     size_t rs1, size_t vl);
vint8m4_t __riscv_vnsra_wv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vnsra_wx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                     size_t rs1, size_t vl);
vint16mf4_t __riscv_vnsra_wv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint32mf2_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vint16mf4_t __riscv_vnsra_wx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint32mf2_t vs2, size_t rs1,
                                         size_t vl);
vint16mf2_t __riscv_vnsra_wv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint32m1_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vint16mf2_t __riscv_vnsra_wx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint32m1_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vnsra_wv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint32m2_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vint16m1_t __riscv_vnsra_wx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint32m2_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vnsra_wv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint32m4_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vint16m2_t __riscv_vnsra_wx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint32m4_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vnsra_wv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint32m8_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vint16m4_t __riscv_vnsra_wx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint32m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vnsra_wv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint64m1_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vnsra_wx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint64m1_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vnsra_wv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint64m2_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vint32m1_t __riscv_vnsra_wx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint64m2_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vnsra_wv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint64m4_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vint32m2_t __riscv_vnsra_wx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint64m4_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vnsra_wv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint64m8_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vint32m4_t __riscv_vnsra_wx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_wv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                        vuint16mf4_t vs2, vuint8mf8_t vs1,
                                        size_t vl);
vuint8mf8_t __riscv_vnsrl_wx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                        vuint16mf4_t vs2, size_t rs1,
                                        size_t vl);
vuint8mf4_t __riscv_vnsrl_wv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                        vuint16mf2_t vs2, vuint8mf4_t vs1,
                                        size_t vl);
```

```
vuint8mf4_t __riscv_vnsrl_wx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                        vuint16mf2_t vs2, size_t rs1,
                                        size_t vl);
vuint8mf2_t __riscv_vnsrl_wv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                        vuint16m1_t vs2, vuint8mf2_t vs1,
                                        size_t vl);
vuint8mf2_t __riscv_vnsrl_wx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                        vuint16m1_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vnsrl_wv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                      vuint16m2_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint8m1_t __riscv_vnsrl_wx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                      vuint16m2_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vnsrl_wv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                      vuint16m4_t vs2, vuint8m2_t vs1,
                                      size_t vl);
vuint8m2_t __riscv_vnsrl_wx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                      vuint16m4_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vnsrl_wv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                      vuint16m8_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint8m4_t __riscv_vnsrl_wx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                      vuint16m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vnsrl_wv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint32mf2_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vuint16mf4_t __riscv_vnsrl_wx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint32mf2_t vs2, size_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vnsrl_wv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint32m1_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vuint16mf2_t __riscv_vnsrl_wx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint32m1_t vs2, size_t rs1,
                                          size_t vl);
vuint16m1_t __riscv_vnsrl_wv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        vuint32m2_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vuint16m1_t __riscv_vnsrl_wx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        vuint32m2_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vnsrl_wv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        vuint32m4_t vs2, vuint16m2_t vs1,
                                        size_t vl);
vuint16m2_t __riscv_vnsrl_wx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        vuint32m4_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vnsrl_wv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint32m8_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vuint16m4_t __riscv_vnsrl_wx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint32m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_wv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint64m1_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vuint32mf2_t __riscv_vnsrl_wx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint64m1_t vs2, size_t rs1,
                                          size_t vl);
vuint32m1_t __riscv_vnsrl_wv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint64m2_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vnsrl_wx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint64m2_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vnsrl_wv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint64m4_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vnsrl_wx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint64m4_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vnsrl_wv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
```

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                                     vuint64m8_t vs2, vuint32m4_t vs1,
                                     size_t vl);
vuint32m4_t __riscv_vnsrl_wx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                     vuint64m8_t vs2, size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vnsra_wv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                   vint16mf4_t vs2, vuint8mf8_t vs1,
                                   size_t vl);
vint8mf8_t __riscv_vnsra_wx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                   vint16mf4_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vnsra_wv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                   vint16mf2_t vs2, vuint8mf4_t vs1,
                                   size_t vl);
vint8mf4_t __riscv_vnsra_wx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                   vint16mf2_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vnsra_wv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                   vint16m1_t vs2, vuint8mf2_t vs1,
                                   size_t vl);
vint8mf2_t __riscv_vnsra_wx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                   vint16m1_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vnsra_wv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                 vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vnsra_wx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                 size_t rs1, size_t vl);
vint8m2_t __riscv_vnsra_wv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                 vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vnsra_wx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                 size_t rs1, size_t vl);
vint8m4_t __riscv_vnsra_wv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                 vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vnsra_wx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                 size_t rs1, size_t vl);
vint16mf4_t __riscv_vnsra_wv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                    vint32mf2_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vint16mf4_t __riscv_vnsra_wx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                    vint32mf2_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vnsra_wv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint32m1_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vnsra_wx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint32m1_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vnsra_wv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                   vint32m2_t vs2, vuint16m1_t vs1,
                                   size_t vl);
vint16m1_t __riscv_vnsra_wx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                   vint32m2_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vnsra_wv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vnsra_wx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                                   size_t rs1, size_t vl);
vint16m4_t __riscv_vnsra_wv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vnsra_wx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                                   size_t rs1, size_t vl);
vint32mf2_t __riscv_vnsra_wv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                    vint64m1_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vnsra_wx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                    vint64m1_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vnsra_wv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                   vint64m2_t vs2, vuint32m1_t vs1,
                                   size_t vl);
vint32m1_t __riscv_vnsra_wx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                   vint64m2_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vnsra_wv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                   vint64m4_t vs2, vuint32m2_t vs1,
```

```
                                    size_t vl);
vint32m2_t __riscv_vnsra_wx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint64m4_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vnsra_wv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vnsra_wx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                                    size_t rs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_wv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint16mf4_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vnsrl_wx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_wv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint16mf2_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vnsrl_wx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_wv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint16m1_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vuint8mf2_t __riscv_vnsrl_wx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint16m1_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vnsrl_wv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vnsrl_wx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                                    size_t rs1, size_t vl);
vuint8m2_t __riscv_vnsrl_wv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vnsrl_wx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                                    size_t rs1, size_t vl);
vuint8m4_t __riscv_vnsrl_wv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vnsrl_wx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                                    size_t rs1, size_t vl);
vuint16mf4_t __riscv_vnsrl_wv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint32mf2_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vnsrl_wx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint32mf2_t vs2, size_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vnsrl_wv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint32m1_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vnsrl_wx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint32m1_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vnsrl_wv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint32m2_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vnsrl_wx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint32m2_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vnsrl_wv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     vuint32m4_t vs2, vuint16m2_t vs1,
                                     size_t vl);
vuint16m2_t __riscv_vnsrl_wx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     vuint32m4_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vnsrl_wv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                     vuint32m8_t vs2, vuint16m4_t vs1,
                                     size_t vl);
vuint16m4_t __riscv_vnsrl_wx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                     vuint32m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_wv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint64m1_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vuint32mf2_t __riscv_vnsrl_wx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint64m1_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vnsrl_wv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     vuint64m2_t vs2, vuint32m1_t vs1,
```

```
                                    size_t vl);
vuint32m1_t __riscv_vnsrl_wx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint64m2_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vnsrl_wv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint64m4_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vnsrl_wx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint64m4_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vnsrl_wv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint64m8_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vnsrl_wx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint64m8_t vs2, size_t rs1, size_t vl);
```

B.3.11. Vector Integer Narrowing Intrinsics

```
vint8mf8_t __riscv_vncvt_x_x_w_i8mf8_tu(vint8mf8_t vd, vint16mf4_t vs2,
                                      size_t vl);
vint8mf4_t __riscv_vncvt_x_x_w_i8mf4_tu(vint8mf4_t vd, vint16mf2_t vs2,
                                      size_t vl);
vint8mf2_t __riscv_vncvt_x_x_w_i8mf2_tu(vint8mf2_t vd, vint16m1_t vs2,
                                      size_t vl);
vint8m1_t __riscv_vncvt_x_x_w_i8m1_tu(vint8m1_t vd, vint16m2_t vs2, size_t vl);
vint8m2_t __riscv_vncvt_x_x_w_i8m2_tu(vint8m2_t vd, vint16m4_t vs2, size_t vl);
vint8m4_t __riscv_vncvt_x_x_w_i8m4_tu(vint8m4_t vd, vint16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vncvt_x_x_w_u8mf8_tu(vuint8mf8_t vd, vuint16mf4_t vs2,
                                       size_t vl);
vuint8mf4_t __riscv_vncvt_x_x_w_u8mf4_tu(vuint8mf4_t vd, vuint16mf2_t vs2,
                                       size_t vl);
vuint8mf2_t __riscv_vncvt_x_x_w_u8mf2_tu(vuint8mf2_t vd, vuint16m1_t vs2,
                                       size_t vl);
vuint8m1_t __riscv_vncvt_x_x_w_u8m1_tu(vuint8m1_t vd, vuint16m2_t vs2,
                                      size_t vl);
vuint8m2_t __riscv_vncvt_x_x_w_u8m2_tu(vuint8m2_t vd, vuint16m4_t vs2,
                                      size_t vl);
vuint8m4_t __riscv_vncvt_x_x_w_u8m4_tu(vuint8m4_t vd, vuint16m8_t vs2,
                                      size_t vl);
vint16mf4_t __riscv_vncvt_x_x_w_i16mf4_tu(vint16mf4_t vd, vint32mf2_t vs2,
                                        size_t vl);
vint16mf2_t __riscv_vncvt_x_x_w_i16mf2_tu(vint16mf2_t vd, vint32m1_t vs2,
                                        size_t vl);
vint16m1_t __riscv_vncvt_x_x_w_i16m1_tu(vint16m1_t vd, vint32m2_t vs2,
                                      size_t vl);
vint16m2_t __riscv_vncvt_x_x_w_i16m2_tu(vint16m2_t vd, vint32m4_t vs2,
                                      size_t vl);
vint16m4_t __riscv_vncvt_x_x_w_i16m4_tu(vint16m4_t vd, vint32m8_t vs2,
                                      size_t vl);
vuint16mf4_t __riscv_vncvt_x_x_w_u16mf4_tu(vuint16mf4_t vd, vuint32mf2_t vs2,
                                         size_t vl);
vuint16mf2_t __riscv_vncvt_x_x_w_u16mf2_tu(vuint16mf2_t vd, vuint32m1_t vs2,
                                         size_t vl);
vuint16m1_t __riscv_vncvt_x_x_w_u16m1_tu(vuint16m1_t vd, vuint32m2_t vs2,
                                       size_t vl);
vuint16m2_t __riscv_vncvt_x_x_w_u16m2_tu(vuint16m2_t vd, vuint32m4_t vs2,
                                       size_t vl);
vuint16m4_t __riscv_vncvt_x_x_w_u16m4_tu(vuint16m4_t vd, vuint32m8_t vs2,
                                       size_t vl);
vint32mf2_t __riscv_vncvt_x_x_w_i32mf2_tu(vint32mf2_t vd, vint64m1_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vncvt_x_x_w_i32m1_tu(vint32m1_t vd, vint64m2_t vs2,
                                      size_t vl);
vint32m2_t __riscv_vncvt_x_x_w_i32m2_tu(vint32m2_t vd, vint64m4_t vs2,
                                      size_t vl);
vint32m4_t __riscv_vncvt_x_x_w_i32m4_tu(vint32m4_t vd, vint64m8_t vs2,
                                      size_t vl);
```

```
vuint32mf2_t __riscv_vncvt_x_x_w_u32mf2_tu(vuint32mf2_t vd, vuint64m1_t vs2,
                                           size_t vl);
vuint32m1_t __riscv_vncvt_x_x_w_u32m1_tu(vuint32m1_t vd, vuint64m2_t vs2,
                                         size_t vl);
vuint32m2_t __riscv_vncvt_x_x_w_u32m2_tu(vuint32m2_t vd, vuint64m4_t vs2,
                                         size_t vl);
vuint32m4_t __riscv_vncvt_x_x_w_u32m4_tu(vuint32m4_t vd, vuint64m8_t vs2,
                                         size_t vl);
// masked functions
vint8mf8_t __riscv_vncvt_x_x_w_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                         vint16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vncvt_x_x_w_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                         vint16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vncvt_x_x_w_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                         vint16m1_t vs2, size_t vl);
vint8m1_t __riscv_vncvt_x_x_w_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                       vint16m2_t vs2, size_t vl);
vint8m2_t __riscv_vncvt_x_x_w_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                       vint16m4_t vs2, size_t vl);
vint8m4_t __riscv_vncvt_x_x_w_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                       vint16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vncvt_x_x_w_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                          vuint16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vncvt_x_x_w_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                          vuint16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vncvt_x_x_w_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                          vuint16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vncvt_x_x_w_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                        vuint16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vncvt_x_x_w_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                        vuint16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vncvt_x_x_w_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                        vuint16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vncvt_x_x_w_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                           vint32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vncvt_x_x_w_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                           vint32m1_t vs2, size_t vl);
vint16m1_t __riscv_vncvt_x_x_w_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                         vint32m2_t vs2, size_t vl);
vint16m2_t __riscv_vncvt_x_x_w_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                         vint32m4_t vs2, size_t vl);
vint16m4_t __riscv_vncvt_x_x_w_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                         vint32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vncvt_x_x_w_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                            vuint32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vncvt_x_x_w_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                            vuint32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vncvt_x_x_w_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                          vuint32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vncvt_x_x_w_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                          vuint32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vncvt_x_x_w_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                          vuint32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vncvt_x_x_w_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                           vint64m1_t vs2, size_t vl);
vint32m1_t __riscv_vncvt_x_x_w_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                         vint64m2_t vs2, size_t vl);
vint32m2_t __riscv_vncvt_x_x_w_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                         vint64m4_t vs2, size_t vl);
vint32m4_t __riscv_vncvt_x_x_w_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                         vint64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vncvt_x_x_w_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                            vuint64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vncvt_x_x_w_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                          vuint64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vncvt_x_x_w_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                          vuint64m4_t vs2, size_t vl);
```

```
vuint32m4_t __riscv_vncvt_x_x_w_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                          vuint64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vncvt_x_x_w_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                          vint16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vncvt_x_x_w_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                          vint16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vncvt_x_x_w_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                          vint16m1_t vs2, size_t vl);
vint8m1_t __riscv_vncvt_x_x_w_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                        vint16m2_t vs2, size_t vl);
vint8m2_t __riscv_vncvt_x_x_w_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                        vint16m4_t vs2, size_t vl);
vint8m4_t __riscv_vncvt_x_x_w_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                        vint16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vncvt_x_x_w_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                           vuint16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vncvt_x_x_w_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                           vuint16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vncvt_x_x_w_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                           vuint16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vncvt_x_x_w_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                         vuint16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vncvt_x_x_w_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                         vuint16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vncvt_x_x_w_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                         vuint16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vncvt_x_x_w_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                            vint32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vncvt_x_x_w_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                            vint32m1_t vs2, size_t vl);
vint16m1_t __riscv_vncvt_x_x_w_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                          vint32m2_t vs2, size_t vl);
vint16m2_t __riscv_vncvt_x_x_w_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                          vint32m4_t vs2, size_t vl);
vint16m4_t __riscv_vncvt_x_x_w_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                          vint32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vncvt_x_x_w_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                             vuint32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vncvt_x_x_w_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                             vuint32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vncvt_x_x_w_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                           vuint32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vncvt_x_x_w_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                           vuint32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vncvt_x_x_w_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                           vuint32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vncvt_x_x_w_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                            vint64m1_t vs2, size_t vl);
vint32m1_t __riscv_vncvt_x_x_w_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                          vint64m2_t vs2, size_t vl);
vint32m2_t __riscv_vncvt_x_x_w_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                          vint64m4_t vs2, size_t vl);
vint32m4_t __riscv_vncvt_x_x_w_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                          vint64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vncvt_x_x_w_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                             vuint64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vncvt_x_x_w_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                           vuint64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vncvt_x_x_w_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                           vuint64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vncvt_x_x_w_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                           vuint64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vncvt_x_x_w_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                        vint16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vncvt_x_x_w_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
```

```
                                        vint16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vncvt_x_x_w_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                        vint16m1_t vs2, size_t vl);
vint8m1_t __riscv_vncvt_x_x_w_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                      size_t vl);
vint8m2_t __riscv_vncvt_x_x_w_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                      size_t vl);
vint8m4_t __riscv_vncvt_x_x_w_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                      size_t vl);
vuint8mf8_t __riscv_vncvt_x_x_w_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                         vuint16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vncvt_x_x_w_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                         vuint16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vncvt_x_x_w_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                         vuint16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vncvt_x_x_w_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                       vuint16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vncvt_x_x_w_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                       vuint16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vncvt_x_x_w_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                       vuint16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vncvt_x_x_w_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                          vint32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vncvt_x_x_w_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                          vint32m1_t vs2, size_t vl);
vint16m1_t __riscv_vncvt_x_x_w_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                        vint32m2_t vs2, size_t vl);
vint16m2_t __riscv_vncvt_x_x_w_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                        vint32m4_t vs2, size_t vl);
vint16m4_t __riscv_vncvt_x_x_w_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                        vint32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vncvt_x_x_w_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                           vuint32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vncvt_x_x_w_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                           vuint32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vncvt_x_x_w_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                         vuint32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vncvt_x_x_w_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                         vuint32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vncvt_x_x_w_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                         vuint32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vncvt_x_x_w_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                          vint64m1_t vs2, size_t vl);
vint32m1_t __riscv_vncvt_x_x_w_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                        vint64m2_t vs2, size_t vl);
vint32m2_t __riscv_vncvt_x_x_w_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                        vint64m4_t vs2, size_t vl);
vint32m4_t __riscv_vncvt_x_x_w_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                        vint64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vncvt_x_x_w_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vncvt_x_x_w_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                         vuint64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vncvt_x_x_w_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                         vuint64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vncvt_x_x_w_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                         vuint64m8_t vs2, size_t vl);
```

B.3.12. Vector Integer Compare Intrinsics

```
// masked functions
vbool64_t __riscv_vmseq_vv_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint8mf8_t vs2, vint8mf8_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmseq_vx_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
```

```
                                      vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmseq_vx_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmseq_vx_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                    int8_t rs1, size_t vl);
vbool4_t __riscv_vmseq_vv_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                    int8_t rs1, size_t vl);
vbool2_t __riscv_vmseq_vv_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmseq_vx_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vbool1_t __riscv_vmseq_vv_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmseq_vx_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmseq_vx_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vint16mf4_t vs2, int16_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmseq_vv_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vbool32_t __riscv_vmseq_vx_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vint16mf2_t vs2, int16_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmseq_vv_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmseq_vx_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vbool4_t __riscv_vmseq_vv_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vbool2_t __riscv_vmseq_vv_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmseq_vx_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmseq_vx_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vint32mf2_t vs2, int32_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmseq_vv_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmseq_vx_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
```

```
vbool16_t __riscv_vmseq_vv_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint32m2_t vs2, vint32m2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmseq_vx_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                      vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                      int32_t rs1, size_t vl);
vbool4_t __riscv_vmseq_vv_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                      vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                      int32_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint64m1_t vs2, vint64m1_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmseq_vx_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmseq_vv_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint64m2_t vs2, vint64m2_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmseq_vx_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmseq_vv_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint64m4_t vs2, vint64m4_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmseq_vx_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmseq_vv_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                                      vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                                      int64_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint8mf8_t vs2, vint8mf8_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmsne_vx_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint8mf4_t vs2, vint8mf4_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmsne_vx_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint8mf2_t vs2, vint8mf2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmsne_vx_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                     vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                     int8_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                     vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                     int8_t rs1, size_t vl);
vbool2_t __riscv_vmsne_vv_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                     vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsne_vx_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                     int8_t rs1, size_t vl);
vbool1_t __riscv_vmsne_vv_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                                     vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsne_vx_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                                     int8_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint16mf4_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmsne_vx_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
```

```
                                      vint16mf4_t vs2, int16_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmsne_vv_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsne_vx_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vint16mf2_t vs2, int16_t rs1,
                                      size_t vl);
vbool16_t __riscv_vmsne_vv_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsne_vx_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vbool2_t __riscv_vmsne_vv_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsne_vx_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsne_vx_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vint32mf2_t vs2, int32_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmsne_vv_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmsne_vx_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsne_vx_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                    int32_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmsne_vx_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsne_vv_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmsne_vx_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsne_vv_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsne_vx_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsne_vv_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
```

```
                                      int64_t rs1, size_t vl);
vbool64_t __riscv_vmslt_vv_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint8mf8_t vs2, vint8mf8_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmslt_vx_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmslt_vv_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint8mf4_t vs2, vint8mf4_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmslt_vx_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmslt_vv_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint8mf2_t vs2, vint8mf2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmslt_vx_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmslt_vv_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                     vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmslt_vx_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                     int8_t rs1, size_t vl);
vbool4_t __riscv_vmslt_vv_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                     vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmslt_vx_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                     int8_t rs1, size_t vl);
vbool2_t __riscv_vmslt_vv_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                     vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmslt_vx_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                     int8_t rs1, size_t vl);
vbool1_t __riscv_vmslt_vv_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                                     vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmslt_vx_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                                     int8_t rs1, size_t vl);
vbool64_t __riscv_vmslt_vv_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint16mf4_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmslt_vx_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint16mf4_t vs2, int16_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmslt_vv_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vint16mf2_t vs2, vint16mf2_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmslt_vx_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vint16mf2_t vs2, int16_t rs1,
                                         size_t vl);
vbool16_t __riscv_vmslt_vv_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint16m1_t vs2, vint16m1_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmslt_vx_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmslt_vv_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                      vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmslt_vx_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                      int16_t rs1, size_t vl);
vbool4_t __riscv_vmslt_vv_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                      vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmslt_vx_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                      int16_t rs1, size_t vl);
vbool2_t __riscv_vmslt_vv_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                      vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmslt_vx_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                      int16_t rs1, size_t vl);
vbool64_t __riscv_vmslt_vv_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint32mf2_t vs2, vint32mf2_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmslt_vx_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint32mf2_t vs2, int32_t rs1,
                                         size_t vl);
```

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vbool32_t __riscv_vmslt_vv_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint32m1_t vs2, vint32m1_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmslt_vx_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmslt_vv_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint32m2_t vs2, vint32m2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmslt_vx_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmslt_vv_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                      vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmslt_vx_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                      int32_t rs1, size_t vl);
vbool4_t __riscv_vmslt_vv_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                      vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmslt_vx_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                      int32_t rs1, size_t vl);
vbool64_t __riscv_vmslt_vv_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint64m1_t vs2, vint64m1_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmslt_vx_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmslt_vv_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint64m2_t vs2, vint64m2_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmslt_vx_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmslt_vv_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint64m4_t vs2, vint64m4_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmslt_vx_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmslt_vv_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                                      vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmslt_vx_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                                      int64_t rs1, size_t vl);
vbool64_t __riscv_vmsle_vv_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint8mf8_t vs2, vint8mf8_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmsle_vx_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsle_vv_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint8mf4_t vs2, vint8mf4_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmsle_vx_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsle_vv_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint8mf2_t vs2, vint8mf2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmsle_vx_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsle_vv_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                     vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsle_vx_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                     int8_t rs1, size_t vl);
vbool4_t __riscv_vmsle_vv_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                     vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsle_vx_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                     int8_t rs1, size_t vl);
vbool2_t __riscv_vmsle_vv_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                     vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsle_vx_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                     int8_t rs1, size_t vl);
vbool1_t __riscv_vmsle_vv_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                                     vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsle_vx_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
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                                      int8_t rs1, size_t vl);
vbool64_t __riscv_vmsle_vv_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint16mf4_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmsle_vx_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint16mf4_t vs2, int16_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmsle_vv_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vint16mf2_t vs2, vint16mf2_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmsle_vx_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vint16mf2_t vs2, int16_t rs1,
                                         size_t vl);
vbool16_t __riscv_vmsle_vv_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint16m1_t vs2, vint16m1_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmsle_vx_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsle_vv_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                      vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsle_vx_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                      int16_t rs1, size_t vl);
vbool4_t __riscv_vmsle_vv_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                      vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsle_vx_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                      int16_t rs1, size_t vl);
vbool2_t __riscv_vmsle_vv_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                      vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsle_vx_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                      int16_t rs1, size_t vl);
vbool64_t __riscv_vmsle_vv_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint32mf2_t vs2, vint32mf2_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmsle_vx_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint32mf2_t vs2, int32_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmsle_vv_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint32m1_t vs2, vint32m1_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmsle_vx_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsle_vv_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint32m2_t vs2, vint32m2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmsle_vx_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsle_vv_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                      vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsle_vx_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                      int32_t rs1, size_t vl);
vbool4_t __riscv_vmsle_vv_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                      vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsle_vx_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                      int32_t rs1, size_t vl);
vbool64_t __riscv_vmsle_vv_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint64m1_t vs2, vint64m1_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmsle_vx_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsle_vv_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint64m2_t vs2, vint64m2_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmsle_vx_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsle_vv_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint64m4_t vs2, vint64m4_t vs1,
                                        size_t vl);
```

```
vbool16_t __riscv_vmsle_vx_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsle_vv_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                                      vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsle_vx_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                                      int64_t rs1, size_t vl);
vbool64_t __riscv_vmsgt_vv_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint8mf8_t vs2, vint8mf8_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmsgt_vx_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_vv_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint8mf4_t vs2, vint8mf4_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmsgt_vx_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_vv_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint8mf2_t vs2, vint8mf2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmsgt_vx_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_vv_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                     vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_vx_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                     int8_t rs1, size_t vl);
vbool4_t __riscv_vmsgt_vv_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                     vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgt_vx_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                     int8_t rs1, size_t vl);
vbool2_t __riscv_vmsgt_vv_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                     vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgt_vx_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                     int8_t rs1, size_t vl);
vbool1_t __riscv_vmsgt_vv_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                                     vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgt_vx_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                                     int8_t rs1, size_t vl);
vbool64_t __riscv_vmsgt_vv_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint16mf4_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmsgt_vx_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint16mf4_t vs2, int16_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmsgt_vv_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vint16mf2_t vs2, vint16mf2_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmsgt_vx_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vint16mf2_t vs2, int16_t rs1,
                                         size_t vl);
vbool16_t __riscv_vmsgt_vv_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint16m1_t vs2, vint16m1_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmsgt_vx_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_vv_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                      vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_vx_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                      int16_t rs1, size_t vl);
vbool4_t __riscv_vmsgt_vv_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                      vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgt_vx_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                      int16_t rs1, size_t vl);
vbool2_t __riscv_vmsgt_vv_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                      vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgt_vx_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                      int16_t rs1, size_t vl);
vbool64_t __riscv_vmsgt_vv_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
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```
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsgt_vx_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vint32mf2_t vs2, int32_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmsgt_vv_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmsgt_vx_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_vv_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsgt_vx_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_vv_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                   vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_vx_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                   int32_t rs1, size_t vl);
vbool4_t __riscv_vmsgt_vv_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                   vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgt_vx_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                   int32_t rs1, size_t vl);
vbool64_t __riscv_vmsgt_vv_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmsgt_vx_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_vv_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmsgt_vx_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_vv_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsgt_vx_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_vv_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                                   vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_vx_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                                   int64_t rs1, size_t vl);
vbool64_t __riscv_vmsge_vv_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmsge_vx_i8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsge_vv_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmsge_vx_i8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsge_vv_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmsge_vx_i8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsge_vv_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsge_vx_i8m1_b8_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vbool4_t __riscv_vmsge_vv_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsge_vx_i8m2_b4_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vbool2_t __riscv_vmsge_vv_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, size_t vl);
```

```
vbool2_t __riscv_vmsge_vx_i8m4_b2_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                                     int8_t rs1, size_t vl);
vbool1_t __riscv_vmsge_vv_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                                     vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsge_vx_i8m8_b1_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                                     int8_t rs1, size_t vl);
vbool64_t __riscv_vmsge_vv_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint16mf4_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmsge_vx_i16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint16mf4_t vs2, int16_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmsge_vv_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vint16mf2_t vs2, vint16mf2_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmsge_vx_i16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vint16mf2_t vs2, int16_t rs1,
                                         size_t vl);
vbool16_t __riscv_vmsge_vv_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint16m1_t vs2, vint16m1_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmsge_vx_i16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsge_vv_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                      vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsge_vx_i16m2_b8_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                                      int16_t rs1, size_t vl);
vbool4_t __riscv_vmsge_vv_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                      vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsge_vx_i16m4_b4_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                                      int16_t rs1, size_t vl);
vbool2_t __riscv_vmsge_vv_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                      vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsge_vx_i16m8_b2_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                                      int16_t rs1, size_t vl);
vbool64_t __riscv_vmsge_vv_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint32mf2_t vs2, vint32mf2_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmsge_vx_i32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vint32mf2_t vs2, int32_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmsge_vv_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint32m1_t vs2, vint32m1_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmsge_vx_i32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsge_vv_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint32m2_t vs2, vint32m2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmsge_vx_i32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsge_vv_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                      vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsge_vx_i32m4_b8_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                                      int32_t rs1, size_t vl);
vbool4_t __riscv_vmsge_vv_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                      vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsge_vx_i32m8_b4_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                                      int32_t rs1, size_t vl);
vbool64_t __riscv_vmsge_vv_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint64m1_t vs2, vint64m1_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmsge_vx_i64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsge_vv_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint64m2_t vs2, vint64m2_t vs1,
                                        size_t vl);
```

```
vbool32_t __riscv_vmsge_vx_i64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsge_vv_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint64m4_t vs2, vint64m4_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmsge_vx_i64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsge_vv_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                                      vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsge_vx_i64m8_b8_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                                      int64_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vuint8mf8_t vs2, vuint8mf8_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmseq_vx_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vuint8mf8_t vs2, uint8_t rs1,
                                        size_t vl);
vbool32_t __riscv_vmseq_vv_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vuint8mf4_t vs2, vuint8mf4_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmseq_vx_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vuint8mf4_t vs2, uint8_t rs1,
                                        size_t vl);
vbool16_t __riscv_vmseq_vv_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vuint8mf2_t vs2, vuint8mf2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmseq_vx_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vuint8mf2_t vs2, uint8_t rs1,
                                        size_t vl);
vbool8_t __riscv_vmseq_vv_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                     uint8_t rs1, size_t vl);
vbool4_t __riscv_vmseq_vv_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                     uint8_t rs1, size_t vl);
vbool2_t __riscv_vmseq_vv_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmseq_vx_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                     uint8_t rs1, size_t vl);
vbool1_t __riscv_vmseq_vv_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmseq_vx_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmseq_vx_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmseq_vv_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmseq_vx_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vbool16_t __riscv_vmseq_vv_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vuint16m1_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmseq_vx_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vuint16m1_t vs2, uint16_t rs1,
                                        size_t vl);
vbool8_t __riscv_vmseq_vv_u16m2_b8_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_u16m2_b8_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
```

```
vbool4_t __riscv_vmseq_vv_u16m4_b4_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_u16m4_b4_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vbool2_t __riscv_vmseq_vv_u16m8_b2_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmseq_vx_u16m8_b2_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmseq_vx_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmseq_vv_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmseq_vx_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vbool16_t __riscv_vmseq_vv_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmseq_vx_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vbool8_t __riscv_vmseq_vv_u32m4_b8_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_u32m4_b8_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                                      uint32_t rs1, size_t vl);
vbool4_t __riscv_vmseq_vv_u32m8_b4_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                                      vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmseq_vx_u32m8_b4_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                                      uint32_t rs1, size_t vl);
vbool64_t __riscv_vmseq_vv_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmseq_vx_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vuint64m1_t vs2, uint64_t rs1,
                                        size_t vl);
vbool32_t __riscv_vmseq_vv_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmseq_vx_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vuint64m2_t vs2, uint64_t rs1,
                                        size_t vl);
vbool16_t __riscv_vmseq_vv_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmseq_vx_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vuint64m4_t vs2, uint64_t rs1,
                                        size_t vl);
vbool8_t __riscv_vmseq_vv_u64m8_b8_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                                      vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmseq_vx_u64m8_b8_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                                      uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vuint8mf8_t vs2, vuint8mf8_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmsne_vx_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vuint8mf8_t vs2, uint8_t rs1,
                                        size_t vl);
vbool32_t __riscv_vmsne_vv_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vuint8mf4_t vs2, vuint8mf4_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmsne_vx_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vuint8mf4_t vs2, uint8_t rs1,
```

```
                                      size_t vl);
vbool16_t __riscv_vmsne_vv_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsne_vx_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vbool8_t __riscv_vmsne_vv_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                     uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                     uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsne_vv_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsne_vx_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                     uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsne_vv_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsne_vx_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmsne_vx_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsne_vv_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vbool32_t __riscv_vmsne_vx_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmsne_vv_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsne_vx_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vbool8_t __riscv_vmsne_vv_u16m2_b8_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_u16m2_b8_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                                     uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_u16m4_b4_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_u16m4_b4_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                                     uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsne_vv_u16m8_b2_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsne_vx_u16m8_b2_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                                     uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmsne_vx_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vuint32mf2_t vs2, uint32_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsne_vv_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsne_vx_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vuint32m1_t vs2, uint32_t rs1,
                                      size_t vl);
vbool16_t __riscv_vmsne_vv_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
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                                      size_t vl);
vbool16_t __riscv_vmsne_vx_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint32m2_t vs2, uint32_t rs1,
                                      size_t vl);
vbool8_t __riscv_vmsne_vv_u32m4_b8_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_u32m4_b8_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                                    uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsne_vv_u32m8_b4_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsne_vx_u32m8_b4_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                                    uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsne_vv_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsne_vx_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vuint64m1_t vs2, uint64_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmsne_vv_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsne_vx_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vuint64m2_t vs2, uint64_t rs1,
                                      size_t vl);
vbool16_t __riscv_vmsne_vv_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsne_vx_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint64m4_t vs2, uint64_t rs1,
                                      size_t vl);
vbool8_t __riscv_vmsne_vv_u64m8_b8_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsne_vx_u64m8_b8_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                                    uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsltu_vv_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmsltu_vx_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsltu_vv_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vbool32_t __riscv_vmsltu_vx_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmsltu_vv_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vbool16_t __riscv_vmsltu_vx_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1,
                                       size_t vl);
vbool8_t __riscv_vmsltu_vv_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsltu_vx_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsltu_vv_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsltu_vx_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsltu_vv_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsltu_vx_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsltu_vv_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsltu_vx_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
```

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                                      uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsltu_vv_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                          vuint16mf4_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vbool64_t __riscv_vmsltu_vx_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                          vuint16mf4_t vs2, uint16_t rs1,
                                          size_t vl);
vbool32_t __riscv_vmsltu_vv_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                          vuint16mf2_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vbool32_t __riscv_vmsltu_vx_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                          vuint16mf2_t vs2, uint16_t rs1,
                                          size_t vl);
vbool16_t __riscv_vmsltu_vv_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint16m1_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vbool16_t __riscv_vmsltu_vx_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint16m1_t vs2, uint16_t rs1,
                                         size_t vl);
vbool8_t __riscv_vmsltu_vv_u16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vbool8_t __riscv_vmsltu_vx_u16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vbool4_t __riscv_vmsltu_vv_u16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vbool4_t __riscv_vmsltu_vx_u16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vbool2_t __riscv_vmsltu_vv_u16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vbool2_t __riscv_vmsltu_vx_u16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vbool64_t __riscv_vmsltu_vv_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vbool64_t __riscv_vmsltu_vx_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          size_t vl);
vbool32_t __riscv_vmsltu_vv_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint32m1_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmsltu_vx_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint32m1_t vs2, uint32_t rs1,
                                         size_t vl);
vbool16_t __riscv_vmsltu_vv_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint32m2_t vs2, vuint32m2_t vs1,
                                         size_t vl);
vbool16_t __riscv_vmsltu_vx_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint32m2_t vs2, uint32_t rs1,
                                         size_t vl);
vbool8_t __riscv_vmsltu_vv_u32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vbool8_t __riscv_vmsltu_vx_u32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vbool4_t __riscv_vmsltu_vv_u32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vbool4_t __riscv_vmsltu_vx_u32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
```

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vbool64_t __riscv_vmsltu_vv_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint64m1_t vs2, vuint64m1_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmsltu_vx_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint64m1_t vs2, uint64_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmsltu_vv_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint64m2_t vs2, vuint64m2_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmsltu_vx_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint64m2_t vs2, uint64_t rs1,
                                         size_t vl);
vbool16_t __riscv_vmsltu_vv_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint64m4_t vs2, vuint64m4_t vs1,
                                         size_t vl);
vbool16_t __riscv_vmsltu_vx_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint64m4_t vs2, uint64_t rs1,
                                         size_t vl);
vbool8_t __riscv_vmsltu_vv_u64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vbool8_t __riscv_vmsltu_vx_u64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
vbool64_t __riscv_vmsleu_vv_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint8mf8_t vs2, vuint8mf8_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmsleu_vx_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint8mf8_t vs2, uint8_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmsleu_vv_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint8mf4_t vs2, vuint8mf4_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmsleu_vx_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint8mf4_t vs2, uint8_t rs1,
                                         size_t vl);
vbool16_t __riscv_vmsleu_vv_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint8mf2_t vs2, vuint8mf2_t vs1,
                                         size_t vl);
vbool16_t __riscv_vmsleu_vx_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint8mf2_t vs2, uint8_t rs1,
                                         size_t vl);
vbool8_t __riscv_vmsleu_vv_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                      vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsleu_vx_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                      uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsleu_vv_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                      vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsleu_vx_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                      uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsleu_vv_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                      vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsleu_vx_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                      uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsleu_vv_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                                      vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsleu_vx_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                                      uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_vv_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                          vuint16mf4_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vbool64_t __riscv_vmsleu_vx_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                          vuint16mf4_t vs2, uint16_t rs1,
                                          size_t vl);
vbool32_t __riscv_vmsleu_vv_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                          vuint16mf2_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
```

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vbool32_t __riscv_vmsleu_vx_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                          vuint16mf2_t vs2, uint16_t rs1,
                                          size_t vl);
vbool16_t __riscv_vmsleu_vv_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint16m1_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vbool16_t __riscv_vmsleu_vx_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint16m1_t vs2, uint16_t rs1,
                                         size_t vl);
vbool8_t __riscv_vmsleu_vv_u16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vbool8_t __riscv_vmsleu_vx_u16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vbool4_t __riscv_vmsleu_vv_u16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vbool4_t __riscv_vmsleu_vx_u16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vbool2_t __riscv_vmsleu_vv_u16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vbool2_t __riscv_vmsleu_vx_u16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vbool64_t __riscv_vmsleu_vv_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vbool64_t __riscv_vmsleu_vx_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          size_t vl);
vbool32_t __riscv_vmsleu_vv_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint32m1_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmsleu_vx_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint32m1_t vs2, uint32_t rs1,
                                         size_t vl);
vbool16_t __riscv_vmsleu_vv_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint32m2_t vs2, vuint32m2_t vs1,
                                         size_t vl);
vbool16_t __riscv_vmsleu_vx_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint32m2_t vs2, uint32_t rs1,
                                         size_t vl);
vbool8_t __riscv_vmsleu_vv_u32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vbool8_t __riscv_vmsleu_vx_u32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vbool4_t __riscv_vmsleu_vv_u32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vbool4_t __riscv_vmsleu_vx_u32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
vbool64_t __riscv_vmsleu_vv_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint64m1_t vs2, vuint64m1_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmsleu_vx_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint64m1_t vs2, uint64_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmsleu_vv_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint64m2_t vs2, vuint64m2_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmsleu_vx_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
```

```
                                      vuint64m2_t vs2, uint64_t rs1,
                                      size_t vl);
vbool16_t __riscv_vmsleu_vv_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsleu_vx_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint64m4_t vs2, uint64_t rs1,
                                      size_t vl);
vbool8_t __riscv_vmsleu_vv_u64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vuint64m8_t vs2, vuint64m8_t vs1,
                                     size_t vl);
vbool8_t __riscv_vmsleu_vx_u64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vuint64m8_t vs2, uint64_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsgtu_vv_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsgtu_vx_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmsgtu_vv_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsgtu_vx_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vbool16_t __riscv_vmsgtu_vv_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsgtu_vx_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vbool8_t __riscv_vmsgtu_vv_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu_vx_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu_vv_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu_vx_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsgtu_vv_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgtu_vx_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsgtu_vv_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgtu_vx_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu_vv_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmsgtu_vx_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsgtu_vv_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vbool32_t __riscv_vmsgtu_vx_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vbool16_t __riscv_vmsgtu_vv_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsgtu_vx_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vbool8_t __riscv_vmsgtu_vv_u16m2_b8_mu(vbool8_t vm, vbool8_t vd,
```

```
                                    vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsgtu_vx_u16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vuint16m2_t vs2, uint16_t rs1,
                                    size_t vl);
vbool4_t __riscv_vmsgtu_vv_u16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsgtu_vx_u16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vuint16m4_t vs2, uint16_t rs1,
                                    size_t vl);
vbool2_t __riscv_vmsgtu_vv_u16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmsgtu_vx_u16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                    vuint16m8_t vs2, uint16_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmsgtu_vv_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vuint32mf2_t vs2, vuint32mf2_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmsgtu_vx_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vuint32mf2_t vs2, uint32_t rs1,
                                     size_t vl);
vbool32_t __riscv_vmsgtu_vv_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vbool32_t __riscv_vmsgtu_vx_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                    vuint32m1_t vs2, uint32_t rs1,
                                    size_t vl);
vbool16_t __riscv_vmsgtu_vv_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vbool16_t __riscv_vmsgtu_vx_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                    vuint32m2_t vs2, uint32_t rs1,
                                    size_t vl);
vbool8_t __riscv_vmsgtu_vv_u32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmsgtu_vx_u32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vbool4_t __riscv_vmsgtu_vv_u32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmsgtu_vx_u32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vbool64_t __riscv_vmsgtu_vv_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vbool64_t __riscv_vmsgtu_vx_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                    vuint64m1_t vs2, uint64_t rs1,
                                    size_t vl);
vbool32_t __riscv_vmsgtu_vv_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vbool32_t __riscv_vmsgtu_vx_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                    vuint64m2_t vs2, uint64_t rs1,
                                    size_t vl);
vbool16_t __riscv_vmsgtu_vv_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vbool16_t __riscv_vmsgtu_vx_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                    vuint64m4_t vs2, uint64_t rs1,
                                    size_t vl);
vbool8_t __riscv_vmsgtu_vv_u64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
```

```
                                      size_t vl);
vbool8_t __riscv_vmsgtu_vx_u64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
vbool64_t __riscv_vmsgeu_vv_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint8mf8_t vs2, vuint8mf8_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmsgeu_vx_u8mf8_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vuint8mf8_t vs2, uint8_t rs1,
                                         size_t vl);
vbool32_t __riscv_vmsgeu_vv_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint8mf4_t vs2, vuint8mf4_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmsgeu_vx_u8mf4_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vuint8mf4_t vs2, uint8_t rs1,
                                         size_t vl);
vbool16_t __riscv_vmsgeu_vv_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint8mf2_t vs2, vuint8mf2_t vs1,
                                         size_t vl);
vbool16_t __riscv_vmsgeu_vx_u8mf2_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint8mf2_t vs2, uint8_t rs1,
                                         size_t vl);
vbool8_t __riscv_vmsgeu_vv_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                      vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu_vx_u8m1_b8_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                                      uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu_vv_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                      vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu_vx_u8m2_b4_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                                      uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsgeu_vv_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                      vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgeu_vx_u8m4_b2_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                                      uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsgeu_vv_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                                      vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgeu_vx_u8m8_b1_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                                      uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu_vv_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                          vuint16mf4_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vbool64_t __riscv_vmsgeu_vx_u16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                          vuint16mf4_t vs2, uint16_t rs1,
                                          size_t vl);
vbool32_t __riscv_vmsgeu_vv_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                          vuint16mf2_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vbool32_t __riscv_vmsgeu_vx_u16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                          vuint16mf2_t vs2, uint16_t rs1,
                                          size_t vl);
vbool16_t __riscv_vmsgeu_vv_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint16m1_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vbool16_t __riscv_vmsgeu_vx_u16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                         vuint16m1_t vs2, uint16_t rs1,
                                         size_t vl);
vbool8_t __riscv_vmsgeu_vv_u16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vbool8_t __riscv_vmsgeu_vx_u16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vbool4_t __riscv_vmsgeu_vv_u16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vbool4_t __riscv_vmsgeu_vx_u16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
```

```
                                      size_t vl);
vbool2_t __riscv_vmsgeu_vv_u16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vbool2_t __riscv_vmsgeu_vx_u16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                      vuint16m8_t vs2, uint16_t rs1,
                                      size_t vl);
vbool64_t __riscv_vmsgeu_vv_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmsgeu_vx_u32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vuint32mf2_t vs2, uint32_t rs1,
                                       size_t vl);
vbool32_t __riscv_vmsgeu_vv_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsgeu_vx_u32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vuint32m1_t vs2, uint32_t rs1,
                                      size_t vl);
vbool16_t __riscv_vmsgeu_vv_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsgeu_vx_u32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint32m2_t vs2, uint32_t rs1,
                                      size_t vl);
vbool8_t __riscv_vmsgeu_vv_u32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vuint32m4_t vs2, vuint32m4_t vs1,
                                     size_t vl);
vbool8_t __riscv_vmsgeu_vx_u32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vuint32m4_t vs2, uint32_t rs1,
                                     size_t vl);
vbool4_t __riscv_vmsgeu_vv_u32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                     vuint32m8_t vs2, vuint32m8_t vs1,
                                     size_t vl);
vbool4_t __riscv_vmsgeu_vx_u32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                     vuint32m8_t vs2, uint32_t rs1,
                                     size_t vl);
vbool64_t __riscv_vmsgeu_vv_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmsgeu_vx_u64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vuint64m1_t vs2, uint64_t rs1,
                                      size_t vl);
vbool32_t __riscv_vmsgeu_vv_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmsgeu_vx_u64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vuint64m2_t vs2, uint64_t rs1,
                                      size_t vl);
vbool16_t __riscv_vmsgeu_vv_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmsgeu_vx_u64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vuint64m4_t vs2, uint64_t rs1,
                                      size_t vl);
vbool8_t __riscv_vmsgeu_vv_u64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vuint64m8_t vs2, vuint64m8_t vs1,
                                     size_t vl);
vbool8_t __riscv_vmsgeu_vx_u64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vuint64m8_t vs2, uint64_t rs1,
                                     size_t vl);
```

B.3.13. Vector Integer Min/Max Intrinsics

```
vint8mf8_t __riscv_vmin_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
```

```
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmin_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vmin_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmin_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vmin_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmin_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vmin_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vmin_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vmin_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vmin_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vmin_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vmin_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vmin_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vmin_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vmin_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmin_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmin_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmin_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vmin_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmin_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vmin_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmin_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vmin_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmin_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vmin_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmin_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vmin_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmin_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vmin_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmin_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vmin_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmin_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vmin_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmin_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
```

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vint32m8_t __riscv_vmin_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmin_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vmin_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmin_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vmin_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmin_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vmin_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmin_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vmin_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmin_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vmax_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmax_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vmax_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmax_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vmax_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmax_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vmax_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vmax_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vmax_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vmax_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vmax_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vmax_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vmax_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vmax_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vmax_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmax_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmax_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmax_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vmax_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmax_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vmax_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmax_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vmax_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmax_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
```

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                                    size_t vl);
vint16m8_t __riscv_vmax_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmax_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vmax_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmax_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vmax_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmax_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vmax_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmax_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vmax_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmax_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vmax_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmax_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vmax_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmax_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vmax_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmax_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vmax_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmax_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vmax_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmax_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vminu_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vminu_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vminu_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vminu_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vminu_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vminu_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vminu_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vminu_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m2_t __riscv_vminu_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vminu_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vminu_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vminu_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m8_t __riscv_vminu_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
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vuint8m8_t __riscv_vminu_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vminu_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vminu_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vminu_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vminu_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vminu_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vminu_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vminu_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vminu_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vminu_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vminu_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vminu_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vminu_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vminu_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vminu_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vminu_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vminu_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vminu_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vminu_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vminu_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vminu_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vminu_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vminu_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vminu_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vminu_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vminu_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vminu_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vminu_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vminu_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vminu_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vminu_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
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                                    vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmaxu_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmaxu_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vmaxu_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmaxu_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vmaxu_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmaxu_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vmaxu_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmaxu_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vmaxu_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmaxu_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmaxu_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmaxu_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmaxu_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmaxu_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmaxu_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmaxu_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmaxu_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                    uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                      vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmaxu_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                    vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmaxu_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmaxu_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                    vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmaxu_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmaxu_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                    vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmaxu_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmaxu_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmaxu_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                    uint32_t rs1, size_t vl);
```

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vuint64m1_t __riscv_vmaxu_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmaxu_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmaxu_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmaxu_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmaxu_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmaxu_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmaxu_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmaxu_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vmin_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmin_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmin_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmin_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmin_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmin_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmin_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmin_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vmin_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmin_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vmin_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmin_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vmin_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmin_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmin_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vmin_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmin_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vmin_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmin_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmin_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmin_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmin_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vmin_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmin_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
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vint16m8_t __riscv_vmin_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmin_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmin_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vmin_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmin_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmin_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmin_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmin_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmin_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmin_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vmin_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmin_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vmin_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmin_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmin_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmin_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmin_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmin_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmin_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmin_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmax_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmax_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmax_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmax_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmax_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmax_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmax_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmax_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vmax_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmax_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vmax_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmax_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vmax_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
```

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vint8m8_t __riscv_vmax_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmax_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vmax_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmax_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vmax_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmax_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmax_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmax_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmax_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vmax_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmax_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vmax_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmax_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmax_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vmax_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmax_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmax_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmax_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmax_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmax_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmax_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vmax_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmax_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vmax_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmax_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmax_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmax_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmax_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmax_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmax_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmax_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vminu_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
```

```
                                      size_t vl);
vuint8mf8_t __riscv_vminu_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vminu_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vminu_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vminu_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vminu_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vminu_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vminu_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vminu_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vminu_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vminu_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vminu_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vminu_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vminu_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vminu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vminu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vminu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vminu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vminu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vminu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vminu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vminu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vminu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vminu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vminu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vminu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vminu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
```

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                                        size_t vl);
vuint32mf2_t __riscv_vminu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vminu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vminu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vminu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vminu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vminu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vminu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vminu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vuint32m8_t __riscv_vminu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vminu_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, vuint64m1_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vminu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vminu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, vuint64m2_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vminu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vminu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, vuint64m4_t vs1,
                                       size_t vl);
vuint64m4_t __riscv_vminu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vminu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vminu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
vuint8mf8_t __riscv_vmaxu_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vmaxu_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vmaxu_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vmaxu_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
```

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vuint8m1_t __riscv_vmaxu_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmaxu_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmaxu_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmaxu_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmaxu_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmaxu_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmaxu_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmaxu_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vmaxu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vmaxu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vmaxu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vmaxu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vmaxu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vmaxu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vmaxu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vmaxu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vmaxu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vmaxu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vmaxu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vmaxu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vmaxu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vmaxu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vmaxu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vmaxu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
```

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vuint32m2_t __riscv_vmaxu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vmaxu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vmaxu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vmaxu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vuint32m8_t __riscv_vmaxu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vmaxu_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, vuint64m1_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vmaxu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vmaxu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, vuint64m2_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vmaxu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vmaxu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, vuint64m4_t vs1,
                                       size_t vl);
vuint64m4_t __riscv_vmaxu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vmaxu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vmaxu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
// masked functions
vint8mf8_t __riscv_vmin_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, vint8mf8_t vs1,
                                      size_t vl);
vint8mf8_t __riscv_vmin_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmin_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      size_t vl);
vint8mf4_t __riscv_vmin_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmin_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vint8mf2_t __riscv_vmin_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmin_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmin_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    int8_t rs1, size_t vl);
vint8m2_t __riscv_vmin_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmin_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m4_t __riscv_vmin_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmin_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
```

```
vint8m8_t __riscv_vmin_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmin_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmin_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vmin_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vmin_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vmin_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vmin_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vmin_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmin_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vmin_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmin_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vmin_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmin_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      size_t vl);
vint16m8_t __riscv_vmin_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmin_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vmin_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vmin_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vmin_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmin_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vmin_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmin_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vmin_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmin_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vmin_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmin_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vmin_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1, size_t vl);
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vint64m2_t __riscv_vmin_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint64m2_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vmin_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmin_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint64m4_t vs1,
                                      size_t vl);
vint64m4_t __riscv_vmin_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmin_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vint64m8_t vs1,
                                      size_t vl);
vint64m8_t __riscv_vmin_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmax_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, vint8mf8_t vs1,
                                      size_t vl);
vint8mf8_t __riscv_vmax_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmax_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      size_t vl);
vint8mf4_t __riscv_vmax_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmax_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vint8mf2_t __riscv_vmax_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmax_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmax_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    int8_t rs1, size_t vl);
vint8m2_t __riscv_vmax_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmax_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m4_t __riscv_vmax_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmax_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint8m8_t __riscv_vmax_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmax_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmax_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vmax_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vmax_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vmax_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vmax_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vmax_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmax_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vmax_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
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                                    vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmax_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint16m4_t __riscv_vmax_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmax_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs2, vint16m8_t vs1,
                                    size_t vl);
vint16m8_t __riscv_vmax_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmax_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vmax_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int32_t rs1,
                                      size_t vl);
vint32m1_t __riscv_vmax_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, vint32m1_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vmax_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmax_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vint32m2_t vs1,
                                    size_t vl);
vint32m2_t __riscv_vmax_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmax_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vmax_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmax_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, vint32m8_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vmax_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmax_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint64m1_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vmax_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmax_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint64m2_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vmax_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmax_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint64m4_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vmax_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmax_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vmax_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vminu_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vminu_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf4_t __riscv_vminu_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vminu_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
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                                      vuint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf2_t __riscv_vminu_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vminu_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8m1_t __riscv_vminu_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                     vuint8m1_t vs2, vuint8m1_t vs1,
                                     size_t vl);
vuint8m1_t __riscv_vminu_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                     vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vminu_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                     vuint8m2_t vs2, vuint8m2_t vs1,
                                     size_t vl);
vuint8m2_t __riscv_vminu_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                     vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vminu_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                     vuint8m4_t vs2, vuint8m4_t vs1,
                                     size_t vl);
vuint8m4_t __riscv_vminu_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                     vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vminu_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                     vuint8m8_t vs2, vuint8m8_t vs1,
                                     size_t vl);
vuint8m8_t __riscv_vminu_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                     vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vminu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vminu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vminu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vminu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vminu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vminu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m2_t __riscv_vminu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vminu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m4_t __riscv_vminu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vminu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m8_t __riscv_vminu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vminu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32mf2_t __riscv_vminu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
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vuint32mf2_t __riscv_vminu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m1_t __riscv_vminu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vminu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m2_t __riscv_vminu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vminu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m4_t __riscv_vminu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vminu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m8_t __riscv_vminu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vminu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vminu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vminu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vminu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vminu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vminu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vminu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vminu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint64m8_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vminu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, uint64_t rs1,
                                        size_t vl);
vuint8mf8_t __riscv_vmaxu_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs2, vuint8mf8_t vs1,
                                        size_t vl);
vuint8mf8_t __riscv_vmaxu_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs2, uint8_t rs1,
                                        size_t vl);
vuint8mf4_t __riscv_vmaxu_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs2, vuint8mf4_t vs1,
                                        size_t vl);
vuint8mf4_t __riscv_vmaxu_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs2, uint8_t rs1,
                                        size_t vl);
vuint8mf2_t __riscv_vmaxu_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs2, vuint8mf2_t vs1,
                                        size_t vl);
vuint8mf2_t __riscv_vmaxu_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
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                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8m1_t __riscv_vmaxu_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint8m1_t __riscv_vmaxu_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmaxu_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, vuint8m2_t vs1,
                                      size_t vl);
vuint8m2_t __riscv_vmaxu_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmaxu_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint8m4_t __riscv_vmaxu_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmaxu_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, vuint8m8_t vs1,
                                      size_t vl);
vuint8m8_t __riscv_vmaxu_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vuint16mf4_t __riscv_vmaxu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, uint16_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vmaxu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vuint16mf2_t __riscv_vmaxu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, uint16_t rs1,
                                          size_t vl);
vuint16m1_t __riscv_vmaxu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vuint16m1_t __riscv_vmaxu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m2_t __riscv_vmaxu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, vuint16m2_t vs1,
                                        size_t vl);
vuint16m2_t __riscv_vmaxu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m4_t __riscv_vmaxu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vuint16m4_t __riscv_vmaxu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m8_t __riscv_vmaxu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, vuint16m8_t vs1,
                                        size_t vl);
vuint16m8_t __riscv_vmaxu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32mf2_t __riscv_vmaxu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vuint32mf2_t __riscv_vmaxu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m1_t __riscv_vmaxu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
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vuint32m1_t __riscv_vmaxu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m2_t __riscv_vmaxu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vmaxu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m4_t __riscv_vmaxu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vmaxu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m8_t __riscv_vmaxu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vmaxu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vmaxu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vmaxu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vmaxu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vmaxu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vmaxu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vmaxu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vmaxu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint64m8_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vmaxu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, uint64_t rs1,
                                        size_t vl);
// masked functions
vint8mf8_t __riscv_vmin_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmin_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmin_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmin_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmin_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmin_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m1_t __riscv_vmin_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmin_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vmin_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmin_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vmin_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
```

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                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmin_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vmin_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmin_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmin_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vmin_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmin_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vmin_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmin_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmin_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    int16_t rs1, size_t vl);
vint16m2_t __riscv_vmin_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmin_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vint16m4_t __riscv_vmin_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmin_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint16m8_t __riscv_vmin_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmin_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmin_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vmin_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmin_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmin_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    int32_t rs1, size_t vl);
vint32m2_t __riscv_vmin_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmin_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    int32_t rs1, size_t vl);
vint32m4_t __riscv_vmin_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmin_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vint32m8_t __riscv_vmin_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmin_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, size_t vl);
vint64m1_t __riscv_vmin_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmin_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    int64_t rs1, size_t vl);
vint64m2_t __riscv_vmin_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmin_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    int64_t rs1, size_t vl);
vint64m4_t __riscv_vmin_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmin_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    int64_t rs1, size_t vl);
vint64m8_t __riscv_vmin_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
```

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                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmin_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmax_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmax_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmax_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmax_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmax_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmax_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m1_t __riscv_vmax_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmax_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vmax_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmax_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vmax_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmax_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vmax_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmax_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmax_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vmax_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmax_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vmax_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmax_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmax_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    int16_t rs1, size_t vl);
vint16m2_t __riscv_vmax_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmax_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vint16m4_t __riscv_vmax_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmax_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint16m8_t __riscv_vmax_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmax_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmax_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vmax_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmax_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmax_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    int32_t rs1, size_t vl);
vint32m2_t __riscv_vmax_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
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                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmax_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    int32_t rs1, size_t vl);
vint32m4_t __riscv_vmax_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmax_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vint32m8_t __riscv_vmax_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmax_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, size_t vl);
vint64m1_t __riscv_vmax_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmax_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    int64_t rs1, size_t vl);
vint64m2_t __riscv_vmax_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmax_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    int64_t rs1, size_t vl);
vint64m4_t __riscv_vmax_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmax_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    int64_t rs1, size_t vl);
vint64m8_t __riscv_vmax_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmax_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vminu_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vminu_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vminu_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vminu_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vminu_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vminu_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vminu_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vminu_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vminu_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vminu_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vminu_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vminu_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vminu_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vminu_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vminu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vminu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vminu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
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vuint16mf2_t __riscv_vminu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vminu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vminu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vminu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vminu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vminu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vminu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vminu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vminu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vminu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vminu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vminu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vminu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vminu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vminu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vminu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vminu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vminu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, vuint32m8_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vminu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vminu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vuint64m1_t __riscv_vminu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vminu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vuint64m2_t __riscv_vminu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vminu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vminu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vminu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
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vuint64m8_t __riscv_vminu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vmaxu_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vmaxu_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vmaxu_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmaxu_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmaxu_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmaxu_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmaxu_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmaxu_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmaxu_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmaxu_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmaxu_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vmaxu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vmaxu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vmaxu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vmaxu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vmaxu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmaxu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vmaxu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmaxu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vmaxu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmaxu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vmaxu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
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                                      size_t vl);
vuint32mf2_t __riscv_vmaxu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vmaxu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vmaxu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmaxu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vmaxu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmaxu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vmaxu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmaxu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vmaxu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmaxu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vmaxu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmaxu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vmaxu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmaxu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vmaxu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmaxu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vmaxu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
```

B.3.14. Vector Single-Width Integer Multiply Intrinsics

```
vint8mf8_t __riscv_vmul_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmul_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vmul_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmul_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vmul_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmul_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vmul_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vmul_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vmul_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
```

```
vint8m2_t __riscv_vmul_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vmul_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vmul_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vmul_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vmul_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vmul_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmul_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmul_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmul_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vmul_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmul_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vmul_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmul_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vmul_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmul_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vmul_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmul_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vmul_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmul_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vmul_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmul_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vmul_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmul_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vmul_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmul_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vmul_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmul_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vmul_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmul_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vmul_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmul_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vmul_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmul_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vmul_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
```

```
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmul_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vmulh_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                     vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulh_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                     size_t vl);
vint8mf4_t __riscv_vmulh_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                     vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulh_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                     size_t vl);
vint8mf2_t __riscv_vmulh_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                     vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulh_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                     size_t vl);
vint8m1_t __riscv_vmulh_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                   size_t vl);
vint8m1_t __riscv_vmulh_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                   size_t vl);
vint8m2_t __riscv_vmulh_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                   size_t vl);
vint8m2_t __riscv_vmulh_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m4_t __riscv_vmulh_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                   size_t vl);
vint8m4_t __riscv_vmulh_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                   size_t vl);
vint8m8_t __riscv_vmulh_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                   size_t vl);
vint8m8_t __riscv_vmulh_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                   size_t vl);
vint16mf4_t __riscv_vmulh_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulh_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulh_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulh_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       int16_t rs1, size_t vl);
vint16m1_t __riscv_vmulh_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                     vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulh_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                     size_t vl);
vint16m2_t __riscv_vmulh_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulh_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m4_t __riscv_vmulh_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulh_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                     size_t vl);
vint16m8_t __riscv_vmulh_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulh_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                     size_t vl);
vint32mf2_t __riscv_vmulh_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulh_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       int32_t rs1, size_t vl);
vint32m1_t __riscv_vmulh_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                     vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulh_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                     size_t vl);
vint32m2_t __riscv_vmulh_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                     vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulh_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                     size_t vl);
```

```
vint32m4_t __riscv_vmulh_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulh_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vint32m8_t __riscv_vmulh_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulh_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                     size_t vl);
vint64m1_t __riscv_vmulh_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                     vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulh_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                     size_t vl);
vint64m2_t __riscv_vmulh_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                     vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulh_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                     size_t vl);
vint64m4_t __riscv_vmulh_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                     vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulh_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                     size_t vl);
vint64m8_t __riscv_vmulh_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulh_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                     size_t vl);
vint8mf8_t __riscv_vmulhsu_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                       vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                       uint8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                       vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                       uint8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                       vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                       uint8_t rs1, size_t vl);
vint8m1_t __riscv_vmulhsu_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulhsu_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, uint8_t rs1,
                                     size_t vl);
vint8m2_t __riscv_vmulhsu_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulhsu_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, uint8_t rs1,
                                     size_t vl);
vint8m4_t __riscv_vmulhsu_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulhsu_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, uint8_t rs1,
                                     size_t vl);
vint8m8_t __riscv_vmulhsu_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulhsu_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, uint8_t rs1,
                                     size_t vl);
vint16mf4_t __riscv_vmulhsu_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                         uint16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                         vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                         uint16_t rs1, size_t vl);
vint16m1_t __riscv_vmulhsu_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                       vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulhsu_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                       uint16_t rs1, size_t vl);
vint16m2_t __riscv_vmulhsu_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                       vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulhsu_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
```

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                                      uint16_t rs1, size_t vl);
vint16m4_t __riscv_vmulhsu_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulhsu_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vint16m8_t __riscv_vmulhsu_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulhsu_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                        vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                        uint32_t rs1, size_t vl);
vint32m1_t __riscv_vmulhsu_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulhsu_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vint32m2_t __riscv_vmulhsu_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulhsu_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vint32m4_t __riscv_vmulhsu_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulhsu_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                      uint32_t rs1, size_t vl);
vint32m8_t __riscv_vmulhsu_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                      vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulhsu_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                      uint32_t rs1, size_t vl);
vint64m1_t __riscv_vmulhsu_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                      vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulhsu_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                      uint64_t rs1, size_t vl);
vint64m2_t __riscv_vmulhsu_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                      vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulhsu_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                      uint64_t rs1, size_t vl);
vint64m4_t __riscv_vmulhsu_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                      vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulhsu_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                      uint64_t rs1, size_t vl);
vint64m8_t __riscv_vmulhsu_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                      vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulhsu_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                      uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmul_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmul_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmul_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmul_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmul_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmul_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmul_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmul_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vmul_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmul_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vmul_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
```

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vuint8m4_t __riscv_vmul_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vmul_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmul_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vmul_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmul_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmul_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmul_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmul_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmul_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmul_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmul_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmul_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmul_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                     uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmul_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmul_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmul_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmul_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmul_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmul_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmul_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmul_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmul_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmul_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                     uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmul_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmul_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                     uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmul_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmul_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmul_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmul_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmul_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmul_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmul_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmul_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
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                                        vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                        uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                        uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                        vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                        uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmulhu_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmulhu_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m2_t __riscv_vmulhu_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmulhu_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m4_t __riscv_vmulhu_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmulhu_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m8_t __riscv_vmulhu_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmulhu_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                     size_t vl);
vuint16mf4_t __riscv_vmulhu_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                         uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmulhu_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                         vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmulhu_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                         uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmulhu_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                       vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmulhu_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmulhu_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                       vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmulhu_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmulhu_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                       vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmulhu_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmulhu_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                       vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmulhu_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmulhu_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                         vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmulhu_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                         uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmulhu_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmulhu_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmulhu_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                       vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmulhu_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmulhu_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                       vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmulhu_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                       uint32_t rs1, size_t vl);
```

```
vuint32m8_t __riscv_vmulhu_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                       vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmulhu_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmulhu_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                       vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmulhu_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                       uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmulhu_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                       vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmulhu_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                       uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmulhu_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                       vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmulhu_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                       uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmulhu_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                       vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmulhu_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                       uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vmul_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmul_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmul_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmul_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmul_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmul_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmul_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmul_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vmul_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmul_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vmul_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmul_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vmul_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmul_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmul_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vmul_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmul_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vmul_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmul_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmul_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmul_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmul_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
```

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vint16m4_t __riscv_vmul_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmul_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vmul_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmul_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmul_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vmul_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmul_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmul_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmul_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmul_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmul_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmul_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vmul_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmul_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vmul_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmul_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmul_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmul_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmul_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmul_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmul_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmul_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulh_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, vint8mf8_t vs1,
                                      size_t vl);
vint8mf8_t __riscv_vmulh_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulh_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      size_t vl);
vint8mf4_t __riscv_vmulh_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulh_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vint8mf2_t __riscv_vmulh_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmulh_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulh_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    int8_t rs1, size_t vl);
vint8m2_t __riscv_vmulh_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulh_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
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                                    int8_t rs1, size_t vl);
vint8m4_t __riscv_vmulh_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulh_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint8m8_t __riscv_vmulh_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulh_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulh_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vmulh_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vmulh_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vmulh_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vmulh_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vmulh_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmulh_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vmulh_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmulh_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vmulh_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmulh_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      size_t vl);
vint16m8_t __riscv_vmulh_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulh_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vmulh_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vmulh_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vmulh_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmulh_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vmulh_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmulh_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vmulh_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmulh_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vmulh_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1, size_t vl);
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vint64m1_t __riscv_vmulh_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vmulh_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmulh_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint64m2_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vmulh_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmulh_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint64m4_t vs1,
                                      size_t vl);
vint64m4_t __riscv_vmulh_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmulh_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vint64m8_t vs1,
                                      size_t vl);
vint64m8_t __riscv_vmulh_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                        vint8mf8_t vs2, vuint8mf8_t vs1,
                                        size_t vl);
vint8mf8_t __riscv_vmulhsu_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                        vint8mf8_t vs2, uint8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                        vint8mf4_t vs2, vuint8mf4_t vs1,
                                        size_t vl);
vint8mf4_t __riscv_vmulhsu_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                        vint8mf4_t vs2, uint8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                        vint8mf2_t vs2, vuint8mf2_t vs1,
                                        size_t vl);
vint8mf2_t __riscv_vmulhsu_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                        vint8mf2_t vs2, uint8_t rs1, size_t vl);
vint8m1_t __riscv_vmulhsu_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                      vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulhsu_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                      uint8_t rs1, size_t vl);
vint8m2_t __riscv_vmulhsu_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                      vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulhsu_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                      uint8_t rs1, size_t vl);
vint8m4_t __riscv_vmulhsu_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                      vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulhsu_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                      uint8_t rs1, size_t vl);
vint8m8_t __riscv_vmulhsu_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                      vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulhsu_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                      uint8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                          vint16mf4_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vint16mf4_t __riscv_vmulhsu_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                          vint16mf4_t vs2, uint16_t rs1,
                                          size_t vl);
vint16mf2_t __riscv_vmulhsu_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                          vint16mf2_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vint16mf2_t __riscv_vmulhsu_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                          vint16mf2_t vs2, uint16_t rs1,
                                          size_t vl);
vint16m1_t __riscv_vmulhsu_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                        vint16m1_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vint16m1_t __riscv_vmulhsu_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
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                                      vint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vint16m2_t __riscv_vmulhsu_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vmulhsu_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, uint16_t rs1,
                                      size_t vl);
vint16m4_t __riscv_vmulhsu_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vmulhsu_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, uint16_t rs1,
                                      size_t vl);
vint16m8_t __riscv_vmulhsu_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vint16m8_t __riscv_vmulhsu_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, uint16_t rs1,
                                      size_t vl);
vint32mf2_t __riscv_vmulhsu_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vmulhsu_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vmulhsu_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vmulhsu_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, uint32_t rs1,
                                      size_t vl);
vint32m2_t __riscv_vmulhsu_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vmulhsu_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, uint32_t rs1,
                                      size_t vl);
vint32m4_t __riscv_vmulhsu_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vmulhsu_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, uint32_t rs1,
                                      size_t vl);
vint32m8_t __riscv_vmulhsu_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vuint32m8_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vmulhsu_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, uint32_t rs1,
                                      size_t vl);
vint64m1_t __riscv_vmulhsu_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vmulhsu_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, uint64_t rs1,
                                      size_t vl);
vint64m2_t __riscv_vmulhsu_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vmulhsu_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, uint64_t rs1,
                                      size_t vl);
vint64m4_t __riscv_vmulhsu_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vint64m4_t __riscv_vmulhsu_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, uint64_t rs1,
```

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                                      size_t vl);
vint64m8_t __riscv_vmulhsu_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
vint64m8_t __riscv_vmulhsu_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, uint64_t rs1,
                                      size_t vl);
vuint8mf8_t __riscv_vmul_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vuint8mf8_t __riscv_vmul_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmul_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vuint8mf4_t __riscv_vmul_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmul_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint8mf2_t __riscv_vmul_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmul_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                  vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmul_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmul_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                  vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmul_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmul_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                  vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmul_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmul_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                  vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmul_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmul_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vmul_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16mf2_t __riscv_vmul_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vmul_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m1_t __riscv_vmul_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vmul_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmul_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vmul_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmul_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vmul_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmul_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
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                                    size_t vl);
vuint16m8_t __riscv_vmul_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmul_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vmul_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vmul_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vmul_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmul_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vmul_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmul_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vmul_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmul_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, vuint32m8_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vmul_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmul_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vuint64m1_t __riscv_vmul_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmul_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vuint64m2_t __riscv_vmul_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmul_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vmul_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmul_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vmul_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs2, vuint8mf8_t vs1,
                                        size_t vl);
vuint8mf8_t __riscv_vmulhu_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs2, uint8_t rs1,
                                        size_t vl);
vuint8mf4_t __riscv_vmulhu_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs2, vuint8mf4_t vs1,
                                        size_t vl);
vuint8mf4_t __riscv_vmulhu_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs2, uint8_t rs1,
                                        size_t vl);
vuint8mf2_t __riscv_vmulhu_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs2, vuint8mf2_t vs1,
                                        size_t vl);
vuint8mf2_t __riscv_vmulhu_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs2, uint8_t rs1,
                                        size_t vl);
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vuint8m1_t __riscv_vmulhu_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint8m1_t __riscv_vmulhu_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmulhu_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, vuint8m2_t vs1,
                                      size_t vl);
vuint8m2_t __riscv_vmulhu_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmulhu_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint8m4_t __riscv_vmulhu_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmulhu_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, vuint8m8_t vs1,
                                      size_t vl);
vuint8m8_t __riscv_vmulhu_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vuint16mf4_t __riscv_vmulhu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, uint16_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vmulhu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vuint16mf2_t __riscv_vmulhu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, uint16_t rs1,
                                          size_t vl);
vuint16m1_t __riscv_vmulhu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vuint16m1_t __riscv_vmulhu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m2_t __riscv_vmulhu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, vuint16m2_t vs1,
                                        size_t vl);
vuint16m2_t __riscv_vmulhu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m4_t __riscv_vmulhu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vuint16m4_t __riscv_vmulhu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m8_t __riscv_vmulhu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, vuint16m8_t vs1,
                                        size_t vl);
vuint16m8_t __riscv_vmulhu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32mf2_t __riscv_vmulhu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vuint32mf2_t __riscv_vmulhu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m1_t __riscv_vmulhu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vmulhu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
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                                      size_t vl);
vuint32m2_t __riscv_vmulhu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vmulhu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m4_t __riscv_vmulhu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vmulhu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m8_t __riscv_vmulhu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, vuint32m8_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vmulhu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, uint32_t rs1,
                                      size_t vl);
vuint64m1_t __riscv_vmulhu_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vuint64m1_t __riscv_vmulhu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, uint64_t rs1,
                                      size_t vl);
vuint64m2_t __riscv_vmulhu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vuint64m2_t __riscv_vmulhu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, uint64_t rs1,
                                      size_t vl);
vuint64m4_t __riscv_vmulhu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vmulhu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, uint64_t rs1,
                                      size_t vl);
vuint64m8_t __riscv_vmulhu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vmulhu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint64_t rs1,
                                      size_t vl);
// masked functions
vint8mf8_t __riscv_vmul_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vint8mf8_t vs1,
                                    size_t vl);
vint8mf8_t __riscv_vmul_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmul_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, vint8mf4_t vs1,
                                    size_t vl);
vint8mf4_t __riscv_vmul_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmul_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vint8mf2_t vs1,
                                    size_t vl);
vint8mf2_t __riscv_vmul_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmul_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmul_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vmul_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmul_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
```

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vint8m4_t __riscv_vmul_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmul_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint8m8_t __riscv_vmul_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmul_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmul_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vmul_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vmul_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vmul_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vmul_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vmul_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmul_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vmul_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmul_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vmul_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmul_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      size_t vl);
vint16m8_t __riscv_vmul_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmul_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vmul_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vmul_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vmul_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmul_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vmul_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmul_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vmul_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmul_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vmul_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmul_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
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                                    vint64m1_t vs2, vint64m1_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vmul_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmul_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint64m2_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vmul_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmul_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint64m4_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vmul_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmul_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vmul_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulh_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1,
                                     size_t vl);
vint8mf8_t __riscv_vmulh_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulh_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1,
                                     size_t vl);
vint8mf4_t __riscv_vmulh_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulh_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1,
                                     size_t vl);
vint8mf2_t __riscv_vmulh_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmulh_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulh_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vmulh_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulh_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vmulh_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulh_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vmulh_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulh_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulh_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vmulh_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1,
                                       size_t vl);
vint16mf2_t __riscv_vmulh_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vmulh_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1,
                                       size_t vl);
vint16m1_t __riscv_vmulh_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1,
                                     size_t vl);
vint16m1_t __riscv_vmulh_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
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vint16m2_t __riscv_vmulh_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, vint16m2_t vs1,
                                       size_t vl);
vint16m2_t __riscv_vmulh_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmulh_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, vint16m4_t vs1,
                                       size_t vl);
vint16m4_t __riscv_vmulh_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmulh_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, vint16m8_t vs1,
                                       size_t vl);
vint16m8_t __riscv_vmulh_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulh_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, vint32mf2_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vmulh_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, int32_t rs1,
                                         size_t vl);
vint32m1_t __riscv_vmulh_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, vint32m1_t vs1,
                                       size_t vl);
vint32m1_t __riscv_vmulh_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmulh_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, vint32m2_t vs1,
                                       size_t vl);
vint32m2_t __riscv_vmulh_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmulh_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, vint32m4_t vs1,
                                       size_t vl);
vint32m4_t __riscv_vmulh_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmulh_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, vint32m8_t vs1,
                                       size_t vl);
vint32m8_t __riscv_vmulh_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmulh_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, vint64m1_t vs1,
                                       size_t vl);
vint64m1_t __riscv_vmulh_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmulh_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs2, vint64m2_t vs1,
                                       size_t vl);
vint64m2_t __riscv_vmulh_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmulh_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs2, vint64m4_t vs1,
                                       size_t vl);
vint64m4_t __riscv_vmulh_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmulh_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, vint64m8_t vs1,
                                       size_t vl);
vint64m8_t __riscv_vmulh_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                         vint8mf8_t vs2, vuint8mf8_t vs1,
                                         size_t vl);
vint8mf8_t __riscv_vmulhsu_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                         vint8mf8_t vs2, uint8_t rs1,
                                         size_t vl);
```

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vint8mf4_t __riscv_vmulhsu_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                         vint8mf4_t vs2, vuint8mf4_t vs1,
                                         size_t vl);
vint8mf4_t __riscv_vmulhsu_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                         vint8mf4_t vs2, uint8_t rs1,
                                         size_t vl);
vint8mf2_t __riscv_vmulhsu_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                         vint8mf2_t vs2, vuint8mf2_t vs1,
                                         size_t vl);
vint8mf2_t __riscv_vmulhsu_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                         vint8mf2_t vs2, uint8_t rs1,
                                         size_t vl);
vint8m1_t __riscv_vmulhsu_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                       vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulhsu_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                       uint8_t rs1, size_t vl);
vint8m2_t __riscv_vmulhsu_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                       vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulhsu_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                       uint8_t rs1, size_t vl);
vint8m4_t __riscv_vmulhsu_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                       vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulhsu_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                       uint8_t rs1, size_t vl);
vint8m8_t __riscv_vmulhsu_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                       vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulhsu_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                       uint8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                           vint16mf4_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vint16mf4_t __riscv_vmulhsu_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                           vint16mf4_t vs2, uint16_t rs1,
                                           size_t vl);
vint16mf2_t __riscv_vmulhsu_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                           vint16mf2_t vs2, vuint16mf2_t vs1,
                                           size_t vl);
vint16mf2_t __riscv_vmulhsu_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                           vint16mf2_t vs2, uint16_t rs1,
                                           size_t vl);
vint16m1_t __riscv_vmulhsu_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                         vint16m1_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vint16m1_t __riscv_vmulhsu_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                         vint16m1_t vs2, uint16_t rs1,
                                         size_t vl);
vint16m2_t __riscv_vmulhsu_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                         vint16m2_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vint16m2_t __riscv_vmulhsu_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                         vint16m2_t vs2, uint16_t rs1,
                                         size_t vl);
vint16m4_t __riscv_vmulhsu_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                         vint16m4_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vint16m4_t __riscv_vmulhsu_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                         vint16m4_t vs2, uint16_t rs1,
                                         size_t vl);
vint16m8_t __riscv_vmulhsu_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                         vint16m8_t vs2, vuint16m8_t vs1,
                                         size_t vl);
vint16m8_t __riscv_vmulhsu_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                         vint16m8_t vs2, uint16_t rs1,
                                         size_t vl);
vint32mf2_t __riscv_vmulhsu_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                           vint32mf2_t vs2, vuint32mf2_t vs1,
                                           size_t vl);
```

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vint32mf2_t __riscv_vmulhsu_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                           vint32mf2_t vs2, uint32_t rs1,
                                           size_t vl);
vint32m1_t __riscv_vmulhsu_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                         vint32m1_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vint32m1_t __riscv_vmulhsu_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                         vint32m1_t vs2, uint32_t rs1,
                                         size_t vl);
vint32m2_t __riscv_vmulhsu_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                         vint32m2_t vs2, vuint32m2_t vs1,
                                         size_t vl);
vint32m2_t __riscv_vmulhsu_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                         vint32m2_t vs2, uint32_t rs1,
                                         size_t vl);
vint32m4_t __riscv_vmulhsu_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                         vint32m4_t vs2, vuint32m4_t vs1,
                                         size_t vl);
vint32m4_t __riscv_vmulhsu_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                         vint32m4_t vs2, uint32_t rs1,
                                         size_t vl);
vint32m8_t __riscv_vmulhsu_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                         vint32m8_t vs2, vuint32m8_t vs1,
                                         size_t vl);
vint32m8_t __riscv_vmulhsu_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                         vint32m8_t vs2, uint32_t rs1,
                                         size_t vl);
vint64m1_t __riscv_vmulhsu_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                         vint64m1_t vs2, vuint64m1_t vs1,
                                         size_t vl);
vint64m1_t __riscv_vmulhsu_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                         vint64m1_t vs2, uint64_t rs1,
                                         size_t vl);
vint64m2_t __riscv_vmulhsu_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                         vint64m2_t vs2, vuint64m2_t vs1,
                                         size_t vl);
vint64m2_t __riscv_vmulhsu_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                         vint64m2_t vs2, uint64_t rs1,
                                         size_t vl);
vint64m4_t __riscv_vmulhsu_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                         vint64m4_t vs2, vuint64m4_t vs1,
                                         size_t vl);
vint64m4_t __riscv_vmulhsu_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                         vint64m4_t vs2, uint64_t rs1,
                                         size_t vl);
vint64m8_t __riscv_vmulhsu_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                         vint64m8_t vs2, vuint64m8_t vs1,
                                         size_t vl);
vint64m8_t __riscv_vmulhsu_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                         vint64m8_t vs2, uint64_t rs1,
                                         size_t vl);
vuint8mf8_t __riscv_vmul_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vmul_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmul_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vmul_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmul_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vmul_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmul_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
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                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmul_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmul_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmul_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmul_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmul_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmul_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmul_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmul_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vmul_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16mf2_t __riscv_vmul_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vmul_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m1_t __riscv_vmul_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vmul_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m2_t __riscv_vmul_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vmul_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m4_t __riscv_vmul_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vmul_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vmul_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vmul_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vmul_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vmul_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vmul_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vmul_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vmul_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vmul_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
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                                    vuint32m2_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m4_t __riscv_vmul_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vmul_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vmul_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vmul_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vmul_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vmul_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vmul_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vmul_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vmul_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vmul_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vmul_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vmul_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vmulhu_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vmulhu_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf4_t __riscv_vmulhu_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vmulhu_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf2_t __riscv_vmulhu_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vmulhu_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8m1_t __riscv_vmulhu_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vmulhu_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmulhu_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint8m2_t __riscv_vmulhu_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmulhu_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
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                                      vuint8m4_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint8m4_t __riscv_vmulhu_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmulhu_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, vuint8m8_t vs1,
                                      size_t vl);
vuint8m8_t __riscv_vmulhu_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vmulhu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vmulhu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vmulhu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vmulhu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vmulhu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vmulhu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vmulhu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vmulhu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vmulhu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vmulhu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vmulhu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vmulhu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vmulhu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vmulhu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vmulhu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vmulhu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vmulhu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vmulhu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vmulhu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
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                                      vuint32m4_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m8_t __riscv_vmulhu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, vuint32m8_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vmulhu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, uint32_t rs1,
                                      size_t vl);
vuint64m1_t __riscv_vmulhu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vuint64m1_t __riscv_vmulhu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, uint64_t rs1,
                                      size_t vl);
vuint64m2_t __riscv_vmulhu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vuint64m2_t __riscv_vmulhu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, uint64_t rs1,
                                      size_t vl);
vuint64m4_t __riscv_vmulhu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vmulhu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, uint64_t rs1,
                                      size_t vl);
vuint64m8_t __riscv_vmulhu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vmulhu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint64_t rs1,
                                      size_t vl);
// masked functions
vint8mf8_t __riscv_vmul_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmul_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmul_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmul_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmul_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmul_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m1_t __riscv_vmul_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmul_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vmul_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmul_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vmul_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmul_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vmul_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmul_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmul_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vmul_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmul_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
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                                    vint16mf2_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vmul_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmul_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                   vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmul_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                   int16_t rs1, size_t vl);
vint16m2_t __riscv_vmul_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                   vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmul_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                   int16_t rs1, size_t vl);
vint16m4_t __riscv_vmul_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                   vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmul_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                   int16_t rs1, size_t vl);
vint16m8_t __riscv_vmul_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                   vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmul_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                   int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmul_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                    vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint32mf2_t __riscv_vmul_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmul_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                   vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmul_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                   int32_t rs1, size_t vl);
vint32m2_t __riscv_vmul_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                   vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmul_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                   int32_t rs1, size_t vl);
vint32m4_t __riscv_vmul_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                   vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmul_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                   int32_t rs1, size_t vl);
vint32m8_t __riscv_vmul_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                   vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmul_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                   int32_t rs1, size_t vl);
vint64m1_t __riscv_vmul_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                   vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmul_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                   int64_t rs1, size_t vl);
vint64m2_t __riscv_vmul_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                   vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmul_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                   int64_t rs1, size_t vl);
vint64m4_t __riscv_vmul_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                   vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmul_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                   int64_t rs1, size_t vl);
vint64m8_t __riscv_vmul_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                   vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmul_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                   int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulh_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulh_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulh_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulh_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulh_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
```

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vint8mf2_t __riscv_vmulh_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmulh_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulh_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vmulh_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulh_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vmulh_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulh_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vmulh_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulh_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulh_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vmulh_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulh_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vmulh_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmulh_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulh_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmulh_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulh_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vmulh_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulh_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vmulh_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulh_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulh_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vmulh_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmulh_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulh_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmulh_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulh_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmulh_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulh_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vmulh_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulh_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vmulh_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1, size_t vl);
```

```
vint64m1_t __riscv_vmulh_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmulh_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulh_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmulh_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulh_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmulh_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulh_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vint8mf8_t __riscv_vmulhsu_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs2, uint8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vint8mf4_t __riscv_vmulhsu_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs2, uint8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vint8mf2_t __riscv_vmulhsu_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs2, uint8_t rs1, size_t vl);
vint8m1_t __riscv_vmulhsu_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulhsu_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                     uint8_t rs1, size_t vl);
vint8m2_t __riscv_vmulhsu_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulhsu_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                     uint8_t rs1, size_t vl);
vint8m4_t __riscv_vmulhsu_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulhsu_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                     uint8_t rs1, size_t vl);
vint8m8_t __riscv_vmulhsu_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulhsu_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vint16mf4_t __riscv_vmulhsu_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vint16mf2_t __riscv_vmulhsu_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vint16mf2_t __riscv_vmulhsu_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vint16m1_t __riscv_vmulhsu_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vint16m1_t __riscv_vmulhsu_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, uint16_t rs1, size_t vl);
vint16m2_t __riscv_vmulhsu_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vint16m2_t __riscv_vmulhsu_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, uint16_t rs1, size_t vl);
```

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vint16m4_t __riscv_vmulhsu_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vint16m4_t __riscv_vmulhsu_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, uint16_t rs1, size_t vl);
vint16m8_t __riscv_vmulhsu_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vint16m8_t __riscv_vmulhsu_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, uint16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vmulhsu_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vint32m1_t __riscv_vmulhsu_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vint32m1_t __riscv_vmulhsu_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, uint32_t rs1, size_t vl);
vint32m2_t __riscv_vmulhsu_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vint32m2_t __riscv_vmulhsu_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, uint32_t rs1, size_t vl);
vint32m4_t __riscv_vmulhsu_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vint32m4_t __riscv_vmulhsu_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, uint32_t rs1, size_t vl);
vint32m8_t __riscv_vmulhsu_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vint32m8_t __riscv_vmulhsu_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, uint32_t rs1, size_t vl);
vint64m1_t __riscv_vmulhsu_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, vuint64m1_t vs1,
                                       size_t vl);
vint64m1_t __riscv_vmulhsu_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, uint64_t rs1, size_t vl);
vint64m2_t __riscv_vmulhsu_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs2, vuint64m2_t vs1,
                                       size_t vl);
vint64m2_t __riscv_vmulhsu_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs2, uint64_t rs1, size_t vl);
vint64m4_t __riscv_vmulhsu_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs2, vuint64m4_t vs1,
                                       size_t vl);
vint64m4_t __riscv_vmulhsu_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs2, uint64_t rs1, size_t vl);
vint64m8_t __riscv_vmulhsu_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vint64m8_t __riscv_vmulhsu_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmul_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vmul_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmul_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vmul_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmul_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
```

```
                                    vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint8mf2_t __riscv_vmul_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmul_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmul_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmul_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmul_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmul_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmul_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmul_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmul_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmul_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vmul_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vmul_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vmul_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vmul_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vmul_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmul_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, vuint16m2_t vs1,
                                     size_t vl);
vuint16m2_t __riscv_vmul_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmul_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, vuint16m4_t vs1,
                                     size_t vl);
vuint16m4_t __riscv_vmul_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmul_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, vuint16m8_t vs1,
                                     size_t vl);
vuint16m8_t __riscv_vmul_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmul_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vuint32mf2_t __riscv_vmul_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m1_t __riscv_vmul_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, vuint32m1_t vs1,
                                     size_t vl);
vuint32m1_t __riscv_vmul_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmul_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs2, vuint32m2_t vs1,
                                     size_t vl);
vuint32m2_t __riscv_vmul_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
```

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                                    vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmul_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vmul_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmul_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vmul_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmul_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vmul_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmul_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vmul_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmul_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vmul_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmul_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vmul_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vmulhu_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vmulhu_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vmulhu_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmulhu_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmulhu_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmulhu_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmulhu_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmulhu_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmulhu_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmulhu_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmulhu_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vmulhu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
```

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                                        size_t vl);
vuint16mf2_t __riscv_vmulhu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vmulhu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vmulhu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vmulhu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vmulhu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vmulhu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vmulhu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vmulhu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vmulhu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vmulhu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vmulhu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vmulhu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vmulhu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vmulhu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vmulhu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vmulhu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vmulhu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vmulhu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vmulhu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vuint32m8_t __riscv_vmulhu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vmulhu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, vuint64m1_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vmulhu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, uint64_t rs1,
                                       size_t vl);
```

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vuint64m2_t __riscv_vmulhu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, vuint64m2_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vmulhu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vmulhu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, vuint64m4_t vs1,
                                       size_t vl);
vuint64m4_t __riscv_vmulhu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vmulhu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vmulhu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
```

B.3.15. Vector Integer Divide Intrinsics

```
vint8mf8_t __riscv_vdiv_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vdiv_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vdiv_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vdiv_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vdiv_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vdiv_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vdiv_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vdiv_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vdiv_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vdiv_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vdiv_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vdiv_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                  size_t vl);
vint8m8_t __riscv_vdiv_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                  size_t vl);
vint8m8_t __riscv_vdiv_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                  size_t vl);
vint16mf4_t __riscv_vdiv_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vdiv_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vdiv_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vdiv_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vdiv_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vdiv_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vdiv_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vdiv_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
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vint16m4_t __riscv_vdiv_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vdiv_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vdiv_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vdiv_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vdiv_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vdiv_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vdiv_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vdiv_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vdiv_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vdiv_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vdiv_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vdiv_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vdiv_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vdiv_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vdiv_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vdiv_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vdiv_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vdiv_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vdiv_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vdiv_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vdiv_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vdiv_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vint8mf8_t __riscv_vrem_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrem_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf4_t __riscv_vrem_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrem_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    size_t vl);
vint8mf2_t __riscv_vrem_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrem_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    size_t vl);
vint8m1_t __riscv_vrem_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                  size_t vl);
vint8m1_t __riscv_vrem_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                  size_t vl);
vint8m2_t __riscv_vrem_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vrem_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                  size_t vl);
vint8m4_t __riscv_vrem_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vrem_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
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                                    size_t vl);
vint8m8_t __riscv_vrem_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                    size_t vl);
vint8m8_t __riscv_vrem_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                    size_t vl);
vint16mf4_t __riscv_vrem_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrem_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                      int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrem_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrem_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                      int16_t rs1, size_t vl);
vint16m1_t __riscv_vrem_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrem_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                    size_t vl);
vint16m2_t __riscv_vrem_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrem_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                    size_t vl);
vint16m4_t __riscv_vrem_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrem_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                    size_t vl);
vint16m8_t __riscv_vrem_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrem_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                    size_t vl);
vint32mf2_t __riscv_vrem_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrem_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                      int32_t rs1, size_t vl);
vint32m1_t __riscv_vrem_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrem_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                    size_t vl);
vint32m2_t __riscv_vrem_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrem_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                    size_t vl);
vint32m4_t __riscv_vrem_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrem_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                    size_t vl);
vint32m8_t __riscv_vrem_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrem_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                    size_t vl);
vint64m1_t __riscv_vrem_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrem_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vrem_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrem_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vrem_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrem_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vrem_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrem_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vdivu_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
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vuint8mf8_t __riscv_vdivu_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vdivu_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vdivu_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vdivu_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vdivu_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vdivu_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vdivu_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m2_t __riscv_vdivu_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vdivu_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vdivu_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vdivu_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m8_t __riscv_vdivu_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vdivu_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vdivu_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vdivu_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vdivu_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vdivu_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vdivu_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vdivu_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vdivu_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vdivu_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vdivu_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vdivu_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vdivu_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vdivu_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vdivu_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vdivu_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vdivu_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vdivu_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vdivu_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vdivu_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vdivu_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vdivu_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vdivu_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
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                                    vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vdivu_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                    uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vdivu_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                    vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vdivu_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vdivu_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                    vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vdivu_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vdivu_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                    vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vdivu_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                    uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vdivu_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                    vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vdivu_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                    uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vremu_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                    vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vremu_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vremu_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                    vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vremu_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vremu_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                    vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vremu_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vremu_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vremu_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m2_t __riscv_vremu_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vremu_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m4_t __riscv_vremu_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vremu_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m8_t __riscv_vremu_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vremu_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint16mf4_t __riscv_vremu_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vremu_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vremu_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vremu_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vremu_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vremu_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vremu_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vremu_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vremu_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vremu_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                    uint16_t rs1, size_t vl);
```

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vuint16m8_t __riscv_vremu_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vremu_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vremu_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vremu_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vremu_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vremu_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vremu_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vremu_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vremu_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vremu_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vremu_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vremu_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vremu_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vremu_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vremu_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vremu_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vremu_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vremu_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                      uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vremu_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vremu_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                      uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vdiv_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vdiv_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vdiv_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vdiv_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vdiv_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vdiv_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vdiv_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vdiv_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vdiv_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vdiv_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vdiv_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vdiv_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vdiv_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
```

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vint8m8_t __riscv_vdiv_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vdiv_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vdiv_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vdiv_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vdiv_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vdiv_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vdiv_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vdiv_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vdiv_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vdiv_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vdiv_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vdiv_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vdiv_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vdiv_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vdiv_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vdiv_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vdiv_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vdiv_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vdiv_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vdiv_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vdiv_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vdiv_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vdiv_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vdiv_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vdiv_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vdiv_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vdiv_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vdiv_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vdiv_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vdiv_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vdiv_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrem_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
```

```
vint8mf8_t __riscv_vrem_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrem_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrem_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrem_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrem_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vrem_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrem_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vrem_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrem_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vrem_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrem_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vrem_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrem_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrem_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vrem_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrem_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vrem_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vrem_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrem_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vrem_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrem_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vrem_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrem_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vrem_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrem_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrem_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vrem_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vrem_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrem_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vrem_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrem_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vrem_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
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vint32m4_t __riscv_vrem_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vrem_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrem_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vrem_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrem_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vrem_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrem_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vrem_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrem_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vrem_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrem_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vdivu_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vdivu_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vdivu_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vdivu_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vdivu_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vdivu_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vdivu_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vdivu_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vdivu_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vdivu_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vdivu_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vdivu_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vdivu_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vdivu_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vdivu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vdivu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vdivu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vdivu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vdivu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
```

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                                      size_t vl);
vuint16m1_t __riscv_vdivu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vdivu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vdivu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vdivu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vdivu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vdivu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vdivu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vdivu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vdivu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vdivu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vdivu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vdivu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vdivu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vdivu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vdivu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vdivu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vuint32m8_t __riscv_vdivu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
                                       size_t vl);
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                                       vuint64m1_t vs2, vuint64m1_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vdivu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vdivu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, vuint64m2_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vdivu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vdivu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, vuint64m4_t vs1,
                                       size_t vl);
```

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vuint64m4_t __riscv_vdivu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint64_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vdivu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vdivu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
vuint8mf8_t __riscv_vremu_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vremu_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vremu_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vremu_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vremu_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vremu_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vremu_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vremu_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vremu_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vremu_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vremu_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vremu_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vremu_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vremu_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vremu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vremu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vremu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vremu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vremu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vremu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vremu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vremu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vremu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
```

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vuint16m4_t __riscv_vremu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vremu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vremu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vremu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vremu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vremu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vremu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
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                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
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                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
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                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vremu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
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                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
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                                       vuint32m8_t vs2, uint32_t rs1,
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                                       vuint64m1_t vs2, vuint64m1_t vs1,
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                                       vuint64m2_t vs2, vuint64m2_t vs1,
                                       size_t vl);
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                                       vuint64m2_t vs2, uint64_t rs1,
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                                       vuint64m4_t vs2, vuint64m4_t vs1,
                                       size_t vl);
vuint64m4_t __riscv_vremu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint64_t rs1,
                                       size_t vl);
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                                       vuint64m8_t vs2, vuint64m8_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vremu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       size_t vl);
// masked functions
vint8mf8_t __riscv_vdiv_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, vint8mf8_t vs1,
                                      size_t vl);
```

```
vint8mf8_t __riscv_vdiv_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vdiv_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      size_t vl);
vint8mf4_t __riscv_vdiv_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vdiv_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vint8mf2_t __riscv_vdiv_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vdiv_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vdiv_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    int8_t rs1, size_t vl);
vint8m2_t __riscv_vdiv_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vdiv_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m4_t __riscv_vdiv_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vdiv_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint8m8_t __riscv_vdiv_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vdiv_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vdiv_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vdiv_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vdiv_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vdiv_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vdiv_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vdiv_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vdiv_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vdiv_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vdiv_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vdiv_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vdiv_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      size_t vl);
vint16m8_t __riscv_vdiv_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vdiv_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vdiv_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vdiv_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
```

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                                    vint32m1_t vs2, vint32m1_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vdiv_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vdiv_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vint32m2_t vs1,
                                    size_t vl);
vint32m2_t __riscv_vdiv_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vdiv_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vdiv_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vdiv_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, vint32m8_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vdiv_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vdiv_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint64m1_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vdiv_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vdiv_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint64m2_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vdiv_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vdiv_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint64m4_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vdiv_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vdiv_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vdiv_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrem_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vint8mf8_t vs1,
                                    size_t vl);
vint8mf8_t __riscv_vrem_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrem_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, vint8mf4_t vs1,
                                    size_t vl);
vint8mf4_t __riscv_vrem_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrem_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vint8mf2_t vs1,
                                    size_t vl);
vint8mf2_t __riscv_vrem_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vrem_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrem_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vrem_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrem_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vrem_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrem_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vrem_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
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                                    vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrem_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrem_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vrem_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vrem_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vrem_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vrem_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vrem_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vrem_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vrem_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vrem_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vrem_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vrem_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      size_t vl);
vint16m8_t __riscv_vrem_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrem_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vrem_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vrem_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vrem_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vrem_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vrem_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vrem_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vrem_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vrem_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vrem_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vrem_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vrem_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vrem_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
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                                    vint64m2_t vs2, vint64m2_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vrem_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vrem_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint64m4_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vrem_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vrem_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vrem_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vdivu_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vdivu_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf4_t __riscv_vdivu_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vdivu_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf2_t __riscv_vdivu_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vdivu_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8m1_t __riscv_vdivu_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vdivu_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vdivu_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint8m2_t __riscv_vdivu_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vdivu_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint8m4_t __riscv_vdivu_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vdivu_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vuint8m8_t __riscv_vdivu_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vdivu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vdivu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vdivu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vdivu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vdivu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
```

```
vuint16m1_t __riscv_vdivu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m2_t __riscv_vdivu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, vuint16m2_t vs1,
                                        size_t vl);
vuint16m2_t __riscv_vdivu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m4_t __riscv_vdivu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vuint16m4_t __riscv_vdivu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m8_t __riscv_vdivu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, vuint16m8_t vs1,
                                        size_t vl);
vuint16m8_t __riscv_vdivu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32mf2_t __riscv_vdivu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vuint32mf2_t __riscv_vdivu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m1_t __riscv_vdivu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vdivu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m2_t __riscv_vdivu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vdivu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m4_t __riscv_vdivu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vdivu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m8_t __riscv_vdivu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vdivu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vdivu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vdivu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vdivu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vdivu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vdivu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vdivu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
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                                      vuint64m4_t vs2, uint64_t rs1,
                                      size_t vl);
vuint64m8_t __riscv_vdivu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vdivu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint64_t rs1,
                                      size_t vl);
vuint8mf8_t __riscv_vremu_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vremu_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf4_t __riscv_vremu_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vremu_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf2_t __riscv_vremu_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vremu_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8m1_t __riscv_vremu_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vremu_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vremu_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint8m2_t __riscv_vremu_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vremu_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint8m4_t __riscv_vremu_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vremu_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vuint8m8_t __riscv_vremu_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vremu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vremu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vremu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vremu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vremu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vremu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m2_t __riscv_vremu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
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vuint16m2_t __riscv_vremu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m4_t __riscv_vremu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vuint16m4_t __riscv_vremu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m8_t __riscv_vremu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, vuint16m8_t vs1,
                                        size_t vl);
vuint16m8_t __riscv_vremu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32mf2_t __riscv_vremu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vuint32mf2_t __riscv_vremu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m1_t __riscv_vremu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vremu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m2_t __riscv_vremu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vremu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m4_t __riscv_vremu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vremu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m8_t __riscv_vremu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vremu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vremu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vremu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vremu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vremu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vremu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vremu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vremu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint64m8_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vremu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
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                                      vuint64m8_t vs2, uint64_t rs1,
                                      size_t vl);
// masked functions
vint8mf8_t __riscv_vdiv_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vdiv_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf4_t __riscv_vdiv_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vdiv_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf2_t __riscv_vdiv_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vdiv_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m1_t __riscv_vdiv_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vdiv_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vdiv_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vdiv_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vdiv_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vdiv_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vdiv_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vdiv_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vdiv_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vdiv_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vdiv_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vdiv_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vdiv_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vdiv_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    int16_t rs1, size_t vl);
vint16m2_t __riscv_vdiv_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vdiv_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vint16m4_t __riscv_vdiv_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vdiv_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint16m8_t __riscv_vdiv_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vdiv_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vint32mf2_t __riscv_vdiv_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vdiv_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vdiv_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vdiv_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    int32_t rs1, size_t vl);
vint32m2_t __riscv_vdiv_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
```

```
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vdiv_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    int32_t rs1, size_t vl);
vint32m4_t __riscv_vdiv_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vdiv_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vint32m8_t __riscv_vdiv_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vdiv_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, size_t vl);
vint64m1_t __riscv_vdiv_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vdiv_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    int64_t rs1, size_t vl);
vint64m2_t __riscv_vdiv_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vdiv_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    int64_t rs1, size_t vl);
vint64m4_t __riscv_vdiv_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vdiv_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    int64_t rs1, size_t vl);
vint64m8_t __riscv_vdiv_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vdiv_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrem_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrem_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrem_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrem_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrem_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrem_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m1_t __riscv_vrem_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrem_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vrem_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrem_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vrem_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrem_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vrem_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrem_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrem_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vrem_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrem_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vrem_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vrem_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    vint16m1_t vs1, size_t vl);
```

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vint16m1_t __riscv_vrem_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    int16_t rs1, size_t vl);
vint16m2_t __riscv_vrem_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrem_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vint16m4_t __riscv_vrem_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrem_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint16m8_t __riscv_vrem_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrem_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrem_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vrem_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vrem_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrem_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    int32_t rs1, size_t vl);
vint32m2_t __riscv_vrem_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrem_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    int32_t rs1, size_t vl);
vint32m4_t __riscv_vrem_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrem_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vint32m8_t __riscv_vrem_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrem_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, size_t vl);
vint64m1_t __riscv_vrem_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrem_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    int64_t rs1, size_t vl);
vint64m2_t __riscv_vrem_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrem_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    int64_t rs1, size_t vl);
vint64m4_t __riscv_vrem_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrem_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    int64_t rs1, size_t vl);
vint64m8_t __riscv_vrem_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrem_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vdivu_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vdivu_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vdivu_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vdivu_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vdivu_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vdivu_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vdivu_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
```

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                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vdivu_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vdivu_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vdivu_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vdivu_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vdivu_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vdivu_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vdivu_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vdivu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vdivu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vdivu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vdivu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vdivu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vdivu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vdivu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vdivu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vdivu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vdivu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vdivu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vdivu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vdivu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vdivu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vdivu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vdivu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vdivu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vdivu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vdivu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vdivu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
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                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vdivu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vdivu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vdivu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vdivu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vdivu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vdivu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vdivu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vdivu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vdivu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vdivu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vremu_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vuint8mf8_t __riscv_vremu_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vremu_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vuint8mf4_t __riscv_vremu_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vremu_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint8mf2_t __riscv_vremu_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vremu_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vremu_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vremu_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vremu_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vremu_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vremu_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vremu_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vremu_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vremu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vremu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16mf2_t __riscv_vremu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vremu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
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                                      vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m1_t __riscv_vremu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vremu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vremu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vremu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vremu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vremu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vremu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vremu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vremu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vremu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vremu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vremu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vremu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vremu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vremu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vremu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vremu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, vuint32m8_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vremu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vremu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, vuint64m1_t vs1,
                                      size_t vl);
vuint64m1_t __riscv_vremu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vremu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, vuint64m2_t vs1,
                                      size_t vl);
vuint64m2_t __riscv_vremu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vremu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vremu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vremu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vremu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
```

```
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
```

B.3.16. Vector Widening Integer Multiply Intrinsics

```
vint16mf4_t __riscv_vwmul_vv_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs2,
                                       vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmul_vx_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs2,
                                       int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmul_vv_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs2,
                                       vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmul_vx_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs2,
                                       int8_t rs1, size_t vl);
vint16m1_t __riscv_vwmul_vv_i16m1_tu(vint16m1_t vd, vint8mf2_t vs2,
                                     vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmul_vx_i16m1_tu(vint16m1_t vd, vint8mf2_t vs2, int8_t rs1,
                                     size_t vl);
vint16m2_t __riscv_vwmul_vv_i16m2_tu(vint16m2_t vd, vint8m1_t vs2,
                                     vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmul_vx_i16m2_tu(vint16m2_t vd, vint8m1_t vs2, int8_t rs1,
                                     size_t vl);
vint16m4_t __riscv_vwmul_vv_i16m4_tu(vint16m4_t vd, vint8m2_t vs2,
                                     vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmul_vx_i16m4_tu(vint16m4_t vd, vint8m2_t vs2, int8_t rs1,
                                     size_t vl);
vint16m8_t __riscv_vwmul_vv_i16m8_tu(vint16m8_t vd, vint8m4_t vs2,
                                     vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmul_vx_i16m8_tu(vint16m8_t vd, vint8m4_t vs2, int8_t rs1,
                                     size_t vl);
vint32mf2_t __riscv_vwmul_vv_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                       vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmul_vx_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                       int16_t rs1, size_t vl);
vint32m1_t __riscv_vwmul_vv_i32m1_tu(vint32m1_t vd, vint16mf2_t vs2,
                                     vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmul_vx_i32m1_tu(vint32m1_t vd, vint16mf2_t vs2,
                                     int16_t rs1, size_t vl);
vint32m2_t __riscv_vwmul_vv_i32m2_tu(vint32m2_t vd, vint16m1_t vs2,
                                     vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmul_vx_i32m2_tu(vint32m2_t vd, vint16m1_t vs2, int16_t rs1,
                                     size_t vl);
vint32m4_t __riscv_vwmul_vv_i32m4_tu(vint32m4_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmul_vx_i32m4_tu(vint32m4_t vd, vint16m2_t vs2, int16_t rs1,
                                     size_t vl);
vint32m8_t __riscv_vwmul_vv_i32m8_tu(vint32m8_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmul_vx_i32m8_tu(vint32m8_t vd, vint16m4_t vs2, int16_t rs1,
                                     size_t vl);
vint64m1_t __riscv_vwmul_vv_i64m1_tu(vint64m1_t vd, vint32mf2_t vs2,
                                     vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmul_vx_i64m1_tu(vint64m1_t vd, vint32mf2_t vs2,
                                     int32_t rs1, size_t vl);
vint64m2_t __riscv_vwmul_vv_i64m2_tu(vint64m2_t vd, vint32m1_t vs2,
                                     vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmul_vx_i64m2_tu(vint64m2_t vd, vint32m1_t vs2, int32_t rs1,
                                     size_t vl);
vint64m4_t __riscv_vwmul_vv_i64m4_tu(vint64m4_t vd, vint32m2_t vs2,
                                     vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmul_vx_i64m4_tu(vint64m4_t vd, vint32m2_t vs2, int32_t rs1,
                                     size_t vl);
vint64m8_t __riscv_vwmul_vv_i64m8_tu(vint64m8_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmul_vx_i64m8_tu(vint64m8_t vd, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vint16mf4_t __riscv_vwmulsu_vv_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs2,
```

```
                                        vuint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_vx_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs2,
                                        uint8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmulsu_vv_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmulsu_vx_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs2,
                                        uint8_t rs1, size_t vl);
vint16m1_t __riscv_vwmulsu_vv_i16m1_tu(vint16m1_t vd, vint8mf2_t vs2,
                                       vuint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmulsu_vx_i16m1_tu(vint16m1_t vd, vint8mf2_t vs2,
                                       uint8_t rs1, size_t vl);
vint16m2_t __riscv_vwmulsu_vv_i16m2_tu(vint16m2_t vd, vint8m1_t vs2,
                                       vuint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmulsu_vx_i16m2_tu(vint16m2_t vd, vint8m1_t vs2,
                                       uint8_t rs1, size_t vl);
vint16m4_t __riscv_vwmulsu_vv_i16m4_tu(vint16m4_t vd, vint8m2_t vs2,
                                       vuint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmulsu_vx_i16m4_tu(vint16m4_t vd, vint8m2_t vs2,
                                       uint8_t rs1, size_t vl);
vint16m8_t __riscv_vwmulsu_vv_i16m8_tu(vint16m8_t vd, vint8m4_t vs2,
                                       vuint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmulsu_vx_i16m8_tu(vint16m8_t vd, vint8m4_t vs2,
                                       uint8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_vv_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_vx_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                         uint16_t rs1, size_t vl);
vint32m1_t __riscv_vwmulsu_vv_i32m1_tu(vint32m1_t vd, vint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmulsu_vx_i32m1_tu(vint32m1_t vd, vint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vint32m2_t __riscv_vwmulsu_vv_i32m2_tu(vint32m2_t vd, vint16m1_t vs2,
                                       vuint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmulsu_vx_i32m2_tu(vint32m2_t vd, vint16m1_t vs2,
                                       uint16_t rs1, size_t vl);
vint32m4_t __riscv_vwmulsu_vv_i32m4_tu(vint32m4_t vd, vint16m2_t vs2,
                                       vuint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmulsu_vx_i32m4_tu(vint32m4_t vd, vint16m2_t vs2,
                                       uint16_t rs1, size_t vl);
vint32m8_t __riscv_vwmulsu_vv_i32m8_tu(vint32m8_t vd, vint16m4_t vs2,
                                       vuint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmulsu_vx_i32m8_tu(vint32m8_t vd, vint16m4_t vs2,
                                       uint16_t rs1, size_t vl);
vint64m1_t __riscv_vwmulsu_vv_i64m1_tu(vint64m1_t vd, vint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmulsu_vx_i64m1_tu(vint64m1_t vd, vint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vint64m2_t __riscv_vwmulsu_vv_i64m2_tu(vint64m2_t vd, vint32m1_t vs2,
                                       vuint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmulsu_vx_i64m2_tu(vint64m2_t vd, vint32m1_t vs2,
                                       uint32_t rs1, size_t vl);
vint64m4_t __riscv_vwmulsu_vv_i64m4_tu(vint64m4_t vd, vint32m2_t vs2,
                                       vuint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmulsu_vx_i64m4_tu(vint64m4_t vd, vint32m2_t vs2,
                                       uint32_t rs1, size_t vl);
vint64m8_t __riscv_vwmulsu_vv_i64m8_tu(vint64m8_t vd, vint32m4_t vs2,
                                       vuint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmulsu_vx_i64m8_tu(vint64m8_t vd, vint32m4_t vs2,
                                       uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_vv_u16mf4_tu(vuint16mf4_t vd, vuint8mf8_t vs2,
                                         vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_vx_u16mf4_tu(vuint16mf4_t vd, vuint8mf8_t vs2,
                                         uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_vv_u16mf2_tu(vuint16mf2_t vd, vuint8mf4_t vs2,
                                         vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_vx_u16mf2_tu(vuint16mf2_t vd, vuint8mf4_t vs2,
                                         uint8_t rs1, size_t vl);
```

```
vuint16m1_t __riscv_vwmulu_vv_u16m1_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                       vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwmulu_vx_u16m1_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwmulu_vv_u16m2_tu(vuint16m2_t vd, vuint8m1_t vs2,
                                       vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwmulu_vx_u16m2_tu(vuint16m2_t vd, vuint8m1_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwmulu_vv_u16m4_tu(vuint16m4_t vd, vuint8m2_t vs2,
                                       vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwmulu_vx_u16m4_tu(vuint16m4_t vd, vuint8m2_t vs2,
                                       uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwmulu_vv_u16m8_tu(vuint16m8_t vd, vuint8m4_t vs2,
                                       vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwmulu_vx_u16m8_tu(vuint16m8_t vd, vuint8m4_t vs2,
                                       uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_vv_u32mf2_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_vx_u32mf2_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                         uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwmulu_vv_u32m1_tu(vuint32m1_t vd, vuint16mf2_t vs2,
                                       vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwmulu_vx_u32m1_tu(vuint32m1_t vd, vuint16mf2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwmulu_vv_u32m2_tu(vuint32m2_t vd, vuint16m1_t vs2,
                                       vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwmulu_vx_u32m2_tu(vuint32m2_t vd, vuint16m1_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwmulu_vv_u32m4_tu(vuint32m4_t vd, vuint16m2_t vs2,
                                       vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwmulu_vx_u32m4_tu(vuint32m4_t vd, vuint16m2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwmulu_vv_u32m8_tu(vuint32m8_t vd, vuint16m4_t vs2,
                                       vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwmulu_vx_u32m8_tu(vuint32m8_t vd, vuint16m4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwmulu_vv_u64m1_tu(vuint64m1_t vd, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwmulu_vx_u64m1_tu(vuint64m1_t vd, vuint32mf2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwmulu_vv_u64m2_tu(vuint64m2_t vd, vuint32m1_t vs2,
                                       vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwmulu_vx_u64m2_tu(vuint64m2_t vd, vuint32m1_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwmulu_vv_u64m4_tu(vuint64m4_t vd, vuint32m2_t vs2,
                                       vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwmulu_vx_u64m4_tu(vuint64m4_t vd, vuint32m2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwmulu_vv_u64m8_tu(vuint64m8_t vd, vuint32m4_t vs2,
                                       vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwmulu_vx_u64m8_tu(vuint64m8_t vd, vuint32m4_t vs2,
                                       uint32_t rs1, size_t vl);
// masked functions
vint16mf4_t __riscv_vwmul_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint8mf8_t vs2, vint8mf8_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vwmul_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmul_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint8mf4_t vs2, vint8mf4_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vwmul_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwmul_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vwmul_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
```

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                                    vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwmul_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmul_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                    int8_t rs1, size_t vl);
vint16m4_t __riscv_vwmul_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmul_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                    int8_t rs1, size_t vl);
vint16m8_t __riscv_vwmul_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmul_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmul_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vwmul_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs2, int16_t rs1,
                                      size_t vl);
vint32m1_t __riscv_vwmul_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                    vint16mf2_t vs2, vint16mf2_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vwmul_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                    vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwmul_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint16m1_t vs2, vint16m1_t vs1,
                                    size_t vl);
vint32m2_t __riscv_vwmul_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwmul_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint16m2_t vs2, vint16m2_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vwmul_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwmul_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint16m4_t vs2, vint16m4_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vwmul_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint16m4_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwmul_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs2, vint32mf2_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vwmul_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwmul_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, vint32m1_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vwmul_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwmul_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint32m2_t vs2, vint32m2_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vwmul_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwmul_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vwmul_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint32m4_t vs2, int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint8mf8_t vs2, vuint8mf8_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vwmulsu_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint8mf8_t vs2, uint8_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vwmulsu_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint8mf4_t vs2, vuint8mf4_t vs1,
```

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                                        size_t vl);
vint16mf2_t __riscv_vwmulsu_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint8mf4_t vs2, uint8_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vwmulsu_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vwmulsu_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint8mf2_t vs2, uint8_t rs1, size_t vl);
vint16m2_t __riscv_vwmulsu_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint8m1_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vwmulsu_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint8m1_t vs2, uint8_t rs1, size_t vl);
vint16m4_t __riscv_vwmulsu_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint8m2_t vs2, vuint8m2_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vwmulsu_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint8m2_t vs2, uint8_t rs1, size_t vl);
vint16m8_t __riscv_vwmulsu_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint8m4_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vint16m8_t __riscv_vwmulsu_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint8m4_t vs2, uint8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vwmulsu_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vwmulsu_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vwmulsu_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vint32m2_t __riscv_vwmulsu_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vwmulsu_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vint32m4_t __riscv_vwmulsu_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vwmulsu_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint16m2_t vs2, uint16_t rs1,
                                      size_t vl);
vint32m8_t __riscv_vwmulsu_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vwmulsu_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint16m4_t vs2, uint16_t rs1,
                                      size_t vl);
vint64m1_t __riscv_vwmulsu_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vwmulsu_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vint64m2_t __riscv_vwmulsu_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint32m1_t vs2, vuint32m1_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vwmulsu_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint32m1_t vs2, uint32_t rs1,
                                      size_t vl);
vint64m4_t __riscv_vwmulsu_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
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                                      vint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vint64m4_t __riscv_vwmulsu_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint32m2_t vs2, uint32_t rs1,
                                      size_t vl);
vint64m8_t __riscv_vwmulsu_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vint64m8_t __riscv_vwmulsu_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint32m4_t vs2, uint32_t rs1,
                                      size_t vl);
vuint16mf4_t __riscv_vwmulu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint8mf8_t vs2, vuint8mf8_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vwmulu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint8mf8_t vs2, uint8_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vwmulu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint8mf4_t vs2, vuint8mf4_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vwmulu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint8mf4_t vs2, uint8_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vwmulu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vwmulu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint16m2_t __riscv_vwmulu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint8m1_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vwmulu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwmulu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint8m2_t vs2, vuint8m2_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vwmulu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwmulu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint8m4_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vwmulu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vwmulu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32m1_t __riscv_vwmulu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vwmulu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m2_t __riscv_vwmulu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vwmulu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vuint32m4_t __riscv_vwmulu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vwmulu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint16m2_t vs2, uint16_t rs1,
```

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                                        size_t vl);
vuint32m8_t __riscv_vwmulu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint16m4_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vwmulu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint16m4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vwmulu_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vwmulu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vwmulu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vwmulu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vwmulu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vwmulu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vwmulu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vwmulu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
// masked functions
vint16mf4_t __riscv_vwmul_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint8mf8_t vs2, vint8mf8_t vs1,
                                         size_t vl);
vint16mf4_t __riscv_vwmul_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmul_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint8mf4_t vs2, vint8mf4_t vs1,
                                         size_t vl);
vint16mf2_t __riscv_vwmul_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwmul_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint8mf2_t vs2, vint8mf2_t vs1,
                                       size_t vl);
vint16m1_t __riscv_vwmul_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwmul_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmul_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint8m1_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwmul_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmul_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwmul_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmul_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint8m4_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmul_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint16mf4_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vwmul_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint16mf4_t vs2, int16_t rs1,
                                         size_t vl);
vint32m1_t __riscv_vwmul_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
```

```
                                      size_t vl);
vint32m1_t __riscv_vwmul_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwmul_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vwmul_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwmul_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vwmul_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwmul_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vwmul_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwmul_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vwmul_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwmul_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vwmul_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwmul_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint64m4_t __riscv_vwmul_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwmul_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint64m8_t __riscv_vwmul_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint8mf8_t vs2, vuint8mf8_t vs1,
                                         size_t vl);
vint16mf4_t __riscv_vwmulsu_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint8mf8_t vs2, uint8_t rs1,
                                         size_t vl);
vint16mf2_t __riscv_vwmulsu_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint8mf4_t vs2, vuint8mf4_t vs1,
                                         size_t vl);
vint16mf2_t __riscv_vwmulsu_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint8mf4_t vs2, uint8_t rs1,
                                         size_t vl);
vint16m1_t __riscv_vwmulsu_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vint16m1_t __riscv_vwmulsu_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint8mf2_t vs2, uint8_t rs1,
                                       size_t vl);
vint16m2_t __riscv_vwmulsu_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint8m1_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vint16m2_t __riscv_vwmulsu_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint8m1_t vs2, uint8_t rs1, size_t vl);
vint16m4_t __riscv_vwmulsu_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint8m2_t vs2, vuint8m2_t vs1,
                                       size_t vl);
vint16m4_t __riscv_vwmulsu_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint8m2_t vs2, uint8_t rs1, size_t vl);
vint16m8_t __riscv_vwmulsu_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
```

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                                        vint8m4_t vs2, vuint8m4_t vs1,
                                        size_t vl);
vint16m8_t __riscv_vwmulsu_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                        vint8m4_t vs2, uint8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          vint16mf4_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vint32mf2_t __riscv_vwmulsu_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          vint16mf4_t vs2, uint16_t rs1,
                                          size_t vl);
vint32m1_t __riscv_vwmulsu_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        vint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vwmulsu_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        vint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vint32m2_t __riscv_vwmulsu_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        vint16m1_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vint32m2_t __riscv_vwmulsu_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        vint16m1_t vs2, uint16_t rs1,
                                        size_t vl);
vint32m4_t __riscv_vwmulsu_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        vint16m2_t vs2, vuint16m2_t vs1,
                                        size_t vl);
vint32m4_t __riscv_vwmulsu_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        vint16m2_t vs2, uint16_t rs1,
                                        size_t vl);
vint32m8_t __riscv_vwmulsu_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                        vint16m4_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vint32m8_t __riscv_vwmulsu_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                        vint16m4_t vs2, uint16_t rs1,
                                        size_t vl);
vint64m1_t __riscv_vwmulsu_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        vint32mf2_t vs2, vuint32mf2_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vwmulsu_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        vint32mf2_t vs2, uint32_t rs1,
                                        size_t vl);
vint64m2_t __riscv_vwmulsu_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        vint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vint64m2_t __riscv_vwmulsu_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        vint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vint64m4_t __riscv_vwmulsu_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        vint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vint64m4_t __riscv_vwmulsu_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        vint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vint64m8_t __riscv_vwmulsu_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        vint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vint64m8_t __riscv_vwmulsu_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        vint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint16mf4_t __riscv_vwmulu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint8mf8_t vs2, vuint8mf8_t vs1,
                                          size_t vl);
vuint16mf4_t __riscv_vwmulu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint8mf8_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vwmulu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint8mf4_t vs2, vuint8mf4_t vs1,
                                          size_t vl);
```

```
vuint16mf2_t __riscv_vwmulu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                           vuint8mf4_t vs2, uint8_t rs1,
                                           size_t vl);
vuint16m1_t __riscv_vwmulu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint8mf2_t vs2, vuint8mf2_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vwmulu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint8mf2_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m2_t __riscv_vwmulu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint8m1_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint16m2_t __riscv_vwmulu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint8m1_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m4_t __riscv_vwmulu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint8m2_t vs2, vuint8m2_t vs1,
                                         size_t vl);
vuint16m4_t __riscv_vwmulu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint8m2_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m8_t __riscv_vwmulu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint8m4_t vs2, vuint8m4_t vs1,
                                         size_t vl);
vuint16m8_t __riscv_vwmulu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint8m4_t vs2, uint8_t rs1,
                                         size_t vl);
vuint32mf2_t __riscv_vwmulu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint16mf4_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vuint32mf2_t __riscv_vwmulu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint16mf4_t vs2, uint16_t rs1,
                                           size_t vl);
vuint32m1_t __riscv_vwmulu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vwmulu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m2_t __riscv_vwmulu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint16m1_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint32m2_t __riscv_vwmulu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint16m1_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m4_t __riscv_vwmulu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint16m2_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vuint32m4_t __riscv_vwmulu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint16m2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m8_t __riscv_vwmulu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint16m4_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vuint32m8_t __riscv_vwmulu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint16m4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint64m1_t __riscv_vwmulu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint64m1_t __riscv_vwmulu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint64m2_t __riscv_vwmulu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint32m1_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vuint64m2_t __riscv_vwmulu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
```

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                                      vuint32m1_t vs2, uint32_t rs1,
                                      size_t vl);
vuint64m4_t __riscv_vwmulu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vwmulu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint32m2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint64m8_t __riscv_vwmulu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vwmulu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint32m4_t vs2, uint32_t rs1,
                                      size_t vl);
// masked functions
vint16mf4_t __riscv_vwmul_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                    vint8mf8_t vs2, vint8mf8_t vs1,
                                    size_t vl);
vint16mf4_t __riscv_vwmul_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                    vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmul_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint8mf4_t vs2, vint8mf4_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vwmul_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwmul_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                   vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmul_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                   vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwmul_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmul_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint16m4_t __riscv_vwmul_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmul_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint16m8_t __riscv_vwmul_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmul_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmul_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                     vint16mf4_t vs2, vint16mf4_t vs1,
                                     size_t vl);
vint32mf2_t __riscv_vwmul_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                     vint16mf4_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwmul_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                   vint16mf2_t vs2, vint16mf2_t vs1,
                                   size_t vl);
vint32m1_t __riscv_vwmul_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                   vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwmul_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                   vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmul_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                   vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwmul_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                   vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmul_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                   int16_t rs1, size_t vl);
vint32m8_t __riscv_vwmul_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                   vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmul_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                   int16_t rs1, size_t vl);
vint64m1_t __riscv_vwmul_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                   vint32mf2_t vs2, vint32mf2_t vs1,
                                   size_t vl);
vint64m1_t __riscv_vwmul_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
```

```
                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwmul_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmul_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwmul_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmul_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwmul_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmul_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vwmulsu_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint8mf8_t vs2, uint8_t rs1,
                                      size_t vl);
vint16mf2_t __riscv_vwmulsu_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vwmulsu_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vint16m1_t __riscv_vwmulsu_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vint16m1_t __riscv_vwmulsu_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint8mf2_t vs2, uint8_t rs1, size_t vl);
vint16m2_t __riscv_vwmulsu_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                     vint8m1_t vs2, vuint8m1_t vs1,
                                     size_t vl);
vint16m2_t __riscv_vwmulsu_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                     vint8m1_t vs2, uint8_t rs1, size_t vl);
vint16m4_t __riscv_vwmulsu_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                     vint8m2_t vs2, vuint8m2_t vs1,
                                     size_t vl);
vint16m4_t __riscv_vwmulsu_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                     vint8m2_t vs2, uint8_t rs1, size_t vl);
vint16m8_t __riscv_vwmulsu_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                     vint8m4_t vs2, vuint8m4_t vs1,
                                     size_t vl);
vint16m8_t __riscv_vwmulsu_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                     vint8m4_t vs2, uint8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vwmulsu_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vint32m1_t __riscv_vwmulsu_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint16mf2_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vint32m1_t __riscv_vwmulsu_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint16mf2_t vs2, uint16_t rs1,
                                     size_t vl);
vint32m2_t __riscv_vwmulsu_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                     vint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vint32m2_t __riscv_vwmulsu_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                     vint16m1_t vs2, uint16_t rs1, size_t vl);
vint32m4_t __riscv_vwmulsu_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                     vint16m2_t vs2, vuint16m2_t vs1,
                                     size_t vl);
vint32m4_t __riscv_vwmulsu_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                     vint16m2_t vs2, uint16_t rs1, size_t vl);
```

```
vint32m8_t __riscv_vwmulsu_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                       vint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vint32m8_t __riscv_vwmulsu_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                       vint16m4_t vs2, uint16_t rs1, size_t vl);
vint64m1_t __riscv_vwmulsu_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                       vint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vint64m1_t __riscv_vwmulsu_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                       vint32mf2_t vs2, uint32_t rs1,
                                       size_t vl);
vint64m2_t __riscv_vwmulsu_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                       vint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vint64m2_t __riscv_vwmulsu_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                       vint32m1_t vs2, uint32_t rs1, size_t vl);
vint64m4_t __riscv_vwmulsu_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                       vint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vint64m4_t __riscv_vwmulsu_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                       vint32m2_t vs2, uint32_t rs1, size_t vl);
vint64m8_t __riscv_vwmulsu_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                       vint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vint64m8_t __riscv_vwmulsu_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                       vint32m4_t vs2, uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint8mf8_t vs2, vuint8mf8_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vwmulu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint8mf8_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vwmulu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint8mf4_t vs2, vuint8mf4_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vwmulu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint8mf4_t vs2, uint8_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vwmulu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vwmulu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwmulu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint8m1_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vwmulu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwmulu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint8m2_t vs2, vuint8m2_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vwmulu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwmulu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       vuint8m4_t vs2, vuint8m4_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vwmulu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vwmulu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vwmulu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
```

```
vuint32m1_t __riscv_vwmulu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vwmulu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vwmulu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vwmulu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vwmulu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vwmulu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint32m8_t __riscv_vwmulu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vwmulu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       vuint32mf2_t vs2, vuint32mf2_t vs1,
                                       size_t vl);
vuint64m1_t __riscv_vwmulu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       vuint32mf2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vwmulu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint64m2_t __riscv_vwmulu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vwmulu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint64m4_t __riscv_vwmulu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vwmulu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint64m8_t __riscv_vwmulu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
```

B.3.17. Vector Single-Width Integer Multiply-Add Intrinsics

```
vint8mf8_t __riscv_vmacc_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs1,
                                     vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmacc_vx_i8mf8_tu(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                                     size_t vl);
vint8mf4_t __riscv_vmacc_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs1,
                                     vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_vx_i8mf4_tu(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                                     size_t vl);
vint8mf2_t __riscv_vmacc_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs1,
                                     vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_vx_i8mf2_tu(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                                     size_t vl);
vint8m1_t __riscv_vmacc_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                                   size_t vl);
vint8m1_t __riscv_vmacc_vx_i8m1_tu(vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                                   size_t vl);
vint8m2_t __riscv_vmacc_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
```

```
                                    size_t vl);
vint8m2_t __riscv_vmacc_vx_i8m2_tu(vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                                    size_t vl);
vint8m4_t __riscv_vmacc_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                                    size_t vl);
vint8m4_t __riscv_vmacc_vx_i8m4_tu(vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                                    size_t vl);
vint8m8_t __riscv_vmacc_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                                    size_t vl);
vint8m8_t __riscv_vmacc_vx_i8m8_tu(vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                                    size_t vl);
vint16mf4_t __riscv_vmacc_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs1,
                                       vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_vx_i16mf4_tu(vint16mf4_t vd, int16_t rs1,
                                       vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs1,
                                       vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_vx_i16mf2_tu(vint16mf2_t vd, int16_t rs1,
                                       vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs1,
                                     vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_vx_i16m1_tu(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                                     size_t vl);
vint16m2_t __riscv_vmacc_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs1,
                                     vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_vx_i16m2_tu(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                                     size_t vl);
vint16m4_t __riscv_vmacc_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs1,
                                     vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_vx_i16m4_tu(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                                     size_t vl);
vint16m8_t __riscv_vmacc_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs1,
                                     vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_vx_i16m8_tu(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                                     size_t vl);
vint32mf2_t __riscv_vmacc_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs1,
                                       vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_vx_i32mf2_tu(vint32mf2_t vd, int32_t rs1,
                                       vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs1,
                                     vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_vx_i32m1_tu(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                                     size_t vl);
vint32m2_t __riscv_vmacc_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs1,
                                     vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_vx_i32m2_tu(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                                     size_t vl);
vint32m4_t __riscv_vmacc_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs1,
                                     vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_vx_i32m4_tu(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                                     size_t vl);
vint32m8_t __riscv_vmacc_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs1,
                                     vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_vx_i32m8_tu(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                                     size_t vl);
vint64m1_t __riscv_vmacc_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs1,
                                     vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_vx_i64m1_tu(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                                     size_t vl);
vint64m2_t __riscv_vmacc_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs1,
                                     vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_vx_i64m2_tu(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                                     size_t vl);
vint64m4_t __riscv_vmacc_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs1,
                                     vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_vx_i64m4_tu(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                                     size_t vl);
```

```
vint64m8_t __riscv_vmacc_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs1,
                                     vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_vx_i64m8_tu(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
                                     size_t vl);
vint8mf8_t __riscv_vnmsac_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs1,
                                      vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_vx_i8mf8_tu(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                                      size_t vl);
vint8mf4_t __riscv_vnmsac_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs1,
                                      vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_vx_i8mf4_tu(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                                      size_t vl);
vint8mf2_t __riscv_vnmsac_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs1,
                                      vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_vx_i8mf2_tu(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                                      size_t vl);
vint8m1_t __riscv_vnmsac_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                                    size_t vl);
vint8m1_t __riscv_vnmsac_vx_i8m1_tu(vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                                    size_t vl);
vint8m2_t __riscv_vnmsac_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                                    size_t vl);
vint8m2_t __riscv_vnmsac_vx_i8m2_tu(vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                                    size_t vl);
vint8m4_t __riscv_vnmsac_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                                    size_t vl);
vint8m4_t __riscv_vnmsac_vx_i8m4_tu(vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                                    size_t vl);
vint8m8_t __riscv_vnmsac_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                                    size_t vl);
vint8m8_t __riscv_vnmsac_vx_i8m8_tu(vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                                    size_t vl);
vint16mf4_t __riscv_vnmsac_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs1,
                                        vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_vx_i16mf4_tu(vint16mf4_t vd, int16_t rs1,
                                        vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs1,
                                        vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac_vx_i16mf2_tu(vint16mf2_t vd, int16_t rs1,
                                        vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs1,
                                      vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_vx_i16m1_tu(vint16m1_t vd, int16_t rs1,
                                      vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs1,
                                      vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_vx_i16m2_tu(vint16m2_t vd, int16_t rs1,
                                      vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs1,
                                      vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_vx_i16m4_tu(vint16m4_t vd, int16_t rs1,
                                      vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs1,
                                      vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_vx_i16m8_tu(vint16m8_t vd, int16_t rs1,
                                      vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs1,
                                        vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_vx_i32mf2_tu(vint32mf2_t vd, int32_t rs1,
                                        vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs1,
                                      vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_vx_i32m1_tu(vint32m1_t vd, int32_t rs1,
                                      vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs1,
                                      vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_vx_i32m2_tu(vint32m2_t vd, int32_t rs1,
```

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                                    vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs1,
                                    vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_vx_i32m4_tu(vint32m4_t vd, int32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs1,
                                    vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_vx_i32m8_tu(vint32m8_t vd, int32_t rs1,
                                    vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs1,
                                    vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_vx_i64m1_tu(vint64m1_t vd, int64_t rs1,
                                    vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs1,
                                    vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_vx_i64m2_tu(vint64m2_t vd, int64_t rs1,
                                    vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs1,
                                    vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_vx_i64m4_tu(vint64m4_t vd, int64_t rs1,
                                    vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs1,
                                    vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_vx_i64m8_tu(vint64m8_t vd, int64_t rs1,
                                    vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs1,
                                   vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_vx_i8mf8_tu(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                                   size_t vl);
vint8mf4_t __riscv_vmadd_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs1,
                                   vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_vx_i8mf4_tu(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                                   size_t vl);
vint8mf2_t __riscv_vmadd_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs1,
                                   vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_vx_i8mf2_tu(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                                   size_t vl);
vint8m1_t __riscv_vmadd_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                                  size_t vl);
vint8m1_t __riscv_vmadd_vx_i8m1_tu(vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                                  size_t vl);
vint8m2_t __riscv_vmadd_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                                  size_t vl);
vint8m2_t __riscv_vmadd_vx_i8m2_tu(vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                                  size_t vl);
vint8m4_t __riscv_vmadd_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                                  size_t vl);
vint8m4_t __riscv_vmadd_vx_i8m4_tu(vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                                  size_t vl);
vint8m8_t __riscv_vmadd_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                                  size_t vl);
vint8m8_t __riscv_vmadd_vx_i8m8_tu(vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                                  size_t vl);
vint16mf4_t __riscv_vmadd_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs1,
                                    vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_vx_i16mf4_tu(vint16mf4_t vd, int16_t rs1,
                                    vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs1,
                                    vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_vx_i16mf2_tu(vint16mf2_t vd, int16_t rs1,
                                    vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs1,
                                   vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_vx_i16m1_tu(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                                   size_t vl);
vint16m2_t __riscv_vmadd_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs1,
                                   vint16m2_t vs2, size_t vl);
```

```
vint16m2_t __riscv_vmadd_vx_i16m2_tu(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                                     size_t vl);
vint16m4_t __riscv_vmadd_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs1,
                                     vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_vx_i16m4_tu(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                                     size_t vl);
vint16m8_t __riscv_vmadd_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs1,
                                     vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_vx_i16m8_tu(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                                     size_t vl);
vint32mf2_t __riscv_vmadd_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs1,
                                       vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_vx_i32mf2_tu(vint32mf2_t vd, int32_t rs1,
                                       vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs1,
                                     vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_vx_i32m1_tu(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                                     size_t vl);
vint32m2_t __riscv_vmadd_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs1,
                                     vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_vx_i32m2_tu(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                                     size_t vl);
vint32m4_t __riscv_vmadd_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs1,
                                     vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_vx_i32m4_tu(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                                     size_t vl);
vint32m8_t __riscv_vmadd_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs1,
                                     vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_vx_i32m8_tu(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                                     size_t vl);
vint64m1_t __riscv_vmadd_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs1,
                                     vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_vx_i64m1_tu(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                                     size_t vl);
vint64m2_t __riscv_vmadd_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs1,
                                     vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_vx_i64m2_tu(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                                     size_t vl);
vint64m4_t __riscv_vmadd_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs1,
                                     vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_vx_i64m4_tu(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                                     size_t vl);
vint64m8_t __riscv_vmadd_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs1,
                                     vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_vx_i64m8_tu(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
                                     size_t vl);
vint8mf8_t __riscv_vnmsub_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs1,
                                      vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_vx_i8mf8_tu(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                                      size_t vl);
vint8mf4_t __riscv_vnmsub_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs1,
                                      vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_vx_i8mf4_tu(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                                      size_t vl);
vint8mf2_t __riscv_vnmsub_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs1,
                                      vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_vx_i8mf2_tu(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                                      size_t vl);
vint8m1_t __riscv_vnmsub_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                                    size_t vl);
vint8m1_t __riscv_vnmsub_vx_i8m1_tu(vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                                    size_t vl);
vint8m2_t __riscv_vnmsub_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                                    size_t vl);
vint8m2_t __riscv_vnmsub_vx_i8m2_tu(vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                                    size_t vl);
vint8m4_t __riscv_vnmsub_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
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                                    size_t vl);
vint8m4_t __riscv_vnmsub_vx_i8m4_tu(vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                                    size_t vl);
vint8m8_t __riscv_vnmsub_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                                    size_t vl);
vint8m8_t __riscv_vnmsub_vx_i8m8_tu(vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                                    size_t vl);
vint16mf4_t __riscv_vnmsub_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs1,
                                        vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_vx_i16mf4_tu(vint16mf4_t vd, int16_t rs1,
                                        vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs1,
                                        vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub_vx_i16mf2_tu(vint16mf2_t vd, int16_t rs1,
                                        vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs1,
                                      vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_vx_i16m1_tu(vint16m1_t vd, int16_t rs1,
                                      vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs1,
                                      vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_vx_i16m2_tu(vint16m2_t vd, int16_t rs1,
                                      vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs1,
                                      vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_vx_i16m4_tu(vint16m4_t vd, int16_t rs1,
                                      vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs1,
                                      vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_vx_i16m8_tu(vint16m8_t vd, int16_t rs1,
                                      vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs1,
                                        vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_vx_i32mf2_tu(vint32mf2_t vd, int32_t rs1,
                                        vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs1,
                                      vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_vx_i32m1_tu(vint32m1_t vd, int32_t rs1,
                                      vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs1,
                                      vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_vx_i32m2_tu(vint32m2_t vd, int32_t rs1,
                                      vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs1,
                                      vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_vx_i32m4_tu(vint32m4_t vd, int32_t rs1,
                                      vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs1,
                                      vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_vx_i32m8_tu(vint32m8_t vd, int32_t rs1,
                                      vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs1,
                                      vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_vx_i64m1_tu(vint64m1_t vd, int64_t rs1,
                                      vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs1,
                                      vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_vx_i64m2_tu(vint64m2_t vd, int64_t rs1,
                                      vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs1,
                                      vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_vx_i64m4_tu(vint64m4_t vd, int64_t rs1,
                                      vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs1,
                                      vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_vx_i64m8_tu(vint64m8_t vd, int64_t rs1,
                                      vint64m8_t vs2, size_t vl);
```

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vuint8mf8_t __riscv_vmacc_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs1,
                                      vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc_vx_u8mf8_tu(vuint8mf8_t vd, uint8_t rs1,
                                      vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs1,
                                      vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_vx_u8mf4_tu(vuint8mf4_t vd, uint8_t rs1,
                                      vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs1,
                                      vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_vx_u8mf2_tu(vuint8mf2_t vd, uint8_t rs1,
                                      vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs1,
                                    vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_vx_u8m1_tu(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                                    size_t vl);
vuint8m2_t __riscv_vmacc_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs1,
                                    vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_vx_u8m2_tu(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                                    size_t vl);
vuint8m4_t __riscv_vmacc_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs1,
                                    vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_vx_u8m4_tu(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                                    size_t vl);
vuint8m8_t __riscv_vmacc_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs1,
                                    vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_vx_u8m8_tu(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                                    size_t vl);
vuint16mf4_t __riscv_vmacc_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs1,
                                        vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_vx_u16mf4_tu(vuint16mf4_t vd, uint16_t rs1,
                                        vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs1,
                                        vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc_vx_u16mf2_tu(vuint16mf2_t vd, uint16_t rs1,
                                        vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs1,
                                      vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc_vx_u16m1_tu(vuint16m1_t vd, uint16_t rs1,
                                      vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs1,
                                      vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_vx_u16m2_tu(vuint16m2_t vd, uint16_t rs1,
                                      vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs1,
                                      vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_vx_u16m4_tu(vuint16m4_t vd, uint16_t rs1,
                                      vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs1,
                                      vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_vx_u16m8_tu(vuint16m8_t vd, uint16_t rs1,
                                      vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs1,
                                        vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_vx_u32mf2_tu(vuint32mf2_t vd, uint32_t rs1,
                                        vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs1,
                                      vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc_vx_u32m1_tu(vuint32m1_t vd, uint32_t rs1,
                                      vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs1,
                                      vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_vx_u32m2_tu(vuint32m2_t vd, uint32_t rs1,
                                      vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs1,
                                      vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc_vx_u32m4_tu(vuint32m4_t vd, uint32_t rs1,
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                                    vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs1,
                                    vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_vx_u32m8_tu(vuint32m8_t vd, uint32_t rs1,
                                    vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs1,
                                    vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_vx_u64m1_tu(vuint64m1_t vd, uint64_t rs1,
                                    vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs1,
                                    vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_vx_u64m2_tu(vuint64m2_t vd, uint64_t rs1,
                                    vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs1,
                                    vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_vx_u64m4_tu(vuint64m4_t vd, uint64_t rs1,
                                    vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs1,
                                    vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_vx_u64m8_tu(vuint64m8_t vd, uint64_t rs1,
                                    vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs1,
                                     vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_vx_u8mf8_tu(vuint8mf8_t vd, uint8_t rs1,
                                     vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs1,
                                     vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_vx_u8mf4_tu(vuint8mf4_t vd, uint8_t rs1,
                                     vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs1,
                                     vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_vx_u8mf2_tu(vuint8mf2_t vd, uint8_t rs1,
                                     vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs1,
                                    vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_vx_u8m1_tu(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                                    size_t vl);
vuint8m2_t __riscv_vnmsac_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs1,
                                    vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_vx_u8m2_tu(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                                    size_t vl);
vuint8m4_t __riscv_vnmsac_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs1,
                                    vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_vx_u8m4_tu(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                                    size_t vl);
vuint8m8_t __riscv_vnmsac_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs1,
                                    vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_vx_u8m8_tu(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                                    size_t vl);
vuint16mf4_t __riscv_vnmsac_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs1,
                                       vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_vx_u16mf4_tu(vuint16mf4_t vd, uint16_t rs1,
                                       vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs1,
                                       vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac_vx_u16mf2_tu(vuint16mf2_t vd, uint16_t rs1,
                                       vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs1,
                                     vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac_vx_u16m1_tu(vuint16m1_t vd, uint16_t rs1,
                                     vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs1,
                                     vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac_vx_u16m2_tu(vuint16m2_t vd, uint16_t rs1,
                                     vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsac_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs1,
                                     vuint16m4_t vs2, size_t vl);
```

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vuint16m4_t __riscv_vnmsac_vx_u16m4_tu(vuint16m4_t vd, uint16_t rs1,
                                       vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs1,
                                       vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac_vx_u16m8_tu(vuint16m8_t vd, uint16_t rs1,
                                       vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs1,
                                         vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_vx_u32mf2_tu(vuint32mf2_t vd, uint32_t rs1,
                                         vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsac_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs1,
                                       vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsac_vx_u32m1_tu(vuint32m1_t vd, uint32_t rs1,
                                       vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs1,
                                       vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac_vx_u32m2_tu(vuint32m2_t vd, uint32_t rs1,
                                       vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs1,
                                       vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac_vx_u32m4_tu(vuint32m4_t vd, uint32_t rs1,
                                       vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs1,
                                       vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac_vx_u32m8_tu(vuint32m8_t vd, uint32_t rs1,
                                       vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs1,
                                       vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac_vx_u64m1_tu(vuint64m1_t vd, uint64_t rs1,
                                       vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs1,
                                       vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac_vx_u64m2_tu(vuint64m2_t vd, uint64_t rs1,
                                       vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs1,
                                       vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac_vx_u64m4_tu(vuint64m4_t vd, uint64_t rs1,
                                       vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs1,
                                       vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac_vx_u64m8_tu(vuint64m8_t vd, uint64_t rs1,
                                       vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs1,
                                      vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd_vx_u8mf8_tu(vuint8mf8_t vd, uint8_t rs1,
                                      vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs1,
                                      vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_vx_u8mf4_tu(vuint8mf4_t vd, uint8_t rs1,
                                      vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs1,
                                      vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_vx_u8mf2_tu(vuint8mf2_t vd, uint8_t rs1,
                                      vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs1,
                                    vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_vx_u8m1_tu(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                                    size_t vl);
vuint8m2_t __riscv_vmadd_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs1,
                                    vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_vx_u8m2_tu(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                                    size_t vl);
vuint8m4_t __riscv_vmadd_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs1,
                                    vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_vx_u8m4_tu(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                                    size_t vl);
vuint8m8_t __riscv_vmadd_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs1,
```

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                                    vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_vx_u8m8_tu(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                                    size_t vl);
vuint16mf4_t __riscv_vmadd_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs1,
                                        vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_vx_u16mf4_tu(vuint16mf4_t vd, uint16_t rs1,
                                        vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs1,
                                        vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd_vx_u16mf2_tu(vuint16mf2_t vd, uint16_t rs1,
                                        vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs1,
                                      vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd_vx_u16m1_tu(vuint16m1_t vd, uint16_t rs1,
                                      vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs1,
                                      vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_vx_u16m2_tu(vuint16m2_t vd, uint16_t rs1,
                                      vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs1,
                                      vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_vx_u16m4_tu(vuint16m4_t vd, uint16_t rs1,
                                      vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs1,
                                      vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_vx_u16m8_tu(vuint16m8_t vd, uint16_t rs1,
                                      vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs1,
                                        vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_vx_u32mf2_tu(vuint32mf2_t vd, uint32_t rs1,
                                        vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs1,
                                      vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd_vx_u32m1_tu(vuint32m1_t vd, uint32_t rs1,
                                      vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs1,
                                      vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_vx_u32m2_tu(vuint32m2_t vd, uint32_t rs1,
                                      vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs1,
                                      vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_vx_u32m4_tu(vuint32m4_t vd, uint32_t rs1,
                                      vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs1,
                                      vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_vx_u32m8_tu(vuint32m8_t vd, uint32_t rs1,
                                      vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs1,
                                      vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_vx_u64m1_tu(vuint64m1_t vd, uint64_t rs1,
                                      vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs1,
                                      vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd_vx_u64m2_tu(vuint64m2_t vd, uint64_t rs1,
                                      vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs1,
                                      vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_vx_u64m4_tu(vuint64m4_t vd, uint64_t rs1,
                                      vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs1,
                                      vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_vx_u64m8_tu(vuint64m8_t vd, uint64_t rs1,
                                      vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs1,
                                       vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_vx_u8mf8_tu(vuint8mf8_t vd, uint8_t rs1,
                                       vuint8mf8_t vs2, size_t vl);
```

```
vuint8mf4_t __riscv_vnmsub_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs1,
                                       vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub_vx_u8mf4_tu(vuint8mf4_t vd, uint8_t rs1,
                                       vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs1,
                                       vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_vx_u8mf2_tu(vuint8mf2_t vd, uint8_t rs1,
                                       vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs1,
                                     vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_vx_u8m1_tu(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                                     size_t vl);
vuint8m2_t __riscv_vnmsub_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs1,
                                     vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_vx_u8m2_tu(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                                     size_t vl);
vuint8m4_t __riscv_vnmsub_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs1,
                                     vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_vx_u8m4_tu(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                                     size_t vl);
vuint8m8_t __riscv_vnmsub_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs1,
                                     vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_vx_u8m8_tu(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                                     size_t vl);
vuint16mf4_t __riscv_vnmsub_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs1,
                                         vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_vx_u16mf4_tu(vuint16mf4_t vd, uint16_t rs1,
                                         vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs1,
                                         vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub_vx_u16mf2_tu(vuint16mf2_t vd, uint16_t rs1,
                                         vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsub_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs1,
                                       vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsub_vx_u16m1_tu(vuint16m1_t vd, uint16_t rs1,
                                       vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs1,
                                       vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub_vx_u16m2_tu(vuint16m2_t vd, uint16_t rs1,
                                       vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs1,
                                       vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub_vx_u16m4_tu(vuint16m4_t vd, uint16_t rs1,
                                       vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs1,
                                       vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub_vx_u16m8_tu(vuint16m8_t vd, uint16_t rs1,
                                       vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs1,
                                         vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_vx_u32mf2_tu(vuint32mf2_t vd, uint32_t rs1,
                                         vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs1,
                                       vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub_vx_u32m1_tu(vuint32m1_t vd, uint32_t rs1,
                                       vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs1,
                                       vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub_vx_u32m2_tu(vuint32m2_t vd, uint32_t rs1,
                                       vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs1,
                                       vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub_vx_u32m4_tu(vuint32m4_t vd, uint32_t rs1,
                                       vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs1,
                                       vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub_vx_u32m8_tu(vuint32m8_t vd, uint32_t rs1,
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                                      vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs1,
                                       vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub_vx_u64m1_tu(vuint64m1_t vd, uint64_t rs1,
                                       vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs1,
                                       vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub_vx_u64m2_tu(vuint64m2_t vd, uint64_t rs1,
                                       vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs1,
                                       vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub_vx_u64m4_tu(vuint64m4_t vd, uint64_t rs1,
                                       vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs1,
                                       vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub_vx_u64m8_tu(vuint64m8_t vd, uint64_t rs1,
                                       vuint64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vmacc_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs1, vint8mf8_t vs2,
                                      size_t vl);
vint8mf8_t __riscv_vmacc_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                      vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs1, vint8mf4_t vs2,
                                      size_t vl);
vint8mf4_t __riscv_vmacc_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                      vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs1, vint8mf2_t vs2,
                                      size_t vl);
vint8mf2_t __riscv_vmacc_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                      vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                    vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                    vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                    vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                    vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                    vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                    vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                    vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                    vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs1, vint16mf4_t vs2,
                                        size_t vl);
vint16mf4_t __riscv_vmacc_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        int16_t rs1, vint16mf4_t vs2,
                                        size_t vl);
vint16mf2_t __riscv_vmacc_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs1, vint16mf2_t vs2,
                                        size_t vl);
vint16mf2_t __riscv_vmacc_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        int16_t rs1, vint16mf2_t vs2,
                                        size_t vl);
vint16m1_t __riscv_vmacc_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs1, vint16m1_t vs2,
                                      size_t vl);
vint16m1_t __riscv_vmacc_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                      vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
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                                    vint16m2_t vs1, vint16m2_t vs2,
                                    size_t vl);
vint16m2_t __riscv_vmacc_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                    vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs1, vint16m4_t vs2,
                                    size_t vl);
vint16m4_t __riscv_vmacc_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                    vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs1, vint16m8_t vs2,
                                    size_t vl);
vint16m8_t __riscv_vmacc_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                    vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs1, vint32mf2_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vmacc_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      int32_t rs1, vint32mf2_t vs2,
                                      size_t vl);
vint32m1_t __riscv_vmacc_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs1, vint32m1_t vs2,
                                    size_t vl);
vint32m1_t __riscv_vmacc_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                    vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs1, vint32m2_t vs2,
                                    size_t vl);
vint32m2_t __riscv_vmacc_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                    vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs1, vint32m4_t vs2,
                                    size_t vl);
vint32m4_t __riscv_vmacc_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs1, vint32m8_t vs2,
                                    size_t vl);
vint32m8_t __riscv_vmacc_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                    vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs1, vint64m1_t vs2,
                                    size_t vl);
vint64m1_t __riscv_vmacc_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                    vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs1, vint64m2_t vs2,
                                    size_t vl);
vint64m2_t __riscv_vmacc_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                    vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs1, vint64m4_t vs2,
                                    size_t vl);
vint64m4_t __riscv_vmacc_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                    vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs1, vint64m8_t vs2,
                                    size_t vl);
vint64m8_t __riscv_vmacc_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                    vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs1, vint8mf8_t vs2,
                                     size_t vl);
vint8mf8_t __riscv_vnmsac_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                     vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs1, vint8mf4_t vs2,
```

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                                      size_t vl);
vint8mf4_t __riscv_vnmsac_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                       vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs1, vint8mf2_t vs2,
                                       size_t vl);
vint8mf2_t __riscv_vnmsac_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                       vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                     vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                     vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                     vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                     vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                     vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                     vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                     vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                     vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs1, vint16mf4_t vs2,
                                         size_t vl);
vint16mf4_t __riscv_vnmsac_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                         int16_t rs1, vint16mf4_t vs2,
                                         size_t vl);
vint16mf2_t __riscv_vnmsac_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs1, vint16mf2_t vs2,
                                         size_t vl);
vint16mf2_t __riscv_vnmsac_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                         int16_t rs1, vint16mf2_t vs2,
                                         size_t vl);
vint16m1_t __riscv_vnmsac_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs1, vint16m1_t vs2,
                                       size_t vl);
vint16m1_t __riscv_vnmsac_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                       vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs1, vint16m2_t vs2,
                                       size_t vl);
vint16m2_t __riscv_vnmsac_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                       vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs1, vint16m4_t vs2,
                                       size_t vl);
vint16m4_t __riscv_vnmsac_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                       vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs1, vint16m8_t vs2,
                                       size_t vl);
vint16m8_t __riscv_vnmsac_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                       vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs1, vint32mf2_t vs2,
                                         size_t vl);
vint32mf2_t __riscv_vnmsac_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                         int32_t rs1, vint32mf2_t vs2,
                                         size_t vl);
vint32m1_t __riscv_vnmsac_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs1, vint32m1_t vs2,
                                       size_t vl);
vint32m1_t __riscv_vnmsac_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                       vint32m1_t vs2, size_t vl);
```

```
vint32m2_t __riscv_vnmsac_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs1, vint32m2_t vs2,
                                       size_t vl);
vint32m2_t __riscv_vnmsac_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                       vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs1, vint32m4_t vs2,
                                       size_t vl);
vint32m4_t __riscv_vnmsac_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                       vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs1, vint32m8_t vs2,
                                       size_t vl);
vint32m8_t __riscv_vnmsac_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                       vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs1, vint64m1_t vs2,
                                       size_t vl);
vint64m1_t __riscv_vnmsac_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                       vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs1, vint64m2_t vs2,
                                       size_t vl);
vint64m2_t __riscv_vnmsac_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                       vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs1, vint64m4_t vs2,
                                       size_t vl);
vint64m4_t __riscv_vnmsac_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                       vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs1, vint64m8_t vs2,
                                       size_t vl);
vint64m8_t __riscv_vnmsac_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                       vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs1, vint8mf8_t vs2,
                                      size_t vl);
vint8mf8_t __riscv_vmadd_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                      vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs1, vint8mf4_t vs2,
                                      size_t vl);
vint8mf4_t __riscv_vmadd_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                      vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs1, vint8mf2_t vs2,
                                      size_t vl);
vint8mf2_t __riscv_vmadd_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                      vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                    vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                    vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                    vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                    vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                    vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                    vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                    vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                    vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
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                                      vint16mf4_t vs1, vint16mf4_t vs2,
                                      size_t vl);
vint16mf4_t __riscv_vmadd_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                      int16_t rs1, vint16mf4_t vs2,
                                      size_t vl);
vint16mf2_t __riscv_vmadd_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs1, vint16mf2_t vs2,
                                      size_t vl);
vint16mf2_t __riscv_vmadd_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                      int16_t rs1, vint16mf2_t vs2,
                                      size_t vl);
vint16m1_t __riscv_vmadd_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs1, vint16m1_t vs2,
                                    size_t vl);
vint16m1_t __riscv_vmadd_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                    vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmadd_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs1, vint16m2_t vs2,
                                    size_t vl);
vint16m2_t __riscv_vmadd_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                    vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs1, vint16m4_t vs2,
                                    size_t vl);
vint16m4_t __riscv_vmadd_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                    vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs1, vint16m8_t vs2,
                                    size_t vl);
vint16m8_t __riscv_vmadd_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                    vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs1, vint32mf2_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vmadd_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      int32_t rs1, vint32mf2_t vs2,
                                      size_t vl);
vint32m1_t __riscv_vmadd_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs1, vint32m1_t vs2,
                                    size_t vl);
vint32m1_t __riscv_vmadd_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                    vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs1, vint32m2_t vs2,
                                    size_t vl);
vint32m2_t __riscv_vmadd_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                    vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs1, vint32m4_t vs2,
                                    size_t vl);
vint32m4_t __riscv_vmadd_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs1, vint32m8_t vs2,
                                    size_t vl);
vint32m8_t __riscv_vmadd_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                    vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs1, vint64m1_t vs2,
                                    size_t vl);
vint64m1_t __riscv_vmadd_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                    vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs1, vint64m2_t vs2,
                                    size_t vl);
vint64m2_t __riscv_vmadd_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                    vint64m2_t vs2, size_t vl);
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vint64m4_t __riscv_vmadd_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs1, vint64m4_t vs2,
                                      size_t vl);
vint64m4_t __riscv_vmadd_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                      vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs1, vint64m8_t vs2,
                                      size_t vl);
vint64m8_t __riscv_vmadd_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                      vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs1, vint8mf8_t vs2,
                                       size_t vl);
vint8mf8_t __riscv_vnmsub_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                       vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs1, vint8mf4_t vs2,
                                       size_t vl);
vint8mf4_t __riscv_vnmsub_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                       vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs1, vint8mf2_t vs2,
                                       size_t vl);
vint8mf2_t __riscv_vnmsub_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                       vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                     vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                     vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                     vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                     vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                     vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                     vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                     vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                     vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs1, vint16mf4_t vs2,
                                         size_t vl);
vint16mf4_t __riscv_vnmsub_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                         int16_t rs1, vint16mf4_t vs2,
                                         size_t vl);
vint16mf2_t __riscv_vnmsub_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs1, vint16mf2_t vs2,
                                         size_t vl);
vint16mf2_t __riscv_vnmsub_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                         int16_t rs1, vint16mf2_t vs2,
                                         size_t vl);
vint16m1_t __riscv_vnmsub_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs1, vint16m1_t vs2,
                                       size_t vl);
vint16m1_t __riscv_vnmsub_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                       vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs1, vint16m2_t vs2,
                                       size_t vl);
vint16m2_t __riscv_vnmsub_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                       vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs1, vint16m4_t vs2,
                                       size_t vl);
vint16m4_t __riscv_vnmsub_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, int16_t rs1,
```

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                                      vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs1, vint16m8_t vs2,
                                      size_t vl);
vint16m8_t __riscv_vnmsub_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                      vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs1, vint32mf2_t vs2,
                                        size_t vl);
vint32mf2_t __riscv_vnmsub_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        int32_t rs1, vint32mf2_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vnmsub_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs1, vint32m1_t vs2,
                                      size_t vl);
vint32m1_t __riscv_vnmsub_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                      vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs1, vint32m2_t vs2,
                                      size_t vl);
vint32m2_t __riscv_vnmsub_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                      vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs1, vint32m4_t vs2,
                                      size_t vl);
vint32m4_t __riscv_vnmsub_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                      vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs1, vint32m8_t vs2,
                                      size_t vl);
vint32m8_t __riscv_vnmsub_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                      vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs1, vint64m1_t vs2,
                                      size_t vl);
vint64m1_t __riscv_vnmsub_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                      vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs1, vint64m2_t vs2,
                                      size_t vl);
vint64m2_t __riscv_vnmsub_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                      vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs1, vint64m4_t vs2,
                                      size_t vl);
vint64m4_t __riscv_vnmsub_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                      vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs1, vint64m8_t vs2,
                                      size_t vl);
vint64m8_t __riscv_vnmsub_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                      vint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs1, vuint8mf8_t vs2,
                                      size_t vl);
vuint8mf8_t __riscv_vmacc_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      uint8_t rs1, vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs1, vuint8mf4_t vs2,
                                      size_t vl);
vuint8mf4_t __riscv_vmacc_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      uint8_t rs1, vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs1, vuint8mf2_t vs2,
                                      size_t vl);
vuint8mf2_t __riscv_vmacc_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      uint8_t rs1, vuint8mf2_t vs2, size_t vl);
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```
vuint8m1_t __riscv_vmacc_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                                     vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                     vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                                     vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                     vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                                     vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                     vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                                     vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                     vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs1, vuint16mf4_t vs2,
                                         size_t vl);
vuint16mf4_t __riscv_vmacc_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         uint16_t rs1, vuint16mf4_t vs2,
                                         size_t vl);
vuint16mf2_t __riscv_vmacc_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs1, vuint16mf2_t vs2,
                                         size_t vl);
vuint16mf2_t __riscv_vmacc_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         uint16_t rs1, vuint16mf2_t vs2,
                                         size_t vl);
vuint16m1_t __riscv_vmacc_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs1, vuint16m1_t vs2,
                                       size_t vl);
vuint16m1_t __riscv_vmacc_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       uint16_t rs1, vuint16m1_t vs2,
                                       size_t vl);
vuint16m2_t __riscv_vmacc_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs1, vuint16m2_t vs2,
                                       size_t vl);
vuint16m2_t __riscv_vmacc_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       uint16_t rs1, vuint16m2_t vs2,
                                       size_t vl);
vuint16m4_t __riscv_vmacc_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs1, vuint16m4_t vs2,
                                       size_t vl);
vuint16m4_t __riscv_vmacc_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       uint16_t rs1, vuint16m4_t vs2,
                                       size_t vl);
vuint16m8_t __riscv_vmacc_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs1, vuint16m8_t vs2,
                                       size_t vl);
vuint16m8_t __riscv_vmacc_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       uint16_t rs1, vuint16m8_t vs2,
                                       size_t vl);
vuint32mf2_t __riscv_vmacc_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs1, vuint32mf2_t vs2,
                                         size_t vl);
vuint32mf2_t __riscv_vmacc_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         uint32_t rs1, vuint32mf2_t vs2,
                                         size_t vl);
vuint32m1_t __riscv_vmacc_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs1, vuint32m1_t vs2,
                                       size_t vl);
vuint32m1_t __riscv_vmacc_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       uint32_t rs1, vuint32m1_t vs2,
                                       size_t vl);
vuint32m2_t __riscv_vmacc_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs1, vuint32m2_t vs2,
                                       size_t vl);
```

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vuint32m2_t __riscv_vmacc_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       uint32_t rs1, vuint32m2_t vs2,
                                       size_t vl);
vuint32m4_t __riscv_vmacc_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs1, vuint32m4_t vs2,
                                       size_t vl);
vuint32m4_t __riscv_vmacc_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       uint32_t rs1, vuint32m4_t vs2,
                                       size_t vl);
vuint32m8_t __riscv_vmacc_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs1, vuint32m8_t vs2,
                                       size_t vl);
vuint32m8_t __riscv_vmacc_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       uint32_t rs1, vuint32m8_t vs2,
                                       size_t vl);
vuint64m1_t __riscv_vmacc_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs1, vuint64m1_t vs2,
                                       size_t vl);
vuint64m1_t __riscv_vmacc_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       uint64_t rs1, vuint64m1_t vs2,
                                       size_t vl);
vuint64m2_t __riscv_vmacc_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs1, vuint64m2_t vs2,
                                       size_t vl);
vuint64m2_t __riscv_vmacc_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       uint64_t rs1, vuint64m2_t vs2,
                                       size_t vl);
vuint64m4_t __riscv_vmacc_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs1, vuint64m4_t vs2,
                                       size_t vl);
vuint64m4_t __riscv_vmacc_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       uint64_t rs1, vuint64m4_t vs2,
                                       size_t vl);
vuint64m8_t __riscv_vmacc_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs1, vuint64m8_t vs2,
                                       size_t vl);
vuint64m8_t __riscv_vmacc_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       uint64_t rs1, vuint64m8_t vs2,
                                       size_t vl);
vuint8mf8_t __riscv_vnmsac_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs1, vuint8mf8_t vs2,
                                        size_t vl);
vuint8mf8_t __riscv_vnmsac_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                        uint8_t rs1, vuint8mf8_t vs2,
                                        size_t vl);
vuint8mf4_t __riscv_vnmsac_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs1, vuint8mf4_t vs2,
                                        size_t vl);
vuint8mf4_t __riscv_vnmsac_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                        uint8_t rs1, vuint8mf4_t vs2,
                                        size_t vl);
vuint8mf2_t __riscv_vnmsac_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs1, vuint8mf2_t vs2,
                                        size_t vl);
vuint8mf2_t __riscv_vnmsac_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                        uint8_t rs1, vuint8mf2_t vs2,
                                        size_t vl);
vuint8m1_t __riscv_vnmsac_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs1, vuint8m1_t vs2,
                                      size_t vl);
vuint8m1_t __riscv_vnmsac_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                      vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs1, vuint8m2_t vs2,
                                      size_t vl);
vuint8m2_t __riscv_vnmsac_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                      vuint8m2_t vs2, size_t vl);
```

```
vuint8m4_t __riscv_vnmsac_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs1, vuint8m4_t vs2,
                                      size_t vl);
vuint8m4_t __riscv_vnmsac_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                      vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs1, vuint8m8_t vs2,
                                      size_t vl);
vuint8m8_t __riscv_vnmsac_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                      vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs1, vuint16mf4_t vs2,
                                          size_t vl);
vuint16mf4_t __riscv_vnmsac_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          uint16_t rs1, vuint16mf4_t vs2,
                                          size_t vl);
vuint16mf2_t __riscv_vnmsac_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs1, vuint16mf2_t vs2,
                                          size_t vl);
vuint16mf2_t __riscv_vnmsac_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                          uint16_t rs1, vuint16mf2_t vs2,
                                          size_t vl);
vuint16m1_t __riscv_vnmsac_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs1, vuint16m1_t vs2,
                                        size_t vl);
vuint16m1_t __riscv_vnmsac_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        uint16_t rs1, vuint16m1_t vs2,
                                        size_t vl);
vuint16m2_t __riscv_vnmsac_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs1, vuint16m2_t vs2,
                                        size_t vl);
vuint16m2_t __riscv_vnmsac_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        uint16_t rs1, vuint16m2_t vs2,
                                        size_t vl);
vuint16m4_t __riscv_vnmsac_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs1, vuint16m4_t vs2,
                                        size_t vl);
vuint16m4_t __riscv_vnmsac_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        uint16_t rs1, vuint16m4_t vs2,
                                        size_t vl);
vuint16m8_t __riscv_vnmsac_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs1, vuint16m8_t vs2,
                                        size_t vl);
vuint16m8_t __riscv_vnmsac_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        uint16_t rs1, vuint16m8_t vs2,
                                        size_t vl);
vuint32mf2_t __riscv_vnmsac_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs1, vuint32mf2_t vs2,
                                          size_t vl);
vuint32mf2_t __riscv_vnmsac_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          uint32_t rs1, vuint32mf2_t vs2,
                                          size_t vl);
vuint32m1_t __riscv_vnmsac_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs1, vuint32m1_t vs2,
                                        size_t vl);
vuint32m1_t __riscv_vnmsac_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        uint32_t rs1, vuint32m1_t vs2,
                                        size_t vl);
vuint32m2_t __riscv_vnmsac_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs1, vuint32m2_t vs2,
                                        size_t vl);
vuint32m2_t __riscv_vnmsac_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        uint32_t rs1, vuint32m2_t vs2,
                                        size_t vl);
vuint32m4_t __riscv_vnmsac_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs1, vuint32m4_t vs2,
                                        size_t vl);
```

```
vuint32m4_t __riscv_vnmsac_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        uint32_t rs1, vuint32m4_t vs2,
                                        size_t vl);
vuint32m8_t __riscv_vnmsac_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs1, vuint32m8_t vs2,
                                        size_t vl);
vuint32m8_t __riscv_vnmsac_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        uint32_t rs1, vuint32m8_t vs2,
                                        size_t vl);
vuint64m1_t __riscv_vnmsac_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs1, vuint64m1_t vs2,
                                        size_t vl);
vuint64m1_t __riscv_vnmsac_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        uint64_t rs1, vuint64m1_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vnmsac_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs1, vuint64m2_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vnmsac_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        uint64_t rs1, vuint64m2_t vs2,
                                        size_t vl);
vuint64m4_t __riscv_vnmsac_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs1, vuint64m4_t vs2,
                                        size_t vl);
vuint64m4_t __riscv_vnmsac_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        uint64_t rs1, vuint64m4_t vs2,
                                        size_t vl);
vuint64m8_t __riscv_vnmsac_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs1, vuint64m8_t vs2,
                                        size_t vl);
vuint64m8_t __riscv_vnmsac_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        uint64_t rs1, vuint64m8_t vs2,
                                        size_t vl);
vuint8mf8_t __riscv_vmadd_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs1, vuint8mf8_t vs2,
                                       size_t vl);
vuint8mf8_t __riscv_vmadd_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       uint8_t rs1, vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs1, vuint8mf4_t vs2,
                                       size_t vl);
vuint8mf4_t __riscv_vmadd_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       uint8_t rs1, vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs1, vuint8mf2_t vs2,
                                       size_t vl);
vuint8mf2_t __riscv_vmadd_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       uint8_t rs1, vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                                     vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                     vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                                     vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                     vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                                     vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                     vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                                     vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                     vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs1, vuint16mf4_t vs2,
                                         size_t vl);
```

```
vuint16mf4_t __riscv_vmadd_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         uint16_t rs1, vuint16mf4_t vs2,
                                         size_t vl);
vuint16mf2_t __riscv_vmadd_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs1, vuint16mf2_t vs2,
                                         size_t vl);
vuint16mf2_t __riscv_vmadd_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         uint16_t rs1, vuint16mf2_t vs2,
                                         size_t vl);
vuint16m1_t __riscv_vmadd_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs1, vuint16m1_t vs2,
                                       size_t vl);
vuint16m1_t __riscv_vmadd_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       uint16_t rs1, vuint16m1_t vs2,
                                       size_t vl);
vuint16m2_t __riscv_vmadd_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs1, vuint16m2_t vs2,
                                       size_t vl);
vuint16m2_t __riscv_vmadd_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       uint16_t rs1, vuint16m2_t vs2,
                                       size_t vl);
vuint16m4_t __riscv_vmadd_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs1, vuint16m4_t vs2,
                                       size_t vl);
vuint16m4_t __riscv_vmadd_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       uint16_t rs1, vuint16m4_t vs2,
                                       size_t vl);
vuint16m8_t __riscv_vmadd_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs1, vuint16m8_t vs2,
                                       size_t vl);
vuint16m8_t __riscv_vmadd_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       uint16_t rs1, vuint16m8_t vs2,
                                       size_t vl);
vuint32mf2_t __riscv_vmadd_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs1, vuint32mf2_t vs2,
                                         size_t vl);
vuint32mf2_t __riscv_vmadd_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         uint32_t rs1, vuint32mf2_t vs2,
                                         size_t vl);
vuint32m1_t __riscv_vmadd_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs1, vuint32m1_t vs2,
                                       size_t vl);
vuint32m1_t __riscv_vmadd_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       uint32_t rs1, vuint32m1_t vs2,
                                       size_t vl);
vuint32m2_t __riscv_vmadd_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs1, vuint32m2_t vs2,
                                       size_t vl);
vuint32m2_t __riscv_vmadd_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       uint32_t rs1, vuint32m2_t vs2,
                                       size_t vl);
vuint32m4_t __riscv_vmadd_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs1, vuint32m4_t vs2,
                                       size_t vl);
vuint32m4_t __riscv_vmadd_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       uint32_t rs1, vuint32m4_t vs2,
                                       size_t vl);
vuint32m8_t __riscv_vmadd_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs1, vuint32m8_t vs2,
                                       size_t vl);
vuint32m8_t __riscv_vmadd_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                       uint32_t rs1, vuint32m8_t vs2,
                                       size_t vl);
vuint64m1_t __riscv_vmadd_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs1, vuint64m1_t vs2,
                                       size_t vl);
vuint64m1_t __riscv_vmadd_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
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                                    uint64_t rs1, vuint64m1_t vs2,
                                    size_t vl);
vuint64m2_t __riscv_vmadd_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs1, vuint64m2_t vs2,
                                    size_t vl);
vuint64m2_t __riscv_vmadd_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                    uint64_t rs1, vuint64m2_t vs2,
                                    size_t vl);
vuint64m4_t __riscv_vmadd_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs1, vuint64m4_t vs2,
                                    size_t vl);
vuint64m4_t __riscv_vmadd_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                    uint64_t rs1, vuint64m4_t vs2,
                                    size_t vl);
vuint64m8_t __riscv_vmadd_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs1, vuint64m8_t vs2,
                                    size_t vl);
vuint64m8_t __riscv_vmadd_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                    uint64_t rs1, vuint64m8_t vs2,
                                    size_t vl);
vuint8mf8_t __riscv_vnmsub_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs1, vuint8mf8_t vs2,
                                     size_t vl);
vuint8mf8_t __riscv_vnmsub_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                     uint8_t rs1, vuint8mf8_t vs2,
                                     size_t vl);
vuint8mf4_t __riscv_vnmsub_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs1, vuint8mf4_t vs2,
                                     size_t vl);
vuint8mf4_t __riscv_vnmsub_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                     uint8_t rs1, vuint8mf4_t vs2,
                                     size_t vl);
vuint8mf2_t __riscv_vnmsub_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs1, vuint8mf2_t vs2,
                                     size_t vl);
vuint8mf2_t __riscv_vnmsub_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                     uint8_t rs1, vuint8mf2_t vs2,
                                     size_t vl);
vuint8m1_t __riscv_vnmsub_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs1, vuint8m1_t vs2,
                                    size_t vl);
vuint8m1_t __riscv_vnmsub_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                    vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs1, vuint8m2_t vs2,
                                    size_t vl);
vuint8m2_t __riscv_vnmsub_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                    vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs1, vuint8m4_t vs2,
                                    size_t vl);
vuint8m4_t __riscv_vnmsub_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                    vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs1, vuint8m8_t vs2,
                                    size_t vl);
vuint8m8_t __riscv_vnmsub_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                    vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs1, vuint16mf4_t vs2,
                                       size_t vl);
vuint16mf4_t __riscv_vnmsub_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                       uint16_t rs1, vuint16mf4_t vs2,
                                       size_t vl);
vuint16mf2_t __riscv_vnmsub_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs1, vuint16mf2_t vs2,
                                       size_t vl);
```

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vuint16mf2_t __riscv_vnmsub_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                          uint16_t rs1, vuint16mf2_t vs2,
                                          size_t vl);
vuint16m1_t __riscv_vnmsub_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs1, vuint16m1_t vs2,
                                        size_t vl);
vuint16m1_t __riscv_vnmsub_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        uint16_t rs1, vuint16m1_t vs2,
                                        size_t vl);
vuint16m2_t __riscv_vnmsub_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs1, vuint16m2_t vs2,
                                        size_t vl);
vuint16m2_t __riscv_vnmsub_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        uint16_t rs1, vuint16m2_t vs2,
                                        size_t vl);
vuint16m4_t __riscv_vnmsub_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs1, vuint16m4_t vs2,
                                        size_t vl);
vuint16m4_t __riscv_vnmsub_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        uint16_t rs1, vuint16m4_t vs2,
                                        size_t vl);
vuint16m8_t __riscv_vnmsub_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs1, vuint16m8_t vs2,
                                        size_t vl);
vuint16m8_t __riscv_vnmsub_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        uint16_t rs1, vuint16m8_t vs2,
                                        size_t vl);
vuint32mf2_t __riscv_vnmsub_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs1, vuint32mf2_t vs2,
                                          size_t vl);
vuint32mf2_t __riscv_vnmsub_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          uint32_t rs1, vuint32mf2_t vs2,
                                          size_t vl);
vuint32m1_t __riscv_vnmsub_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs1, vuint32m1_t vs2,
                                        size_t vl);
vuint32m1_t __riscv_vnmsub_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        uint32_t rs1, vuint32m1_t vs2,
                                        size_t vl);
vuint32m2_t __riscv_vnmsub_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs1, vuint32m2_t vs2,
                                        size_t vl);
vuint32m2_t __riscv_vnmsub_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        uint32_t rs1, vuint32m2_t vs2,
                                        size_t vl);
vuint32m4_t __riscv_vnmsub_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs1, vuint32m4_t vs2,
                                        size_t vl);
vuint32m4_t __riscv_vnmsub_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        uint32_t rs1, vuint32m4_t vs2,
                                        size_t vl);
vuint32m8_t __riscv_vnmsub_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs1, vuint32m8_t vs2,
                                        size_t vl);
vuint32m8_t __riscv_vnmsub_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        uint32_t rs1, vuint32m8_t vs2,
                                        size_t vl);
vuint64m1_t __riscv_vnmsub_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs1, vuint64m1_t vs2,
                                        size_t vl);
vuint64m1_t __riscv_vnmsub_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        uint64_t rs1, vuint64m1_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vnmsub_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs1, vuint64m2_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vnmsub_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
```

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                                      uint64_t rs1, vuint64m2_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vnmsub_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs1, vuint64m4_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vnmsub_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      uint64_t rs1, vuint64m4_t vs2,
                                      size_t vl);
vuint64m8_t __riscv_vnmsub_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs1, vuint64m8_t vs2,
                                      size_t vl);
vuint64m8_t __riscv_vnmsub_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      uint64_t rs1, vuint64m8_t vs2,
                                      size_t vl);
// masked functions
vint8mf8_t __riscv_vmacc_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs1, vint8mf8_t vs2,
                                     size_t vl);
vint8mf8_t __riscv_vmacc_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                     vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs1, vint8mf4_t vs2,
                                     size_t vl);
vint8mf4_t __riscv_vmacc_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                     vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs1, vint8mf2_t vs2,
                                     size_t vl);
vint8mf2_t __riscv_vmacc_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                     vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                    vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                    vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                    vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                    vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                    vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                    vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                    vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                    vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs1, vint16mf4_t vs2,
                                       size_t vl);
vint16mf4_t __riscv_vmacc_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                       int16_t rs1, vint16mf4_t vs2,
                                       size_t vl);
vint16mf2_t __riscv_vmacc_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs1, vint16mf2_t vs2,
                                       size_t vl);
vint16mf2_t __riscv_vmacc_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                       int16_t rs1, vint16mf2_t vs2,
                                       size_t vl);
vint16m1_t __riscv_vmacc_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs1, vint16m1_t vs2,
                                     size_t vl);
vint16m1_t __riscv_vmacc_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                     vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                     vint16m2_t vs1, vint16m2_t vs2,
                                     size_t vl);
vint16m2_t __riscv_vmacc_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
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                                     vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                     vint16m4_t vs1, vint16m4_t vs2,
                                     size_t vl);
vint16m4_t __riscv_vmacc_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                     vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                     vint16m8_t vs1, vint16m8_t vs2,
                                     size_t vl);
vint16m8_t __riscv_vmacc_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                     vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs1, vint32mf2_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vmacc_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      int32_t rs1, vint32mf2_t vs2,
                                      size_t vl);
vint32m1_t __riscv_vmacc_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs1, vint32m1_t vs2,
                                     size_t vl);
vint32m1_t __riscv_vmacc_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                     vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs1, vint32m2_t vs2,
                                     size_t vl);
vint32m2_t __riscv_vmacc_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                     vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                     vint32m4_t vs1, vint32m4_t vs2,
                                     size_t vl);
vint32m4_t __riscv_vmacc_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                     vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                     vint32m8_t vs1, vint32m8_t vs2,
                                     size_t vl);
vint32m8_t __riscv_vmacc_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                     vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs1, vint64m1_t vs2,
                                     size_t vl);
vint64m1_t __riscv_vmacc_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                     vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs1, vint64m2_t vs2,
                                     size_t vl);
vint64m2_t __riscv_vmacc_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                     vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs1, vint64m4_t vs2,
                                     size_t vl);
vint64m4_t __riscv_vmacc_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                     vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                     vint64m8_t vs1, vint64m8_t vs2,
                                     size_t vl);
vint64m8_t __riscv_vmacc_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                     vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs1, vint8mf8_t vs2,
                                      size_t vl);
vint8mf8_t __riscv_vnmsac_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                      vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs1, vint8mf4_t vs2,
                                      size_t vl);
vint8mf4_t __riscv_vnmsac_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                      vint8mf4_t vs2, size_t vl);
```

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vint8mf2_t __riscv_vnmsac_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                        vint8mf2_t vs1, vint8mf2_t vs2,
                                        size_t vl);
vint8mf2_t __riscv_vnmsac_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                        vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                      vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                      vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                      vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                      vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                      vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                      vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                      vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                      vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          vint16mf4_t vs1, vint16mf4_t vs2,
                                          size_t vl);
vint16mf4_t __riscv_vnmsac_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          int16_t rs1, vint16mf4_t vs2,
                                          size_t vl);
vint16mf2_t __riscv_vnmsac_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          vint16mf2_t vs1, vint16mf2_t vs2,
                                          size_t vl);
vint16mf2_t __riscv_vnmsac_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          int16_t rs1, vint16mf2_t vs2,
                                          size_t vl);
vint16m1_t __riscv_vnmsac_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                        vint16m1_t vs1, vint16m1_t vs2,
                                        size_t vl);
vint16m1_t __riscv_vnmsac_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                        int16_t rs1, vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                        vint16m2_t vs1, vint16m2_t vs2,
                                        size_t vl);
vint16m2_t __riscv_vnmsac_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                        vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                        vint16m4_t vs1, vint16m4_t vs2,
                                        size_t vl);
vint16m4_t __riscv_vnmsac_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                        vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                        vint16m8_t vs1, vint16m8_t vs2,
                                        size_t vl);
vint16m8_t __riscv_vnmsac_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                        vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          vint32mf2_t vs1, vint32mf2_t vs2,
                                          size_t vl);
vint32mf2_t __riscv_vnmsac_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          int32_t rs1, vint32mf2_t vs2,
                                          size_t vl);
vint32m1_t __riscv_vnmsac_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        vint32m1_t vs1, vint32m1_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vnmsac_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        int32_t rs1, vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        vint32m2_t vs1, vint32m2_t vs2,
                                        size_t vl);
```

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vint32m2_t __riscv_vnmsac_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        int32_t rs1, vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        vint32m4_t vs1, vint32m4_t vs2,
                                        size_t vl);
vint32m4_t __riscv_vnmsac_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                        vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                        vint32m8_t vs1, vint32m8_t vs2,
                                        size_t vl);
vint32m8_t __riscv_vnmsac_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                        vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        vint64m1_t vs1, vint64m1_t vs2,
                                        size_t vl);
vint64m1_t __riscv_vnmsac_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        int64_t rs1, vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        vint64m2_t vs1, vint64m2_t vs2,
                                        size_t vl);
vint64m2_t __riscv_vnmsac_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        int64_t rs1, vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        vint64m4_t vs1, vint64m4_t vs2,
                                        size_t vl);
vint64m4_t __riscv_vnmsac_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        int64_t rs1, vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        vint64m8_t vs1, vint64m8_t vs2,
                                        size_t vl);
vint64m8_t __riscv_vnmsac_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                        vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs1, vint8mf8_t vs2,
                                       size_t vl);
vint8mf8_t __riscv_vmadd_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                       vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs1, vint8mf4_t vs2,
                                       size_t vl);
vint8mf4_t __riscv_vmadd_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                       vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs1, vint8mf2_t vs2,
                                       size_t vl);
vint8mf2_t __riscv_vmadd_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                       vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                     vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                     vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                     vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                     vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                     vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                     vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                     vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                     vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs1, vint16mf4_t vs2,
                                         size_t vl);
vint16mf4_t __riscv_vmadd_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
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                                      int16_t rs1, vint16mf4_t vs2,
                                      size_t vl);
vint16mf2_t __riscv_vmadd_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs1, vint16mf2_t vs2,
                                      size_t vl);
vint16mf2_t __riscv_vmadd_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      int16_t rs1, vint16mf2_t vs2,
                                      size_t vl);
vint16m1_t __riscv_vmadd_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs1, vint16m1_t vs2,
                                    size_t vl);
vint16m1_t __riscv_vmadd_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                    vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmadd_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs1, vint16m2_t vs2,
                                    size_t vl);
vint16m2_t __riscv_vmadd_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                    vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs1, vint16m4_t vs2,
                                    size_t vl);
vint16m4_t __riscv_vmadd_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                    vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs1, vint16m8_t vs2,
                                    size_t vl);
vint16m8_t __riscv_vmadd_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                    vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs1, vint32mf2_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vmadd_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                      int32_t rs1, vint32mf2_t vs2,
                                      size_t vl);
vint32m1_t __riscv_vmadd_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs1, vint32m1_t vs2,
                                    size_t vl);
vint32m1_t __riscv_vmadd_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                    vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs1, vint32m2_t vs2,
                                    size_t vl);
vint32m2_t __riscv_vmadd_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                    vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs1, vint32m4_t vs2,
                                    size_t vl);
vint32m4_t __riscv_vmadd_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs1, vint32m8_t vs2,
                                    size_t vl);
vint32m8_t __riscv_vmadd_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                    vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs1, vint64m1_t vs2,
                                    size_t vl);
vint64m1_t __riscv_vmadd_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                    vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs1, vint64m2_t vs2,
                                    size_t vl);
vint64m2_t __riscv_vmadd_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                    vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs1, vint64m4_t vs2,
                                    size_t vl);
```

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vint64m4_t __riscv_vmadd_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                       vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs1, vint64m8_t vs2,
                                       size_t vl);
vint64m8_t __riscv_vmadd_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                       vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                        vint8mf8_t vs1, vint8mf8_t vs2,
                                        size_t vl);
vint8mf8_t __riscv_vnmsub_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                        vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                        vint8mf4_t vs1, vint8mf4_t vs2,
                                        size_t vl);
vint8mf4_t __riscv_vnmsub_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                        vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                        vint8mf2_t vs1, vint8mf2_t vs2,
                                        size_t vl);
vint8mf2_t __riscv_vnmsub_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                        vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                      vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                      vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                      vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                      vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                      vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                      vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                      vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                      vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          vint16mf4_t vs1, vint16mf4_t vs2,
                                          size_t vl);
vint16mf4_t __riscv_vnmsub_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          int16_t rs1, vint16mf4_t vs2,
                                          size_t vl);
vint16mf2_t __riscv_vnmsub_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          vint16mf2_t vs1, vint16mf2_t vs2,
                                          size_t vl);
vint16mf2_t __riscv_vnmsub_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          int16_t rs1, vint16mf2_t vs2,
                                          size_t vl);
vint16m1_t __riscv_vnmsub_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                        vint16m1_t vs1, vint16m1_t vs2,
                                        size_t vl);
vint16m1_t __riscv_vnmsub_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                        int16_t rs1, vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                        vint16m2_t vs1, vint16m2_t vs2,
                                        size_t vl);
vint16m2_t __riscv_vnmsub_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                        vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                        vint16m4_t vs1, vint16m4_t vs2,
                                        size_t vl);
vint16m4_t __riscv_vnmsub_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                        vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                        vint16m8_t vs1, vint16m8_t vs2,
```

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                                        size_t vl);
vint16m8_t __riscv_vnmsub_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                        vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          vint32mf2_t vs1, vint32mf2_t vs2,
                                          size_t vl);
vint32mf2_t __riscv_vnmsub_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          int32_t rs1, vint32mf2_t vs2,
                                          size_t vl);
vint32m1_t __riscv_vnmsub_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        vint32m1_t vs1, vint32m1_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vnmsub_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        int32_t rs1, vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        vint32m2_t vs1, vint32m2_t vs2,
                                        size_t vl);
vint32m2_t __riscv_vnmsub_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        int32_t rs1, vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        vint32m4_t vs1, vint32m4_t vs2,
                                        size_t vl);
vint32m4_t __riscv_vnmsub_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                        vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                        vint32m8_t vs1, vint32m8_t vs2,
                                        size_t vl);
vint32m8_t __riscv_vnmsub_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                        vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        vint64m1_t vs1, vint64m1_t vs2,
                                        size_t vl);
vint64m1_t __riscv_vnmsub_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        int64_t rs1, vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        vint64m2_t vs1, vint64m2_t vs2,
                                        size_t vl);
vint64m2_t __riscv_vnmsub_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        int64_t rs1, vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        vint64m4_t vs1, vint64m4_t vs2,
                                        size_t vl);
vint64m4_t __riscv_vnmsub_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        int64_t rs1, vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        vint64m8_t vs1, vint64m8_t vs2,
                                        size_t vl);
vint64m8_t __riscv_vnmsub_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                        vint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs1, vuint8mf8_t vs2,
                                        size_t vl);
vuint8mf8_t __riscv_vmacc_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                        uint8_t rs1, vuint8mf8_t vs2,
                                        size_t vl);
vuint8mf4_t __riscv_vmacc_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs1, vuint8mf4_t vs2,
                                        size_t vl);
vuint8mf4_t __riscv_vmacc_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                        uint8_t rs1, vuint8mf4_t vs2,
                                        size_t vl);
vuint8mf2_t __riscv_vmacc_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs1, vuint8mf2_t vs2,
                                        size_t vl);
vuint8mf2_t __riscv_vmacc_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                        uint8_t rs1, vuint8mf2_t vs2,
                                        size_t vl);
```

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vuint8m1_t __riscv_vmacc_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs1, vuint8m1_t vs2,
                                      size_t vl);
vuint8m1_t __riscv_vmacc_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                      vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs1, vuint8m2_t vs2,
                                      size_t vl);
vuint8m2_t __riscv_vmacc_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                      vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs1, vuint8m4_t vs2,
                                      size_t vl);
vuint8m4_t __riscv_vmacc_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                      vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs1, vuint8m8_t vs2,
                                      size_t vl);
vuint8m8_t __riscv_vmacc_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                      vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs1, vuint16mf4_t vs2,
                                          size_t vl);
vuint16mf4_t __riscv_vmacc_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          uint16_t rs1, vuint16mf4_t vs2,
                                          size_t vl);
vuint16mf2_t __riscv_vmacc_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs1, vuint16mf2_t vs2,
                                          size_t vl);
vuint16mf2_t __riscv_vmacc_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          uint16_t rs1, vuint16mf2_t vs2,
                                          size_t vl);
vuint16m1_t __riscv_vmacc_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs1, vuint16m1_t vs2,
                                        size_t vl);
vuint16m1_t __riscv_vmacc_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        uint16_t rs1, vuint16m1_t vs2,
                                        size_t vl);
vuint16m2_t __riscv_vmacc_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs1, vuint16m2_t vs2,
                                        size_t vl);
vuint16m2_t __riscv_vmacc_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        uint16_t rs1, vuint16m2_t vs2,
                                        size_t vl);
vuint16m4_t __riscv_vmacc_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs1, vuint16m4_t vs2,
                                        size_t vl);
vuint16m4_t __riscv_vmacc_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        uint16_t rs1, vuint16m4_t vs2,
                                        size_t vl);
vuint16m8_t __riscv_vmacc_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs1, vuint16m8_t vs2,
                                        size_t vl);
vuint16m8_t __riscv_vmacc_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        uint16_t rs1, vuint16m8_t vs2,
                                        size_t vl);
vuint32mf2_t __riscv_vmacc_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs1, vuint32mf2_t vs2,
                                          size_t vl);
vuint32mf2_t __riscv_vmacc_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          uint32_t rs1, vuint32mf2_t vs2,
                                          size_t vl);
vuint32m1_t __riscv_vmacc_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs1, vuint32m1_t vs2,
                                        size_t vl);
vuint32m1_t __riscv_vmacc_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        uint32_t rs1, vuint32m1_t vs2,
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                                      size_t vl);
vuint32m2_t __riscv_vmacc_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs1, vuint32m2_t vs2,
                                      size_t vl);
vuint32m2_t __riscv_vmacc_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                      uint32_t rs1, vuint32m2_t vs2,
                                      size_t vl);
vuint32m4_t __riscv_vmacc_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs1, vuint32m4_t vs2,
                                      size_t vl);
vuint32m4_t __riscv_vmacc_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                      uint32_t rs1, vuint32m4_t vs2,
                                      size_t vl);
vuint32m8_t __riscv_vmacc_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs1, vuint32m8_t vs2,
                                      size_t vl);
vuint32m8_t __riscv_vmacc_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                      uint32_t rs1, vuint32m8_t vs2,
                                      size_t vl);
vuint64m1_t __riscv_vmacc_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs1, vuint64m1_t vs2,
                                      size_t vl);
vuint64m1_t __riscv_vmacc_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                      uint64_t rs1, vuint64m1_t vs2,
                                      size_t vl);
vuint64m2_t __riscv_vmacc_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs1, vuint64m2_t vs2,
                                      size_t vl);
vuint64m2_t __riscv_vmacc_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                      uint64_t rs1, vuint64m2_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vmacc_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs1, vuint64m4_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vmacc_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      uint64_t rs1, vuint64m4_t vs2,
                                      size_t vl);
vuint64m8_t __riscv_vmacc_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs1, vuint64m8_t vs2,
                                      size_t vl);
vuint64m8_t __riscv_vmacc_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      uint64_t rs1, vuint64m8_t vs2,
                                      size_t vl);
vuint8mf8_t __riscv_vnmsac_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs1, vuint8mf8_t vs2,
                                       size_t vl);
vuint8mf8_t __riscv_vnmsac_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       uint8_t rs1, vuint8mf8_t vs2,
                                       size_t vl);
vuint8mf4_t __riscv_vnmsac_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs1, vuint8mf4_t vs2,
                                       size_t vl);
vuint8mf4_t __riscv_vnmsac_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       uint8_t rs1, vuint8mf4_t vs2,
                                       size_t vl);
vuint8mf2_t __riscv_vnmsac_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs1, vuint8mf2_t vs2,
                                       size_t vl);
vuint8mf2_t __riscv_vnmsac_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       uint8_t rs1, vuint8mf2_t vs2,
                                       size_t vl);
vuint8m1_t __riscv_vnmsac_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                     vuint8m1_t vs1, vuint8m1_t vs2,
                                     size_t vl);
vuint8m1_t __riscv_vnmsac_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                     vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
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                                    vuint8m2_t vs1, vuint8m2_t vs2,
                                    size_t vl);
vuint8m2_t __riscv_vnmsac_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                    vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs1, vuint8m4_t vs2,
                                    size_t vl);
vuint8m4_t __riscv_vnmsac_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                    vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs1, vuint8m8_t vs2,
                                    size_t vl);
vuint8m8_t __riscv_vnmsac_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                    vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs1, vuint16mf4_t vs2,
                                       size_t vl);
vuint16mf4_t __riscv_vnmsac_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       uint16_t rs1, vuint16mf4_t vs2,
                                       size_t vl);
vuint16mf2_t __riscv_vnmsac_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs1, vuint16mf2_t vs2,
                                       size_t vl);
vuint16mf2_t __riscv_vnmsac_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                       uint16_t rs1, vuint16mf2_t vs2,
                                       size_t vl);
vuint16m1_t __riscv_vnmsac_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs1, vuint16m1_t vs2,
                                      size_t vl);
vuint16m1_t __riscv_vnmsac_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      uint16_t rs1, vuint16m1_t vs2,
                                      size_t vl);
vuint16m2_t __riscv_vnmsac_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs1, vuint16m2_t vs2,
                                      size_t vl);
vuint16m2_t __riscv_vnmsac_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                      uint16_t rs1, vuint16m2_t vs2,
                                      size_t vl);
vuint16m4_t __riscv_vnmsac_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs1, vuint16m4_t vs2,
                                      size_t vl);
vuint16m4_t __riscv_vnmsac_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                      uint16_t rs1, vuint16m4_t vs2,
                                      size_t vl);
vuint16m8_t __riscv_vnmsac_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs1, vuint16m8_t vs2,
                                      size_t vl);
vuint16m8_t __riscv_vnmsac_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                      uint16_t rs1, vuint16m8_t vs2,
                                      size_t vl);
vuint32mf2_t __riscv_vnmsac_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs1, vuint32mf2_t vs2,
                                       size_t vl);
vuint32mf2_t __riscv_vnmsac_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                       uint32_t rs1, vuint32mf2_t vs2,
                                       size_t vl);
vuint32m1_t __riscv_vnmsac_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs1, vuint32m1_t vs2,
                                      size_t vl);
vuint32m1_t __riscv_vnmsac_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                      uint32_t rs1, vuint32m1_t vs2,
                                      size_t vl);
vuint32m2_t __riscv_vnmsac_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs1, vuint32m2_t vs2,
                                      size_t vl);
vuint32m2_t __riscv_vnmsac_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                      uint32_t rs1, vuint32m2_t vs2,
```

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                                      size_t vl);
vuint32m4_t __riscv_vnmsac_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs1, vuint32m4_t vs2,
                                      size_t vl);
vuint32m4_t __riscv_vnmsac_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                      uint32_t rs1, vuint32m4_t vs2,
                                      size_t vl);
vuint32m8_t __riscv_vnmsac_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs1, vuint32m8_t vs2,
                                      size_t vl);
vuint32m8_t __riscv_vnmsac_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                      uint32_t rs1, vuint32m8_t vs2,
                                      size_t vl);
vuint64m1_t __riscv_vnmsac_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs1, vuint64m1_t vs2,
                                      size_t vl);
vuint64m1_t __riscv_vnmsac_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                      uint64_t rs1, vuint64m1_t vs2,
                                      size_t vl);
vuint64m2_t __riscv_vnmsac_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs1, vuint64m2_t vs2,
                                      size_t vl);
vuint64m2_t __riscv_vnmsac_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                      uint64_t rs1, vuint64m2_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vnmsac_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs1, vuint64m4_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vnmsac_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      uint64_t rs1, vuint64m4_t vs2,
                                      size_t vl);
vuint64m8_t __riscv_vnmsac_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs1, vuint64m8_t vs2,
                                      size_t vl);
vuint64m8_t __riscv_vnmsac_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      uint64_t rs1, vuint64m8_t vs2,
                                      size_t vl);
vuint8mf8_t __riscv_vmadd_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs1, vuint8mf8_t vs2,
                                     size_t vl);
vuint8mf8_t __riscv_vmadd_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                     uint8_t rs1, vuint8mf8_t vs2,
                                     size_t vl);
vuint8mf4_t __riscv_vmadd_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs1, vuint8mf4_t vs2,
                                     size_t vl);
vuint8mf4_t __riscv_vmadd_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                     uint8_t rs1, vuint8mf4_t vs2,
                                     size_t vl);
vuint8mf2_t __riscv_vmadd_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs1, vuint8mf2_t vs2,
                                     size_t vl);
vuint8mf2_t __riscv_vmadd_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                     uint8_t rs1, vuint8mf2_t vs2,
                                     size_t vl);
vuint8m1_t __riscv_vmadd_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs1, vuint8m1_t vs2,
                                    size_t vl);
vuint8m1_t __riscv_vmadd_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                    vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs1, vuint8m2_t vs2,
                                    size_t vl);
vuint8m2_t __riscv_vmadd_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                    vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs1, vuint8m4_t vs2,
```

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                                    size_t vl);
vuint8m4_t __riscv_vmadd_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                      vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs1, vuint8m8_t vs2,
                                      size_t vl);
vuint8m8_t __riscv_vmadd_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                      vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs1, vuint16mf4_t vs2,
                                          size_t vl);
vuint16mf4_t __riscv_vmadd_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          uint16_t rs1, vuint16mf4_t vs2,
                                          size_t vl);
vuint16mf2_t __riscv_vmadd_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs1, vuint16mf2_t vs2,
                                          size_t vl);
vuint16mf2_t __riscv_vmadd_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          uint16_t rs1, vuint16mf2_t vs2,
                                          size_t vl);
vuint16m1_t __riscv_vmadd_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs1, vuint16m1_t vs2,
                                        size_t vl);
vuint16m1_t __riscv_vmadd_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        uint16_t rs1, vuint16m1_t vs2,
                                        size_t vl);
vuint16m2_t __riscv_vmadd_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs1, vuint16m2_t vs2,
                                        size_t vl);
vuint16m2_t __riscv_vmadd_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        uint16_t rs1, vuint16m2_t vs2,
                                        size_t vl);
vuint16m4_t __riscv_vmadd_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs1, vuint16m4_t vs2,
                                        size_t vl);
vuint16m4_t __riscv_vmadd_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        uint16_t rs1, vuint16m4_t vs2,
                                        size_t vl);
vuint16m8_t __riscv_vmadd_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs1, vuint16m8_t vs2,
                                        size_t vl);
vuint16m8_t __riscv_vmadd_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        uint16_t rs1, vuint16m8_t vs2,
                                        size_t vl);
vuint32mf2_t __riscv_vmadd_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs1, vuint32mf2_t vs2,
                                          size_t vl);
vuint32mf2_t __riscv_vmadd_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          uint32_t rs1, vuint32mf2_t vs2,
                                          size_t vl);
vuint32m1_t __riscv_vmadd_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs1, vuint32m1_t vs2,
                                        size_t vl);
vuint32m1_t __riscv_vmadd_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        uint32_t rs1, vuint32m1_t vs2,
                                        size_t vl);
vuint32m2_t __riscv_vmadd_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs1, vuint32m2_t vs2,
                                        size_t vl);
vuint32m2_t __riscv_vmadd_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        uint32_t rs1, vuint32m2_t vs2,
                                        size_t vl);
vuint32m4_t __riscv_vmadd_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs1, vuint32m4_t vs2,
                                        size_t vl);
vuint32m4_t __riscv_vmadd_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        uint32_t rs1, vuint32m4_t vs2,
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                                      size_t vl);
vuint32m8_t __riscv_vmadd_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs1, vuint32m8_t vs2,
                                      size_t vl);
vuint32m8_t __riscv_vmadd_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                      uint32_t rs1, vuint32m8_t vs2,
                                      size_t vl);
vuint64m1_t __riscv_vmadd_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs1, vuint64m1_t vs2,
                                      size_t vl);
vuint64m1_t __riscv_vmadd_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                      uint64_t rs1, vuint64m1_t vs2,
                                      size_t vl);
vuint64m2_t __riscv_vmadd_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs1, vuint64m2_t vs2,
                                      size_t vl);
vuint64m2_t __riscv_vmadd_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                      uint64_t rs1, vuint64m2_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vmadd_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs1, vuint64m4_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vmadd_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                      uint64_t rs1, vuint64m4_t vs2,
                                      size_t vl);
vuint64m8_t __riscv_vmadd_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs1, vuint64m8_t vs2,
                                      size_t vl);
vuint64m8_t __riscv_vmadd_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      uint64_t rs1, vuint64m8_t vs2,
                                      size_t vl);
vuint8mf8_t __riscv_vnmsub_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs1, vuint8mf8_t vs2,
                                       size_t vl);
vuint8mf8_t __riscv_vnmsub_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       uint8_t rs1, vuint8mf8_t vs2,
                                       size_t vl);
vuint8mf4_t __riscv_vnmsub_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs1, vuint8mf4_t vs2,
                                       size_t vl);
vuint8mf4_t __riscv_vnmsub_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       uint8_t rs1, vuint8mf4_t vs2,
                                       size_t vl);
vuint8mf2_t __riscv_vnmsub_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs1, vuint8mf2_t vs2,
                                       size_t vl);
vuint8mf2_t __riscv_vnmsub_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       uint8_t rs1, vuint8mf2_t vs2,
                                       size_t vl);
vuint8m1_t __riscv_vnmsub_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                     vuint8m1_t vs1, vuint8m1_t vs2,
                                     size_t vl);
vuint8m1_t __riscv_vnmsub_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                     vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                     vuint8m2_t vs1, vuint8m2_t vs2,
                                     size_t vl);
vuint8m2_t __riscv_vnmsub_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                     vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                     vuint8m4_t vs1, vuint8m4_t vs2,
                                     size_t vl);
vuint8m4_t __riscv_vnmsub_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                     vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                     vuint8m8_t vs1, vuint8m8_t vs2,
                                     size_t vl);
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vuint8m8_t __riscv_vnmsub_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                       vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                           vuint16mf4_t vs1, vuint16mf4_t vs2,
                                           size_t vl);
vuint16mf4_t __riscv_vnmsub_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                           uint16_t rs1, vuint16mf4_t vs2,
                                           size_t vl);
vuint16mf2_t __riscv_vnmsub_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                           vuint16mf2_t vs1, vuint16mf2_t vs2,
                                           size_t vl);
vuint16mf2_t __riscv_vnmsub_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                           uint16_t rs1, vuint16mf2_t vs2,
                                           size_t vl);
vuint16m1_t __riscv_vnmsub_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs1, vuint16m1_t vs2,
                                         size_t vl);
vuint16m1_t __riscv_vnmsub_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         uint16_t rs1, vuint16m1_t vs2,
                                         size_t vl);
vuint16m2_t __riscv_vnmsub_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs1, vuint16m2_t vs2,
                                         size_t vl);
vuint16m2_t __riscv_vnmsub_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         uint16_t rs1, vuint16m2_t vs2,
                                         size_t vl);
vuint16m4_t __riscv_vnmsub_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs1, vuint16m4_t vs2,
                                         size_t vl);
vuint16m4_t __riscv_vnmsub_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         uint16_t rs1, vuint16m4_t vs2,
                                         size_t vl);
vuint16m8_t __riscv_vnmsub_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs1, vuint16m8_t vs2,
                                         size_t vl);
vuint16m8_t __riscv_vnmsub_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         uint16_t rs1, vuint16m8_t vs2,
                                         size_t vl);
vuint32mf2_t __riscv_vnmsub_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs1, vuint32mf2_t vs2,
                                           size_t vl);
vuint32mf2_t __riscv_vnmsub_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           uint32_t rs1, vuint32mf2_t vs2,
                                           size_t vl);
vuint32m1_t __riscv_vnmsub_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs1, vuint32m1_t vs2,
                                         size_t vl);
vuint32m1_t __riscv_vnmsub_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         uint32_t rs1, vuint32m1_t vs2,
                                         size_t vl);
vuint32m2_t __riscv_vnmsub_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs1, vuint32m2_t vs2,
                                         size_t vl);
vuint32m2_t __riscv_vnmsub_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         uint32_t rs1, vuint32m2_t vs2,
                                         size_t vl);
vuint32m4_t __riscv_vnmsub_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs1, vuint32m4_t vs2,
                                         size_t vl);
vuint32m4_t __riscv_vnmsub_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         uint32_t rs1, vuint32m4_t vs2,
                                         size_t vl);
vuint32m8_t __riscv_vnmsub_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs1, vuint32m8_t vs2,
                                         size_t vl);
vuint32m8_t __riscv_vnmsub_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         uint32_t rs1, vuint32m8_t vs2,
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                                        size_t vl);
vuint64m1_t __riscv_vnmsub_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint64m1_t vs1, vuint64m1_t vs2,
                                         size_t vl);
vuint64m1_t __riscv_vnmsub_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         uint64_t rs1, vuint64m1_t vs2,
                                         size_t vl);
vuint64m2_t __riscv_vnmsub_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint64m2_t vs1, vuint64m2_t vs2,
                                         size_t vl);
vuint64m2_t __riscv_vnmsub_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         uint64_t rs1, vuint64m2_t vs2,
                                         size_t vl);
vuint64m4_t __riscv_vnmsub_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         vuint64m4_t vs1, vuint64m4_t vs2,
                                         size_t vl);
vuint64m4_t __riscv_vnmsub_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         uint64_t rs1, vuint64m4_t vs2,
                                         size_t vl);
vuint64m8_t __riscv_vnmsub_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                         vuint64m8_t vs1, vuint64m8_t vs2,
                                         size_t vl);
vuint64m8_t __riscv_vnmsub_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                         uint64_t rs1, vuint64m8_t vs2,
                                         size_t vl);
// masked functions
vint8mf8_t __riscv_vmacc_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs1, vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmacc_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                     vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs1, vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                     vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs1, vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                     vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                   vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                   vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                   vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                   vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                   vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                   vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                   vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                   vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs1, vint16mf4_t vs2,
                                       size_t vl);
vint16mf4_t __riscv_vmacc_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       int16_t rs1, vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs1, vint16mf2_t vs2,
                                       size_t vl);
vint16mf2_t __riscv_vmacc_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       int16_t rs1, vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs1, vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
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                                    vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                                    vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                    vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                                    vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                    vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                                    vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                    vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs1, vint32mf2_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vmacc_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      int32_t rs1, vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs1, vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                    vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs1, vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                    vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                                    vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                                    vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                    vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs1, vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                    vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs1, vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                    vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs1, vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                    vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                                    vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                    vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs1, vint8mf8_t vs2,
                                     size_t vl);
vint8mf8_t __riscv_vnmsac_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                     vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs1, vint8mf4_t vs2,
                                     size_t vl);
vint8mf4_t __riscv_vnmsac_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                     vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs1, vint8mf2_t vs2,
                                     size_t vl);
vint8mf2_t __riscv_vnmsac_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                     vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                   vint8m1_t vs2, size_t vl);
```

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vint8m1_t __riscv_vnmsac_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                    vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                    vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                    vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                    vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                    vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                    vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                    vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs1, vint16mf4_t vs2,
                                        size_t vl);
vint16mf4_t __riscv_vnmsac_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        int16_t rs1, vint16mf4_t vs2,
                                        size_t vl);
vint16mf2_t __riscv_vnmsac_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs1, vint16mf2_t vs2,
                                        size_t vl);
vint16mf2_t __riscv_vnmsac_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        int16_t rs1, vint16mf2_t vs2,
                                        size_t vl);
vint16m1_t __riscv_vnmsac_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs1, vint16m1_t vs2,
                                      size_t vl);
vint16m1_t __riscv_vnmsac_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                      vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs1, vint16m2_t vs2,
                                      size_t vl);
vint16m2_t __riscv_vnmsac_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                      vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs1, vint16m4_t vs2,
                                      size_t vl);
vint16m4_t __riscv_vnmsac_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                      vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs1, vint16m8_t vs2,
                                      size_t vl);
vint16m8_t __riscv_vnmsac_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                      vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs1, vint32mf2_t vs2,
                                        size_t vl);
vint32mf2_t __riscv_vnmsac_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        int32_t rs1, vint32mf2_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vnmsac_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs1, vint32m1_t vs2,
                                      size_t vl);
vint32m1_t __riscv_vnmsac_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                      vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs1, vint32m2_t vs2,
                                      size_t vl);
vint32m2_t __riscv_vnmsac_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                      vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs1, vint32m4_t vs2,
                                      size_t vl);
vint32m4_t __riscv_vnmsac_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                      vint32m4_t vs2, size_t vl);
```

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vint32m8_t __riscv_vnmsac_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs1, vint32m8_t vs2,
                                      size_t vl);
vint32m8_t __riscv_vnmsac_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                      vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs1, vint64m1_t vs2,
                                      size_t vl);
vint64m1_t __riscv_vnmsac_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                      vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs1, vint64m2_t vs2,
                                      size_t vl);
vint64m2_t __riscv_vnmsac_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                      vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs1, vint64m4_t vs2,
                                      size_t vl);
vint64m4_t __riscv_vnmsac_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                      vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs1, vint64m8_t vs2,
                                      size_t vl);
vint64m8_t __riscv_vnmsac_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                      vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs1, vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                     vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs1, vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                     vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs1, vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                     vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                   vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                                   vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                   vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                   vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                   vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                   vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                   vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                   vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs1, vint16mf4_t vs2,
                                       size_t vl);
vint16mf4_t __riscv_vmadd_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       int16_t rs1, vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs1, vint16mf2_t vs2,
                                       size_t vl);
vint16mf2_t __riscv_vmadd_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       int16_t rs1, vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs1, vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                     vint16m1_t vs2, size_t vl);
```

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vint16m2_t __riscv_vmadd_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                                     vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmadd_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                     vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                                     vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                     vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                                     vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                     vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs1, vint32mf2_t vs2,
                                       size_t vl);
vint32mf2_t __riscv_vmadd_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       int32_t rs1, vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs1, vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                     vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs1, vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                     vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                                     vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                     vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                                     vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                     vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs1, vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                     vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs1, vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                     vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs1, vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                     vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                                     vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                     vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs1, vint8mf8_t vs2,
                                      size_t vl);
vint8mf8_t __riscv_vnmsub_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                                      vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs1, vint8mf4_t vs2,
                                      size_t vl);
vint8mf4_t __riscv_vnmsub_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                                      vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs1, vint8mf2_t vs2,
                                      size_t vl);
vint8mf2_t __riscv_vnmsub_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                                      vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                                    vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
```

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                                    vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                                    vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                                    vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                                    vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                                    vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                                    vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                                    vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs1, vint16mf4_t vs2,
                                        size_t vl);
vint16mf4_t __riscv_vnmsub_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        int16_t rs1, vint16mf4_t vs2,
                                        size_t vl);
vint16mf2_t __riscv_vnmsub_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs1, vint16mf2_t vs2,
                                        size_t vl);
vint16mf2_t __riscv_vnmsub_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        int16_t rs1, vint16mf2_t vs2,
                                        size_t vl);
vint16m1_t __riscv_vnmsub_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs1, vint16m1_t vs2,
                                      size_t vl);
vint16m1_t __riscv_vnmsub_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                                      vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs1, vint16m2_t vs2,
                                      size_t vl);
vint16m2_t __riscv_vnmsub_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                                      vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs1, vint16m4_t vs2,
                                      size_t vl);
vint16m4_t __riscv_vnmsub_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                                      vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs1, vint16m8_t vs2,
                                      size_t vl);
vint16m8_t __riscv_vnmsub_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                                      vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs1, vint32mf2_t vs2,
                                        size_t vl);
vint32mf2_t __riscv_vnmsub_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        int32_t rs1, vint32mf2_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vnmsub_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs1, vint32m1_t vs2,
                                      size_t vl);
vint32m1_t __riscv_vnmsub_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                                      vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs1, vint32m2_t vs2,
                                      size_t vl);
vint32m2_t __riscv_vnmsub_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                                      vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs1, vint32m4_t vs2,
                                      size_t vl);
vint32m4_t __riscv_vnmsub_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                                      vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd,
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                                    vint32m8_t vs1, vint32m8_t vs2,
                                    size_t vl);
vint32m8_t __riscv_vnmsub_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                                    vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs1, vint64m1_t vs2,
                                    size_t vl);
vint64m1_t __riscv_vnmsub_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                                    vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs1, vint64m2_t vs2,
                                    size_t vl);
vint64m2_t __riscv_vnmsub_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                                    vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs1, vint64m4_t vs2,
                                    size_t vl);
vint64m4_t __riscv_vnmsub_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                                    vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs1, vint64m8_t vs2,
                                    size_t vl);
vint64m8_t __riscv_vnmsub_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                                    vint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs1, vuint8mf8_t vs2,
                                    size_t vl);
vuint8mf8_t __riscv_vmacc_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                                    vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs1, vuint8mf4_t vs2,
                                    size_t vl);
vuint8mf4_t __riscv_vmacc_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                                    vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs1, vuint8mf2_t vs2,
                                    size_t vl);
vuint8mf2_t __riscv_vmacc_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                                    vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                                   vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                   vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                                   vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                   vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs1, vuint16mf4_t vs2,
                                      size_t vl);
vuint16mf4_t __riscv_vmacc_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      uint16_t rs1, vuint16mf4_t vs2,
                                      size_t vl);
vuint16mf2_t __riscv_vmacc_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs1, vuint16mf2_t vs2,
                                      size_t vl);
vuint16mf2_t __riscv_vmacc_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      uint16_t rs1, vuint16mf2_t vs2,
                                      size_t vl);
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vuint16m1_t __riscv_vmacc_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs1, vuint16m1_t vs2,
                                      size_t vl);
vuint16m1_t __riscv_vmacc_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      uint16_t rs1, vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs1, vuint16m2_t vs2,
                                      size_t vl);
vuint16m2_t __riscv_vmacc_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                                      vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs1, vuint16m4_t vs2,
                                      size_t vl);
vuint16m4_t __riscv_vmacc_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                                      vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs1, vuint16m8_t vs2,
                                      size_t vl);
vuint16m8_t __riscv_vmacc_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                                      vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs1, vuint32mf2_t vs2,
                                        size_t vl);
vuint32mf2_t __riscv_vmacc_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        uint32_t rs1, vuint32mf2_t vs2,
                                        size_t vl);
vuint32m1_t __riscv_vmacc_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs1, vuint32m1_t vs2,
                                      size_t vl);
vuint32m1_t __riscv_vmacc_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      uint32_t rs1, vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs1, vuint32m2_t vs2,
                                      size_t vl);
vuint32m2_t __riscv_vmacc_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      uint32_t rs1, vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs1, vuint32m4_t vs2,
                                      size_t vl);
vuint32m4_t __riscv_vmacc_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                                      vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs1, vuint32m8_t vs2,
                                      size_t vl);
vuint32m8_t __riscv_vmacc_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                                      vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs1, vuint64m1_t vs2,
                                      size_t vl);
vuint64m1_t __riscv_vmacc_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                      uint64_t rs1, vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs1, vuint64m2_t vs2,
                                      size_t vl);
vuint64m2_t __riscv_vmacc_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                      uint64_t rs1, vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs1, vuint64m4_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vmacc_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                      uint64_t rs1, vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs1, vuint64m8_t vs2,
                                      size_t vl);
vuint64m8_t __riscv_vmacc_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                                      vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
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                                    vuint8mf8_t vs1, vuint8mf8_t vs2,
                                    size_t vl);
vuint8mf8_t __riscv_vnmsac_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                    uint8_t rs1, vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs1, vuint8mf4_t vs2,
                                    size_t vl);
vuint8mf4_t __riscv_vnmsac_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    uint8_t rs1, vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs1, vuint8mf2_t vs2,
                                    size_t vl);
vuint8mf2_t __riscv_vnmsac_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    uint8_t rs1, vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                                   vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                   vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                                   vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                   vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs1, vuint16mf4_t vs2,
                                      size_t vl);
vuint16mf4_t __riscv_vnmsac_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      uint16_t rs1, vuint16mf4_t vs2,
                                      size_t vl);
vuint16mf2_t __riscv_vnmsac_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs1, vuint16mf2_t vs2,
                                      size_t vl);
vuint16mf2_t __riscv_vnmsac_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      uint16_t rs1, vuint16mf2_t vs2,
                                      size_t vl);
vuint16m1_t __riscv_vnmsac_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs1, vuint16m1_t vs2,
                                    size_t vl);
vuint16m1_t __riscv_vnmsac_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    uint16_t rs1, vuint16m1_t vs2,
                                    size_t vl);
vuint16m2_t __riscv_vnmsac_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs1, vuint16m2_t vs2,
                                    size_t vl);
vuint16m2_t __riscv_vnmsac_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    uint16_t rs1, vuint16m2_t vs2,
                                    size_t vl);
vuint16m4_t __riscv_vnmsac_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs1, vuint16m4_t vs2,
                                    size_t vl);
vuint16m4_t __riscv_vnmsac_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    uint16_t rs1, vuint16m4_t vs2,
                                    size_t vl);
vuint16m8_t __riscv_vnmsac_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs1, vuint16m8_t vs2,
                                    size_t vl);
vuint16m8_t __riscv_vnmsac_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    uint16_t rs1, vuint16m8_t vs2,
                                    size_t vl);
vuint32mf2_t __riscv_vnmsac_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
```

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                                      vuint32mf2_t vs1, vuint32mf2_t vs2,
                                      size_t vl);
vuint32mf2_t __riscv_vnmsac_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      uint32_t rs1, vuint32mf2_t vs2,
                                      size_t vl);
vuint32m1_t __riscv_vnmsac_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs1, vuint32m1_t vs2,
                                    size_t vl);
vuint32m1_t __riscv_vnmsac_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    uint32_t rs1, vuint32m1_t vs2,
                                    size_t vl);
vuint32m2_t __riscv_vnmsac_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs1, vuint32m2_t vs2,
                                    size_t vl);
vuint32m2_t __riscv_vnmsac_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    uint32_t rs1, vuint32m2_t vs2,
                                    size_t vl);
vuint32m4_t __riscv_vnmsac_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs1, vuint32m4_t vs2,
                                    size_t vl);
vuint32m4_t __riscv_vnmsac_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    uint32_t rs1, vuint32m4_t vs2,
                                    size_t vl);
vuint32m8_t __riscv_vnmsac_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs1, vuint32m8_t vs2,
                                    size_t vl);
vuint32m8_t __riscv_vnmsac_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    uint32_t rs1, vuint32m8_t vs2,
                                    size_t vl);
vuint64m1_t __riscv_vnmsac_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs1, vuint64m1_t vs2,
                                    size_t vl);
vuint64m1_t __riscv_vnmsac_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    uint64_t rs1, vuint64m1_t vs2,
                                    size_t vl);
vuint64m2_t __riscv_vnmsac_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs1, vuint64m2_t vs2,
                                    size_t vl);
vuint64m2_t __riscv_vnmsac_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    uint64_t rs1, vuint64m2_t vs2,
                                    size_t vl);
vuint64m4_t __riscv_vnmsac_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs1, vuint64m4_t vs2,
                                    size_t vl);
vuint64m4_t __riscv_vnmsac_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    uint64_t rs1, vuint64m4_t vs2,
                                    size_t vl);
vuint64m8_t __riscv_vnmsac_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs1, vuint64m8_t vs2,
                                    size_t vl);
vuint64m8_t __riscv_vnmsac_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    uint64_t rs1, vuint64m8_t vs2,
                                    size_t vl);
vuint8mf8_t __riscv_vmadd_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                   vuint8mf8_t vs1, vuint8mf8_t vs2,
                                   size_t vl);
vuint8mf8_t __riscv_vmadd_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                                   vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                   vuint8mf4_t vs1, vuint8mf4_t vs2,
                                   size_t vl);
vuint8mf4_t __riscv_vmadd_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                                   vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                   vuint8mf2_t vs1, vuint8mf2_t vs2,
                                   size_t vl);
vuint8mf2_t __riscv_vmadd_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
```

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                                    vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                                    vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                    vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                                    vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                    vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                                    vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                    vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                                    vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                    vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs1, vuint16mf4_t vs2,
                                        size_t vl);
vuint16mf4_t __riscv_vmadd_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        uint16_t rs1, vuint16mf4_t vs2,
                                        size_t vl);
vuint16mf2_t __riscv_vmadd_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs1, vuint16mf2_t vs2,
                                        size_t vl);
vuint16mf2_t __riscv_vmadd_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        uint16_t rs1, vuint16mf2_t vs2,
                                        size_t vl);
vuint16m1_t __riscv_vmadd_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs1, vuint16m1_t vs2,
                                      size_t vl);
vuint16m1_t __riscv_vmadd_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      uint16_t rs1, vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs1, vuint16m2_t vs2,
                                      size_t vl);
vuint16m2_t __riscv_vmadd_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                                      vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs1, vuint16m4_t vs2,
                                      size_t vl);
vuint16m4_t __riscv_vmadd_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                                      vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs1, vuint16m8_t vs2,
                                      size_t vl);
vuint16m8_t __riscv_vmadd_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                                      vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs1, vuint32mf2_t vs2,
                                        size_t vl);
vuint32mf2_t __riscv_vmadd_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        uint32_t rs1, vuint32mf2_t vs2,
                                        size_t vl);
vuint32m1_t __riscv_vmadd_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs1, vuint32m1_t vs2,
                                      size_t vl);
vuint32m1_t __riscv_vmadd_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      uint32_t rs1, vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs1, vuint32m2_t vs2,
                                      size_t vl);
vuint32m2_t __riscv_vmadd_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      uint32_t rs1, vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs1, vuint32m4_t vs2,
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                                    size_t vl);
vuint32m4_t __riscv_vmadd_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                                    vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs1, vuint32m8_t vs2,
                                    size_t vl);
vuint32m8_t __riscv_vmadd_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                                    vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs1, vuint64m1_t vs2,
                                    size_t vl);
vuint64m1_t __riscv_vmadd_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    uint64_t rs1, vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs1, vuint64m2_t vs2,
                                    size_t vl);
vuint64m2_t __riscv_vmadd_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    uint64_t rs1, vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs1, vuint64m4_t vs2,
                                    size_t vl);
vuint64m4_t __riscv_vmadd_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    uint64_t rs1, vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs1, vuint64m8_t vs2,
                                    size_t vl);
vuint64m8_t __riscv_vmadd_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                                    vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs1, vuint8mf8_t vs2,
                                     size_t vl);
vuint8mf8_t __riscv_vnmsub_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     uint8_t rs1, vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs1, vuint8mf4_t vs2,
                                     size_t vl);
vuint8mf4_t __riscv_vnmsub_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     uint8_t rs1, vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs1, vuint8mf2_t vs2,
                                     size_t vl);
vuint8mf2_t __riscv_vnmsub_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     uint8_t rs1, vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                   vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                   vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                                   vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                   vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                                   vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                   vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs1, vuint16mf4_t vs2,
                                      size_t vl);
vuint16mf4_t __riscv_vnmsub_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      uint16_t rs1, vuint16mf4_t vs2,
                                      size_t vl);
vuint16mf2_t __riscv_vnmsub_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs1, vuint16mf2_t vs2,
```

```
                                        size_t vl);
vuint16mf2_t __riscv_vnmsub_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        uint16_t rs1, vuint16mf2_t vs2,
                                        size_t vl);
vuint16m1_t __riscv_vnmsub_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs1, vuint16m1_t vs2,
                                       size_t vl);
vuint16m1_t __riscv_vnmsub_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       uint16_t rs1, vuint16m1_t vs2,
                                       size_t vl);
vuint16m2_t __riscv_vnmsub_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs1, vuint16m2_t vs2,
                                       size_t vl);
vuint16m2_t __riscv_vnmsub_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       uint16_t rs1, vuint16m2_t vs2,
                                       size_t vl);
vuint16m4_t __riscv_vnmsub_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs1, vuint16m4_t vs2,
                                       size_t vl);
vuint16m4_t __riscv_vnmsub_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       uint16_t rs1, vuint16m4_t vs2,
                                       size_t vl);
vuint16m8_t __riscv_vnmsub_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs1, vuint16m8_t vs2,
                                       size_t vl);
vuint16m8_t __riscv_vnmsub_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       uint16_t rs1, vuint16m8_t vs2,
                                       size_t vl);
vuint32mf2_t __riscv_vnmsub_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs1, vuint32mf2_t vs2,
                                         size_t vl);
vuint32mf2_t __riscv_vnmsub_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         uint32_t rs1, vuint32mf2_t vs2,
                                         size_t vl);
vuint32m1_t __riscv_vnmsub_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs1, vuint32m1_t vs2,
                                       size_t vl);
vuint32m1_t __riscv_vnmsub_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       uint32_t rs1, vuint32m1_t vs2,
                                       size_t vl);
vuint32m2_t __riscv_vnmsub_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs1, vuint32m2_t vs2,
                                       size_t vl);
vuint32m2_t __riscv_vnmsub_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       uint32_t rs1, vuint32m2_t vs2,
                                       size_t vl);
vuint32m4_t __riscv_vnmsub_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs1, vuint32m4_t vs2,
                                       size_t vl);
vuint32m4_t __riscv_vnmsub_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                       uint32_t rs1, vuint32m4_t vs2,
                                       size_t vl);
vuint32m8_t __riscv_vnmsub_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs1, vuint32m8_t vs2,
                                       size_t vl);
vuint32m8_t __riscv_vnmsub_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       uint32_t rs1, vuint32m8_t vs2,
                                       size_t vl);
vuint64m1_t __riscv_vnmsub_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs1, vuint64m1_t vs2,
                                       size_t vl);
vuint64m1_t __riscv_vnmsub_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       uint64_t rs1, vuint64m1_t vs2,
                                       size_t vl);
vuint64m2_t __riscv_vnmsub_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs1, vuint64m2_t vs2,
                                       size_t vl);
```

```
vuint64m2_t __riscv_vnmsub_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       uint64_t rs1, vuint64m2_t vs2,
                                       size_t vl);
vuint64m4_t __riscv_vnmsub_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs1, vuint64m4_t vs2,
                                       size_t vl);
vuint64m4_t __riscv_vnmsub_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       uint64_t rs1, vuint64m4_t vs2,
                                       size_t vl);
vuint64m8_t __riscv_vnmsub_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs1, vuint64m8_t vs2,
                                       size_t vl);
vuint64m8_t __riscv_vnmsub_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       uint64_t rs1, vuint64m8_t vs2,
                                       size_t vl);
```

B.3.18. Vector Widening Integer Multiply-Add Intrinsics

```
vint16mf4_t __riscv_vwmacc_vv_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs1,
                                        vint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmacc_vx_i16mf4_tu(vint16mf4_t vd, int8_t rs1,
                                        vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_vv_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs1,
                                        vint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_vx_i16mf2_tu(vint16mf2_t vd, int8_t rs1,
                                        vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_vv_i16m1_tu(vint16m1_t vd, vint8mf2_t vs1,
                                      vint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_vx_i16m1_tu(vint16m1_t vd, int8_t rs1, vint8mf2_t vs2,
                                      size_t vl);
vint16m2_t __riscv_vwmacc_vv_i16m2_tu(vint16m2_t vd, vint8m1_t vs1,
                                      vint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_vx_i16m2_tu(vint16m2_t vd, int8_t rs1, vint8m1_t vs2,
                                      size_t vl);
vint16m4_t __riscv_vwmacc_vv_i16m4_tu(vint16m4_t vd, vint8m2_t vs1,
                                      vint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_vx_i16m4_tu(vint16m4_t vd, int8_t rs1, vint8m2_t vs2,
                                      size_t vl);
vint16m8_t __riscv_vwmacc_vv_i16m8_tu(vint16m8_t vd, vint8m4_t vs1,
                                      vint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_vx_i16m8_tu(vint16m8_t vd, int8_t rs1, vint8m4_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vwmacc_vv_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs1,
                                        vint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_vx_i32mf2_tu(vint32mf2_t vd, int16_t rs1,
                                        vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc_vv_i32m1_tu(vint32m1_t vd, vint16mf2_t vs1,
                                      vint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc_vx_i32m1_tu(vint32m1_t vd, int16_t rs1,
                                      vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_vv_i32m2_tu(vint32m2_t vd, vint16m1_t vs1,
                                      vint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_vx_i32m2_tu(vint32m2_t vd, int16_t rs1,
                                      vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_vv_i32m4_tu(vint32m4_t vd, vint16m2_t vs1,
                                      vint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_vx_i32m4_tu(vint32m4_t vd, int16_t rs1,
                                      vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_vv_i32m8_tu(vint32m8_t vd, vint16m4_t vs1,
                                      vint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_vx_i32m8_tu(vint32m8_t vd, int16_t rs1,
                                      vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_vv_i64m1_tu(vint64m1_t vd, vint32mf2_t vs1,
                                      vint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_vx_i64m1_tu(vint64m1_t vd, int32_t rs1,
```

```
                                      vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_vv_i64m2_tu(vint64m2_t vd, vint32m1_t vs1,
                                      vint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_vx_i64m2_tu(vint64m2_t vd, int32_t rs1,
                                      vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_vv_i64m4_tu(vint64m4_t vd, vint32m2_t vs1,
                                      vint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_vx_i64m4_tu(vint64m4_t vd, int32_t rs1,
                                      vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_vv_i64m8_tu(vint64m8_t vd, vint32m4_t vs1,
                                      vint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_vx_i64m8_tu(vint64m8_t vd, int32_t rs1,
                                      vint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_vv_i16mf4_tu(vint16mf4_t vd, vint8mf8_t vs1,
                                          vuint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_vx_i16mf4_tu(vint16mf4_t vd, int8_t rs1,
                                          vuint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu_vv_i16mf2_tu(vint16mf2_t vd, vint8mf4_t vs1,
                                          vuint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu_vx_i16mf2_tu(vint16mf2_t vd, int8_t rs1,
                                          vuint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu_vv_i16m1_tu(vint16m1_t vd, vint8mf2_t vs1,
                                        vuint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu_vx_i16m1_tu(vint16m1_t vd, int8_t rs1,
                                        vuint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu_vv_i16m2_tu(vint16m2_t vd, vint8m1_t vs1,
                                        vuint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu_vx_i16m2_tu(vint16m2_t vd, int8_t rs1,
                                        vuint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu_vv_i16m4_tu(vint16m4_t vd, vint8m2_t vs1,
                                        vuint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu_vx_i16m4_tu(vint16m4_t vd, int8_t rs1,
                                        vuint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_vv_i16m8_tu(vint16m8_t vd, vint8m4_t vs1,
                                        vuint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_vx_i16m8_tu(vint16m8_t vd, int8_t rs1,
                                        vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_vv_i32mf2_tu(vint32mf2_t vd, vint16mf4_t vs1,
                                          vuint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_vx_i32mf2_tu(vint32mf2_t vd, int16_t rs1,
                                          vuint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu_vv_i32m1_tu(vint32m1_t vd, vint16mf2_t vs1,
                                        vuint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu_vx_i32m1_tu(vint32m1_t vd, int16_t rs1,
                                        vuint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu_vv_i32m2_tu(vint32m2_t vd, vint16m1_t vs1,
                                        vuint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu_vx_i32m2_tu(vint32m2_t vd, int16_t rs1,
                                        vuint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu_vv_i32m4_tu(vint32m4_t vd, vint16m2_t vs1,
                                        vuint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu_vx_i32m4_tu(vint32m4_t vd, int16_t rs1,
                                        vuint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_vv_i32m8_tu(vint32m8_t vd, vint16m4_t vs1,
                                        vuint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_vx_i32m8_tu(vint32m8_t vd, int16_t rs1,
                                        vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_vv_i64m1_tu(vint64m1_t vd, vint32mf2_t vs1,
                                        vuint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_vx_i64m1_tu(vint64m1_t vd, int32_t rs1,
                                        vuint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu_vv_i64m2_tu(vint64m2_t vd, vint32m1_t vs1,
                                        vuint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu_vx_i64m2_tu(vint64m2_t vd, int32_t rs1,
                                        vuint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu_vv_i64m4_tu(vint64m4_t vd, vint32m2_t vs1,
                                        vuint32m2_t vs2, size_t vl);
```

```
vint64m4_t __riscv_vwmaccsu_vx_i64m4_tu(vint64m4_t vd, int32_t rs1,
                                        vuint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu_vv_i64m8_tu(vint64m8_t vd, vint32m4_t vs1,
                                        vuint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu_vx_i64m8_tu(vint64m8_t vd, int32_t rs1,
                                        vuint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccus_vx_i16mf4_tu(vint16mf4_t vd, uint8_t rs1,
                                          vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccus_vx_i16mf2_tu(vint16mf2_t vd, uint8_t rs1,
                                          vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccus_vx_i16m1_tu(vint16m1_t vd, uint8_t rs1,
                                        vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccus_vx_i16m2_tu(vint16m2_t vd, uint8_t rs1,
                                        vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccus_vx_i16m4_tu(vint16m4_t vd, uint8_t rs1,
                                        vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccus_vx_i16m8_tu(vint16m8_t vd, uint8_t rs1,
                                        vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccus_vx_i32mf2_tu(vint32mf2_t vd, uint16_t rs1,
                                          vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccus_vx_i32m1_tu(vint32m1_t vd, uint16_t rs1,
                                        vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccus_vx_i32m2_tu(vint32m2_t vd, uint16_t rs1,
                                        vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccus_vx_i32m4_tu(vint32m4_t vd, uint16_t rs1,
                                        vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccus_vx_i32m8_tu(vint32m8_t vd, uint16_t rs1,
                                        vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccus_vx_i64m1_tu(vint64m1_t vd, uint32_t rs1,
                                        vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccus_vx_i64m2_tu(vint64m2_t vd, uint32_t rs1,
                                        vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccus_vx_i64m4_tu(vint64m4_t vd, uint32_t rs1,
                                        vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccus_vx_i64m8_tu(vint64m8_t vd, uint32_t rs1,
                                        vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_vv_u16mf4_tu(vuint16mf4_t vd, vuint8mf8_t vs1,
                                          vuint8mf8_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_vx_u16mf4_tu(vuint16mf4_t vd, uint8_t rs1,
                                          vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu_vv_u16mf2_tu(vuint16mf2_t vd, vuint8mf4_t vs1,
                                          vuint8mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu_vx_u16mf2_tu(vuint16mf2_t vd, uint8_t rs1,
                                          vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu_vv_u16m1_tu(vuint16m1_t vd, vuint8mf2_t vs1,
                                        vuint8mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu_vx_u16m1_tu(vuint16m1_t vd, uint8_t rs1,
                                        vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu_vv_u16m2_tu(vuint16m2_t vd, vuint8m1_t vs1,
                                        vuint8m1_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu_vx_u16m2_tu(vuint16m2_t vd, uint8_t rs1,
                                        vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu_vv_u16m4_tu(vuint16m4_t vd, vuint8m2_t vs1,
                                        vuint8m2_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu_vx_u16m4_tu(vuint16m4_t vd, uint8_t rs1,
                                        vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_vv_u16m8_tu(vuint16m8_t vd, vuint8m4_t vs1,
                                        vuint8m4_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_vx_u16m8_tu(vuint16m8_t vd, uint8_t rs1,
                                        vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu_vv_u32mf2_tu(vuint32mf2_t vd, vuint16mf4_t vs1,
                                          vuint16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu_vx_u32mf2_tu(vuint32mf2_t vd, uint16_t rs1,
                                          vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu_vv_u32m1_tu(vuint32m1_t vd, vuint16mf2_t vs1,
                                        vuint16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu_vx_u32m1_tu(vuint32m1_t vd, uint16_t rs1,
```

```
                                        vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu_vv_u32m2_tu(vuint32m2_t vd, vuint16m1_t vs1,
                                        vuint16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu_vx_u32m2_tu(vuint32m2_t vd, uint16_t rs1,
                                        vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu_vv_u32m4_tu(vuint32m4_t vd, vuint16m2_t vs1,
                                        vuint16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu_vx_u32m4_tu(vuint32m4_t vd, uint16_t rs1,
                                        vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu_vv_u32m8_tu(vuint32m8_t vd, vuint16m4_t vs1,
                                        vuint16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu_vx_u32m8_tu(vuint32m8_t vd, uint16_t rs1,
                                        vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu_vv_u64m1_tu(vuint64m1_t vd, vuint32mf2_t vs1,
                                        vuint32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu_vx_u64m1_tu(vuint64m1_t vd, uint32_t rs1,
                                        vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu_vv_u64m2_tu(vuint64m2_t vd, vuint32m1_t vs1,
                                        vuint32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu_vx_u64m2_tu(vuint64m2_t vd, uint32_t rs1,
                                        vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu_vv_u64m4_tu(vuint64m4_t vd, vuint32m2_t vs1,
                                        vuint32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu_vx_u64m4_tu(vuint64m4_t vd, uint32_t rs1,
                                        vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vwmaccu_vv_u64m8_tu(vuint64m8_t vd, vuint32m4_t vs1,
                                        vuint32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vwmaccu_vx_u64m8_tu(vuint64m8_t vd, uint32_t rs1,
                                        vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vwmacc_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                         vint8mf8_t vs1, vint8mf8_t vs2,
                                         size_t vl);
vint16mf4_t __riscv_vwmacc_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                         int8_t rs1, vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                         vint8mf4_t vs1, vint8mf4_t vs2,
                                         size_t vl);
vint16mf2_t __riscv_vwmacc_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                         int8_t rs1, vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                       vint8mf2_t vs1, vint8mf2_t vs2,
                                       size_t vl);
vint16m1_t __riscv_vwmacc_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                                       vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                       vint8m1_t vs1, vint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                                       vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                       vint8m2_t vs1, vint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                                       vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                       vint8m4_t vs1, vint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                                       vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                         vint16mf4_t vs1, vint16mf4_t vs2,
                                         size_t vl);
vint32mf2_t __riscv_vwmacc_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                         int16_t rs1, vint16mf4_t vs2,
                                         size_t vl);
vint32m1_t __riscv_vwmacc_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                       vint16mf2_t vs1, vint16mf2_t vs2,
                                       size_t vl);
vint32m1_t __riscv_vwmacc_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd, int16_t rs1,
```

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                                    vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint16m1_t vs1, vint16m1_t vs2,
                                    size_t vl);
vint32m2_t __riscv_vwmacc_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                                    vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint16m2_t vs1, vint16m2_t vs2,
                                    size_t vl);
vint32m4_t __riscv_vwmacc_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                                    vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint16m4_t vs1, vint16m4_t vs2,
                                    size_t vl);
vint32m8_t __riscv_vwmacc_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                                    vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint32mf2_t vs1, vint32mf2_t vs2,
                                    size_t vl);
vint64m1_t __riscv_vwmacc_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                                    vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint32m1_t vs1, vint32m1_t vs2,
                                    size_t vl);
vint64m2_t __riscv_vwmacc_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd, int32_t rs1,
                                    vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint32m2_t vs1, vint32m2_t vs2,
                                    size_t vl);
vint64m4_t __riscv_vwmacc_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                                    vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint32m4_t vs1, vint32m4_t vs2,
                                    size_t vl);
vint64m8_t __riscv_vwmacc_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                                    vint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       vint8mf8_t vs1, vuint8mf8_t vs2,
                                       size_t vl);
vint16mf4_t __riscv_vwmaccsu_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                       int8_t rs1, vuint8mf8_t vs2,
                                       size_t vl);
vint16mf2_t __riscv_vwmaccsu_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       vint8mf4_t vs1, vuint8mf4_t vs2,
                                       size_t vl);
vint16mf2_t __riscv_vwmaccsu_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                       int8_t rs1, vuint8mf4_t vs2,
                                       size_t vl);
vint16m1_t __riscv_vwmaccsu_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint8mf2_t vs1, vuint8mf2_t vs2,
                                      size_t vl);
vint16m1_t __riscv_vwmaccsu_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      int8_t rs1, vuint8mf2_t vs2,
                                      size_t vl);
vint16m2_t __riscv_vwmaccsu_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint8m1_t vs1, vuint8m1_t vs2,
                                      size_t vl);
vint16m2_t __riscv_vwmaccsu_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                                      vuint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint8m2_t vs1, vuint8m2_t vs2,
                                      size_t vl);
vint16m4_t __riscv_vwmaccsu_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                                      vuint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint8m4_t vs1, vuint8m4_t vs2,
                                      size_t vl);
```

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vint16m8_t __riscv_vwmaccsu_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                                         vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                           vint16mf4_t vs1, vuint16mf4_t vs2,
                                           size_t vl);
vint32mf2_t __riscv_vwmaccsu_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                           int16_t rs1, vuint16mf4_t vs2,
                                           size_t vl);
vint32m1_t __riscv_vwmaccsu_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                         vint16mf2_t vs1, vuint16mf2_t vs2,
                                         size_t vl);
vint32m1_t __riscv_vwmaccsu_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                         int16_t rs1, vuint16mf2_t vs2,
                                         size_t vl);
vint32m2_t __riscv_vwmaccsu_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                         vint16m1_t vs1, vuint16m1_t vs2,
                                         size_t vl);
vint32m2_t __riscv_vwmaccsu_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                         int16_t rs1, vuint16m1_t vs2,
                                         size_t vl);
vint32m4_t __riscv_vwmaccsu_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                         vint16m2_t vs1, vuint16m2_t vs2,
                                         size_t vl);
vint32m4_t __riscv_vwmaccsu_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                         int16_t rs1, vuint16m2_t vs2,
                                         size_t vl);
vint32m8_t __riscv_vwmaccsu_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                         vint16m4_t vs1, vuint16m4_t vs2,
                                         size_t vl);
vint32m8_t __riscv_vwmaccsu_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                         int16_t rs1, vuint16m4_t vs2,
                                         size_t vl);
vint64m1_t __riscv_vwmaccsu_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                         vint32mf2_t vs1, vuint32mf2_t vs2,
                                         size_t vl);
vint64m1_t __riscv_vwmaccsu_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                         int32_t rs1, vuint32mf2_t vs2,
                                         size_t vl);
vint64m2_t __riscv_vwmaccsu_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                         vint32m1_t vs1, vuint32m1_t vs2,
                                         size_t vl);
vint64m2_t __riscv_vwmaccsu_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                         int32_t rs1, vuint32m1_t vs2,
                                         size_t vl);
vint64m4_t __riscv_vwmaccsu_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                         vint32m2_t vs1, vuint32m2_t vs2,
                                         size_t vl);
vint64m4_t __riscv_vwmaccsu_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                         int32_t rs1, vuint32m2_t vs2,
                                         size_t vl);
vint64m8_t __riscv_vwmaccsu_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                         vint32m4_t vs1, vuint32m4_t vs2,
                                         size_t vl);
vint64m8_t __riscv_vwmaccsu_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                         int32_t rs1, vuint32m4_t vs2,
                                         size_t vl);
vint16mf4_t __riscv_vwmaccus_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                           uint8_t rs1, vint8mf8_t vs2,
                                           size_t vl);
vint16mf2_t __riscv_vwmaccus_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                           uint8_t rs1, vint8mf4_t vs2,
                                           size_t vl);
vint16m1_t __riscv_vwmaccus_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                         uint8_t rs1, vint8mf2_t vs2,
                                         size_t vl);
vint16m2_t __riscv_vwmaccus_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                         uint8_t rs1, vint8m1_t vs2, size_t vl);
```

```
vint16m4_t __riscv_vwmaccus_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                         uint8_t rs1, vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccus_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                         uint8_t rs1, vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccus_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                           uint16_t rs1, vint16mf4_t vs2,
                                           size_t vl);
vint32m1_t __riscv_vwmaccus_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                         uint16_t rs1, vint16mf2_t vs2,
                                         size_t vl);
vint32m2_t __riscv_vwmaccus_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                         uint16_t rs1, vint16m1_t vs2,
                                         size_t vl);
vint32m4_t __riscv_vwmaccus_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                         uint16_t rs1, vint16m2_t vs2,
                                         size_t vl);
vint32m8_t __riscv_vwmaccus_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                         uint16_t rs1, vint16m4_t vs2,
                                         size_t vl);
vint64m1_t __riscv_vwmaccus_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                         uint32_t rs1, vint32mf2_t vs2,
                                         size_t vl);
vint64m2_t __riscv_vwmaccus_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                         uint32_t rs1, vint32m1_t vs2,
                                         size_t vl);
vint64m4_t __riscv_vwmaccus_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                         uint32_t rs1, vint32m2_t vs2,
                                         size_t vl);
vint64m8_t __riscv_vwmaccus_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                         uint32_t rs1, vint32m4_t vs2,
                                         size_t vl);
vuint16mf4_t __riscv_vwmaccu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                           vuint8mf8_t vs1, vuint8mf8_t vs2,
                                           size_t vl);
vuint16mf4_t __riscv_vwmaccu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                           uint8_t rs1, vuint8mf8_t vs2,
                                           size_t vl);
vuint16mf2_t __riscv_vwmaccu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                           vuint8mf4_t vs1, vuint8mf4_t vs2,
                                           size_t vl);
vuint16mf2_t __riscv_vwmaccu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                           uint8_t rs1, vuint8mf4_t vs2,
                                           size_t vl);
vuint16m1_t __riscv_vwmaccu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                         vuint8mf2_t vs1, vuint8mf2_t vs2,
                                         size_t vl);
vuint16m1_t __riscv_vwmaccu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                         uint8_t rs1, vuint8mf2_t vs2,
                                         size_t vl);
vuint16m2_t __riscv_vwmaccu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                         vuint8m1_t vs1, vuint8m1_t vs2,
                                         size_t vl);
vuint16m2_t __riscv_vwmaccu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                         uint8_t rs1, vuint8m1_t vs2,
                                         size_t vl);
vuint16m4_t __riscv_vwmaccu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                         vuint8m2_t vs1, vuint8m2_t vs2,
                                         size_t vl);
vuint16m4_t __riscv_vwmaccu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                         uint8_t rs1, vuint8m2_t vs2,
                                         size_t vl);
vuint16m8_t __riscv_vwmaccu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                         vuint8m4_t vs1, vuint8m4_t vs2,
                                         size_t vl);
vuint16m8_t __riscv_vwmaccu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                         uint8_t rs1, vuint8m4_t vs2,
                                         size_t vl);
```

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vuint32mf2_t __riscv_vwmaccu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                           vuint16mf4_t vs1, vuint16mf4_t vs2,
                                           size_t vl);
vuint32mf2_t __riscv_vwmaccu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                           uint16_t rs1, vuint16mf4_t vs2,
                                           size_t vl);
vuint32m1_t __riscv_vwmaccu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                         vuint16mf2_t vs1, vuint16mf2_t vs2,
                                         size_t vl);
vuint32m1_t __riscv_vwmaccu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                         uint16_t rs1, vuint16mf2_t vs2,
                                         size_t vl);
vuint32m2_t __riscv_vwmaccu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                         vuint16m1_t vs1, vuint16m1_t vs2,
                                         size_t vl);
vuint32m2_t __riscv_vwmaccu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                         uint16_t rs1, vuint16m1_t vs2,
                                         size_t vl);
vuint32m4_t __riscv_vwmaccu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                         vuint16m2_t vs1, vuint16m2_t vs2,
                                         size_t vl);
vuint32m4_t __riscv_vwmaccu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                         uint16_t rs1, vuint16m2_t vs2,
                                         size_t vl);
vuint32m8_t __riscv_vwmaccu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                         vuint16m4_t vs1, vuint16m4_t vs2,
                                         size_t vl);
vuint32m8_t __riscv_vwmaccu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                         uint16_t rs1, vuint16m4_t vs2,
                                         size_t vl);
vuint64m1_t __riscv_vwmaccu_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                         vuint32mf2_t vs1, vuint32mf2_t vs2,
                                         size_t vl);
vuint64m1_t __riscv_vwmaccu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                         uint32_t rs1, vuint32mf2_t vs2,
                                         size_t vl);
vuint64m2_t __riscv_vwmaccu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                         vuint32m1_t vs1, vuint32m1_t vs2,
                                         size_t vl);
vuint64m2_t __riscv_vwmaccu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                         uint32_t rs1, vuint32m1_t vs2,
                                         size_t vl);
vuint64m4_t __riscv_vwmaccu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                         vuint32m2_t vs1, vuint32m2_t vs2,
                                         size_t vl);
vuint64m4_t __riscv_vwmaccu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                         uint32_t rs1, vuint32m2_t vs2,
                                         size_t vl);
vuint64m8_t __riscv_vwmaccu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                         vuint32m4_t vs1, vuint32m4_t vs2,
                                         size_t vl);
vuint64m8_t __riscv_vwmaccu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                         uint32_t rs1, vuint32m4_t vs2,
                                         size_t vl);
// masked functions
vint16mf4_t __riscv_vwmacc_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          vint8mf8_t vs1, vint8mf8_t vs2,
                                          size_t vl);
vint16mf4_t __riscv_vwmacc_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                          int8_t rs1, vint8mf8_t vs2,
                                          size_t vl);
vint16mf2_t __riscv_vwmacc_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          vint8mf4_t vs1, vint8mf4_t vs2,
                                          size_t vl);
vint16mf2_t __riscv_vwmacc_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                          int8_t rs1, vint8mf4_t vs2,
                                          size_t vl);
```

```
vint16m1_t __riscv_vwmacc_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                        vint8mf2_t vs1, vint8mf2_t vs2,
                                        size_t vl);
vint16m1_t __riscv_vwmacc_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                                        vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                        vint8m1_t vs1, vint8m1_t vs2,
                                        size_t vl);
vint16m2_t __riscv_vwmacc_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                                        vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                        vint8m2_t vs1, vint8m2_t vs2,
                                        size_t vl);
vint16m4_t __riscv_vwmacc_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                                        vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                        vint8m4_t vs1, vint8m4_t vs2,
                                        size_t vl);
vint16m8_t __riscv_vwmacc_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                                        vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          vint16mf4_t vs1, vint16mf4_t vs2,
                                          size_t vl);
vint32mf2_t __riscv_vwmacc_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                          int16_t rs1, vint16mf4_t vs2,
                                          size_t vl);
vint32m1_t __riscv_vwmacc_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        vint16mf2_t vs1, vint16mf2_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vwmacc_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        int16_t rs1, vint16mf2_t vs2,
                                        size_t vl);
vint32m2_t __riscv_vwmacc_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        vint16m1_t vs1, vint16m1_t vs2,
                                        size_t vl);
vint32m2_t __riscv_vwmacc_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        int16_t rs1, vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        vint16m2_t vs1, vint16m2_t vs2,
                                        size_t vl);
vint32m4_t __riscv_vwmacc_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                                        vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                        vint16m4_t vs1, vint16m4_t vs2,
                                        size_t vl);
vint32m8_t __riscv_vwmacc_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                                        vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        vint32mf2_t vs1, vint32mf2_t vs2,
                                        size_t vl);
vint64m1_t __riscv_vwmacc_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                        int32_t rs1, vint32mf2_t vs2,
                                        size_t vl);
vint64m2_t __riscv_vwmacc_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        vint32m1_t vs1, vint32m1_t vs2,
                                        size_t vl);
vint64m2_t __riscv_vwmacc_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                        int32_t rs1, vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        vint32m2_t vs1, vint32m2_t vs2,
                                        size_t vl);
vint64m4_t __riscv_vwmacc_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                        int32_t rs1, vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                        vint32m4_t vs1, vint32m4_t vs2,
                                        size_t vl);
vint64m8_t __riscv_vwmacc_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd, int32_t rs1,
```

```
                                        vint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                            vint8mf8_t vs1, vuint8mf8_t vs2,
                                            size_t vl);
vint16mf4_t __riscv_vwmaccsu_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                            int8_t rs1, vuint8mf8_t vs2,
                                            size_t vl);
vint16mf2_t __riscv_vwmaccsu_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                            vint8mf4_t vs1, vuint8mf4_t vs2,
                                            size_t vl);
vint16mf2_t __riscv_vwmaccsu_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                            int8_t rs1, vuint8mf4_t vs2,
                                            size_t vl);
vint16m1_t __riscv_vwmaccsu_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                          vint8mf2_t vs1, vuint8mf2_t vs2,
                                          size_t vl);
vint16m1_t __riscv_vwmaccsu_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                          int8_t rs1, vuint8mf2_t vs2,
                                          size_t vl);
vint16m2_t __riscv_vwmaccsu_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                          vint8m1_t vs1, vuint8m1_t vs2,
                                          size_t vl);
vint16m2_t __riscv_vwmaccsu_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                          int8_t rs1, vuint8m1_t vs2,
                                          size_t vl);
vint16m4_t __riscv_vwmaccsu_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                          vint8m2_t vs1, vuint8m2_t vs2,
                                          size_t vl);
vint16m4_t __riscv_vwmaccsu_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                          int8_t rs1, vuint8m2_t vs2,
                                          size_t vl);
vint16m8_t __riscv_vwmaccsu_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                          vint8m4_t vs1, vuint8m4_t vs2,
                                          size_t vl);
vint16m8_t __riscv_vwmaccsu_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                          int8_t rs1, vuint8m4_t vs2,
                                          size_t vl);
vint32mf2_t __riscv_vwmaccsu_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                            vint16mf4_t vs1, vuint16mf4_t vs2,
                                            size_t vl);
vint32mf2_t __riscv_vwmaccsu_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                            int16_t rs1, vuint16mf4_t vs2,
                                            size_t vl);
vint32m1_t __riscv_vwmaccsu_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                          vint16mf2_t vs1, vuint16mf2_t vs2,
                                          size_t vl);
vint32m1_t __riscv_vwmaccsu_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                          int16_t rs1, vuint16mf2_t vs2,
                                          size_t vl);
vint32m2_t __riscv_vwmaccsu_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                          vint16m1_t vs1, vuint16m1_t vs2,
                                          size_t vl);
vint32m2_t __riscv_vwmaccsu_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                          int16_t rs1, vuint16m1_t vs2,
                                          size_t vl);
vint32m4_t __riscv_vwmaccsu_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                          vint16m2_t vs1, vuint16m2_t vs2,
                                          size_t vl);
vint32m4_t __riscv_vwmaccsu_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                          int16_t rs1, vuint16m2_t vs2,
                                          size_t vl);
vint32m8_t __riscv_vwmaccsu_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                          vint16m4_t vs1, vuint16m4_t vs2,
                                          size_t vl);
vint32m8_t __riscv_vwmaccsu_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                          int16_t rs1, vuint16m4_t vs2,
                                          size_t vl);
```

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vint64m1_t __riscv_vwmaccsu_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                          vint32mf2_t vs1, vuint32mf2_t vs2,
                                          size_t vl);
vint64m1_t __riscv_vwmaccsu_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                          int32_t rs1, vuint32mf2_t vs2,
                                          size_t vl);
vint64m2_t __riscv_vwmaccsu_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                          vint32m1_t vs1, vuint32m1_t vs2,
                                          size_t vl);
vint64m2_t __riscv_vwmaccsu_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                          int32_t rs1, vuint32m1_t vs2,
                                          size_t vl);
vint64m4_t __riscv_vwmaccsu_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                          vint32m2_t vs1, vuint32m2_t vs2,
                                          size_t vl);
vint64m4_t __riscv_vwmaccsu_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                          int32_t rs1, vuint32m2_t vs2,
                                          size_t vl);
vint64m8_t __riscv_vwmaccsu_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                          vint32m4_t vs1, vuint32m4_t vs2,
                                          size_t vl);
vint64m8_t __riscv_vwmaccsu_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                          int32_t rs1, vuint32m4_t vs2,
                                          size_t vl);
vint16mf4_t __riscv_vwmaccus_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                            uint8_t rs1, vint8mf8_t vs2,
                                            size_t vl);
vint16mf2_t __riscv_vwmaccus_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                            uint8_t rs1, vint8mf4_t vs2,
                                            size_t vl);
vint16m1_t __riscv_vwmaccus_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                          uint8_t rs1, vint8mf2_t vs2,
                                          size_t vl);
vint16m2_t __riscv_vwmaccus_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                          uint8_t rs1, vint8m1_t vs2,
                                          size_t vl);
vint16m4_t __riscv_vwmaccus_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                          uint8_t rs1, vint8m2_t vs2,
                                          size_t vl);
vint16m8_t __riscv_vwmaccus_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                          uint8_t rs1, vint8m4_t vs2,
                                          size_t vl);
vint32mf2_t __riscv_vwmaccus_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                            uint16_t rs1, vint16mf4_t vs2,
                                            size_t vl);
vint32m1_t __riscv_vwmaccus_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                          uint16_t rs1, vint16mf2_t vs2,
                                          size_t vl);
vint32m2_t __riscv_vwmaccus_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                          uint16_t rs1, vint16m1_t vs2,
                                          size_t vl);
vint32m4_t __riscv_vwmaccus_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                          uint16_t rs1, vint16m2_t vs2,
                                          size_t vl);
vint32m8_t __riscv_vwmaccus_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                          uint16_t rs1, vint16m4_t vs2,
                                          size_t vl);
vint64m1_t __riscv_vwmaccus_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                          uint32_t rs1, vint32mf2_t vs2,
                                          size_t vl);
vint64m2_t __riscv_vwmaccus_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                          uint32_t rs1, vint32m1_t vs2,
                                          size_t vl);
vint64m4_t __riscv_vwmaccus_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                          uint32_t rs1, vint32m2_t vs2,
                                          size_t vl);
vint64m8_t __riscv_vwmaccus_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
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                                        uint32_t rs1, vint32m4_t vs2,
                                        size_t vl);
vuint16mf4_t __riscv_vwmaccu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                            vuint8mf8_t vs1, vuint8mf8_t vs2,
                                            size_t vl);
vuint16mf4_t __riscv_vwmaccu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                            uint8_t rs1, vuint8mf8_t vs2,
                                            size_t vl);
vuint16mf2_t __riscv_vwmaccu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                            vuint8mf4_t vs1, vuint8mf4_t vs2,
                                            size_t vl);
vuint16mf2_t __riscv_vwmaccu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                            uint8_t rs1, vuint8mf4_t vs2,
                                            size_t vl);
vuint16m1_t __riscv_vwmaccu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                          vuint8mf2_t vs1, vuint8mf2_t vs2,
                                          size_t vl);
vuint16m1_t __riscv_vwmaccu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                          uint8_t rs1, vuint8mf2_t vs2,
                                          size_t vl);
vuint16m2_t __riscv_vwmaccu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                          vuint8m1_t vs1, vuint8m1_t vs2,
                                          size_t vl);
vuint16m2_t __riscv_vwmaccu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                          uint8_t rs1, vuint8m1_t vs2,
                                          size_t vl);
vuint16m4_t __riscv_vwmaccu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                          vuint8m2_t vs1, vuint8m2_t vs2,
                                          size_t vl);
vuint16m4_t __riscv_vwmaccu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                          uint8_t rs1, vuint8m2_t vs2,
                                          size_t vl);
vuint16m8_t __riscv_vwmaccu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                          vuint8m4_t vs1, vuint8m4_t vs2,
                                          size_t vl);
vuint16m8_t __riscv_vwmaccu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                          uint8_t rs1, vuint8m4_t vs2,
                                          size_t vl);
vuint32mf2_t __riscv_vwmaccu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                            vuint16mf4_t vs1, vuint16mf4_t vs2,
                                            size_t vl);
vuint32mf2_t __riscv_vwmaccu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                            uint16_t rs1, vuint16mf4_t vs2,
                                            size_t vl);
vuint32m1_t __riscv_vwmaccu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                          vuint16mf2_t vs1, vuint16mf2_t vs2,
                                          size_t vl);
vuint32m1_t __riscv_vwmaccu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                          uint16_t rs1, vuint16mf2_t vs2,
                                          size_t vl);
vuint32m2_t __riscv_vwmaccu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                          vuint16m1_t vs1, vuint16m1_t vs2,
                                          size_t vl);
vuint32m2_t __riscv_vwmaccu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                          uint16_t rs1, vuint16m1_t vs2,
                                          size_t vl);
vuint32m4_t __riscv_vwmaccu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                          vuint16m2_t vs1, vuint16m2_t vs2,
                                          size_t vl);
vuint32m4_t __riscv_vwmaccu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                          uint16_t rs1, vuint16m2_t vs2,
                                          size_t vl);
vuint32m8_t __riscv_vwmaccu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                          vuint16m4_t vs1, vuint16m4_t vs2,
                                          size_t vl);
vuint32m8_t __riscv_vwmaccu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                          uint16_t rs1, vuint16m4_t vs2,
```

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                                        size_t vl);
vuint64m1_t __riscv_vwmaccu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint32mf2_t vs1, vuint32mf2_t vs2,
                                        size_t vl);
vuint64m1_t __riscv_vwmaccu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        uint32_t rs1, vuint32mf2_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vwmaccu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs1, vuint32m1_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vwmaccu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        uint32_t rs1, vuint32m1_t vs2,
                                        size_t vl);
vuint64m4_t __riscv_vwmaccu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs1, vuint32m2_t vs2,
                                        size_t vl);
vuint64m4_t __riscv_vwmaccu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        uint32_t rs1, vuint32m2_t vs2,
                                        size_t vl);
vuint64m8_t __riscv_vwmaccu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs1, vuint32m4_t vs2,
                                        size_t vl);
vuint64m8_t __riscv_vwmaccu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        uint32_t rs1, vuint32m4_t vs2,
                                        size_t vl);
// masked functions
vint16mf4_t __riscv_vwmacc_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint8mf8_t vs1, vint8mf8_t vs2,
                                      size_t vl);
vint16mf4_t __riscv_vwmacc_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      int8_t rs1, vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint8mf4_t vs1, vint8mf4_t vs2,
                                      size_t vl);
vint16mf2_t __riscv_vwmacc_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      int8_t rs1, vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                    vint8mf2_t vs1, vint8mf2_t vs2,
                                    size_t vl);
vint16m1_t __riscv_vwmacc_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                                    vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs1,
                                    vint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                                    vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs1,
                                    vint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                                    vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs1,
                                    vint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                                    vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint16mf4_t vs1, vint16mf4_t vs2,
                                      size_t vl);
vint32mf2_t __riscv_vwmacc_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      int16_t rs1, vint16mf4_t vs2,
                                      size_t vl);
vint32m1_t __riscv_vwmacc_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint16mf2_t vs1, vint16mf2_t vs2,
                                    size_t vl);
vint32m1_t __riscv_vwmacc_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd, int16_t rs1,
                                    vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint16m1_t vs1, vint16m1_t vs2,
                                    size_t vl);
```

```
vint32m2_t __riscv_vwmacc_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                                      vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      vint16m2_t vs1, vint16m2_t vs2,
                                      size_t vl);
vint32m4_t __riscv_vwmacc_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                                      vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                      vint16m4_t vs1, vint16m4_t vs2,
                                      size_t vl);
vint32m8_t __riscv_vwmacc_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                                      vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      vint32mf2_t vs1, vint32mf2_t vs2,
                                      size_t vl);
vint64m1_t __riscv_vwmacc_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                                      vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      vint32m1_t vs1, vint32m1_t vs2,
                                      size_t vl);
vint64m2_t __riscv_vwmacc_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd, int32_t rs1,
                                      vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      vint32m2_t vs1, vint32m2_t vs2,
                                      size_t vl);
vint64m4_t __riscv_vwmacc_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                                      vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      vint32m4_t vs1, vint32m4_t vs2,
                                      size_t vl);
vint64m8_t __riscv_vwmacc_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                                      vint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                          vint8mf8_t vs1, vuint8mf8_t vs2,
                                          size_t vl);
vint16mf4_t __riscv_vwmaccsu_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                          int8_t rs1, vuint8mf8_t vs2,
                                          size_t vl);
vint16mf2_t __riscv_vwmaccsu_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                          vint8mf4_t vs1, vuint8mf4_t vs2,
                                          size_t vl);
vint16mf2_t __riscv_vwmaccsu_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                          int8_t rs1, vuint8mf4_t vs2,
                                          size_t vl);
vint16m1_t __riscv_vwmaccsu_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                        vint8mf2_t vs1, vuint8mf2_t vs2,
                                        size_t vl);
vint16m1_t __riscv_vwmaccsu_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                                        vuint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                        vint8m1_t vs1, vuint8m1_t vs2,
                                        size_t vl);
vint16m2_t __riscv_vwmaccsu_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                                        vuint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                        vint8m2_t vs1, vuint8m2_t vs2,
                                        size_t vl);
vint16m4_t __riscv_vwmaccsu_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                                        vuint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                        vint8m4_t vs1, vuint8m4_t vs2,
                                        size_t vl);
vint16m8_t __riscv_vwmaccsu_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                                        vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                          vint16mf4_t vs1, vuint16mf4_t vs2,
                                          size_t vl);
```

```
vint32mf2_t __riscv_vwmaccsu_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                          int16_t rs1, vuint16mf4_t vs2,
                                          size_t vl);
vint32m1_t __riscv_vwmaccsu_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                        vint16mf2_t vs1, vuint16mf2_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vwmaccsu_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                        int16_t rs1, vuint16mf2_t vs2,
                                        size_t vl);
vint32m2_t __riscv_vwmaccsu_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                        vint16m1_t vs1, vuint16m1_t vs2,
                                        size_t vl);
vint32m2_t __riscv_vwmaccsu_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                        int16_t rs1, vuint16m1_t vs2,
                                        size_t vl);
vint32m4_t __riscv_vwmaccsu_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                        vint16m2_t vs1, vuint16m2_t vs2,
                                        size_t vl);
vint32m4_t __riscv_vwmaccsu_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                                        vuint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                        vint16m4_t vs1, vuint16m4_t vs2,
                                        size_t vl);
vint32m8_t __riscv_vwmaccsu_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                                        vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                        vint32mf2_t vs1, vuint32mf2_t vs2,
                                        size_t vl);
vint64m1_t __riscv_vwmaccsu_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                        int32_t rs1, vuint32mf2_t vs2,
                                        size_t vl);
vint64m2_t __riscv_vwmaccsu_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                        vint32m1_t vs1, vuint32m1_t vs2,
                                        size_t vl);
vint64m2_t __riscv_vwmaccsu_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                        int32_t rs1, vuint32m1_t vs2,
                                        size_t vl);
vint64m4_t __riscv_vwmaccsu_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                        vint32m2_t vs1, vuint32m2_t vs2,
                                        size_t vl);
vint64m4_t __riscv_vwmaccsu_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                        int32_t rs1, vuint32m2_t vs2,
                                        size_t vl);
vint64m8_t __riscv_vwmaccsu_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                        vint32m4_t vs1, vuint32m4_t vs2,
                                        size_t vl);
vint64m8_t __riscv_vwmaccsu_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                                        vuint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccus_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                          uint8_t rs1, vint8mf8_t vs2,
                                          size_t vl);
vint16mf2_t __riscv_vwmaccus_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                          uint8_t rs1, vint8mf4_t vs2,
                                          size_t vl);
vint16m1_t __riscv_vwmaccus_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                        uint8_t rs1, vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccus_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, uint8_t rs1,
                                        vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccus_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, uint8_t rs1,
                                        vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccus_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, uint8_t rs1,
                                        vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccus_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                          uint16_t rs1, vint16mf4_t vs2,
                                          size_t vl);
vint32m1_t __riscv_vwmaccus_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                        uint16_t rs1, vint16mf2_t vs2,
```

```
                                        size_t vl);
vint32m2_t __riscv_vwmaccus_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                        uint16_t rs1, vint16m1_t vs2,
                                        size_t vl);
vint32m4_t __riscv_vwmaccus_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                        uint16_t rs1, vint16m2_t vs2,
                                        size_t vl);
vint32m8_t __riscv_vwmaccus_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                        uint16_t rs1, vint16m4_t vs2,
                                        size_t vl);
vint64m1_t __riscv_vwmaccus_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                        uint32_t rs1, vint32mf2_t vs2,
                                        size_t vl);
vint64m2_t __riscv_vwmaccus_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                        uint32_t rs1, vint32m1_t vs2,
                                        size_t vl);
vint64m4_t __riscv_vwmaccus_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                        uint32_t rs1, vint32m2_t vs2,
                                        size_t vl);
vint64m8_t __riscv_vwmaccus_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                        uint32_t rs1, vint32m4_t vs2,
                                        size_t vl);
vuint16mf4_t __riscv_vwmaccu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint8mf8_t vs1, vuint8mf8_t vs2,
                                          size_t vl);
vuint16mf4_t __riscv_vwmaccu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                          uint8_t rs1, vuint8mf8_t vs2,
                                          size_t vl);
vuint16mf2_t __riscv_vwmaccu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint8mf4_t vs1, vuint8mf4_t vs2,
                                          size_t vl);
vuint16mf2_t __riscv_vwmaccu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                          uint8_t rs1, vuint8mf4_t vs2,
                                          size_t vl);
vuint16m1_t __riscv_vwmaccu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                        vuint8mf2_t vs1, vuint8mf2_t vs2,
                                        size_t vl);
vuint16m1_t __riscv_vwmaccu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                        uint8_t rs1, vuint8mf2_t vs2,
                                        size_t vl);
vuint16m2_t __riscv_vwmaccu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                        vuint8m1_t vs1, vuint8m1_t vs2,
                                        size_t vl);
vuint16m2_t __riscv_vwmaccu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                        uint8_t rs1, vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                        vuint8m2_t vs1, vuint8m2_t vs2,
                                        size_t vl);
vuint16m4_t __riscv_vwmaccu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                        uint8_t rs1, vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                        vuint8m4_t vs1, vuint8m4_t vs2,
                                        size_t vl);
vuint16m8_t __riscv_vwmaccu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                        uint8_t rs1, vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint16mf4_t vs1, vuint16mf4_t vs2,
                                          size_t vl);
vuint32mf2_t __riscv_vwmaccu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                          uint16_t rs1, vuint16mf4_t vs2,
                                          size_t vl);
vuint32m1_t __riscv_vwmaccu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                        vuint16mf2_t vs1, vuint16mf2_t vs2,
                                        size_t vl);
vuint32m1_t __riscv_vwmaccu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                        uint16_t rs1, vuint16mf2_t vs2,
                                        size_t vl);
```

```
vuint32m2_t __riscv_vwmaccu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                        vuint16m1_t vs1, vuint16m1_t vs2,
                                        size_t vl);
vuint32m2_t __riscv_vwmaccu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                        uint16_t rs1, vuint16m1_t vs2,
                                        size_t vl);
vuint32m4_t __riscv_vwmaccu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        vuint16m2_t vs1, vuint16m2_t vs2,
                                        size_t vl);
vuint32m4_t __riscv_vwmaccu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        uint16_t rs1, vuint16m2_t vs2,
                                        size_t vl);
vuint32m8_t __riscv_vwmaccu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                        vuint16m4_t vs1, vuint16m4_t vs2,
                                        size_t vl);
vuint32m8_t __riscv_vwmaccu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                        uint16_t rs1, vuint16m4_t vs2,
                                        size_t vl);
vuint64m1_t __riscv_vwmaccu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                        vuint32mf2_t vs1, vuint32mf2_t vs2,
                                        size_t vl);
vuint64m1_t __riscv_vwmaccu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                        uint32_t rs1, vuint32mf2_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vwmaccu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                        vuint32m1_t vs1, vuint32m1_t vs2,
                                        size_t vl);
vuint64m2_t __riscv_vwmaccu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                        uint32_t rs1, vuint32m1_t vs2,
                                        size_t vl);
vuint64m4_t __riscv_vwmaccu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                        vuint32m2_t vs1, vuint32m2_t vs2,
                                        size_t vl);
vuint64m4_t __riscv_vwmaccu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                        uint32_t rs1, vuint32m2_t vs2,
                                        size_t vl);
vuint64m8_t __riscv_vwmaccu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                        vuint32m4_t vs1, vuint32m4_t vs2,
                                        size_t vl);
vuint64m8_t __riscv_vwmaccu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                        uint32_t rs1, vuint32m4_t vs2,
                                        size_t vl);
```

B.3.19. Vector Integer Merge Intrinsics

```
vint8mf8_t __riscv_vmerge_vvm_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                       vint8mf8_t vs1, vbool64_t v0, size_t vl);
vint8mf8_t __riscv_vmerge_vxm_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                       int8_t rs1, vbool64_t v0, size_t vl);
vint8mf4_t __riscv_vmerge_vvm_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                       vint8mf4_t vs1, vbool32_t v0, size_t vl);
vint8mf4_t __riscv_vmerge_vxm_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                       int8_t rs1, vbool32_t v0, size_t vl);
vint8mf2_t __riscv_vmerge_vvm_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                       vint8mf2_t vs1, vbool16_t v0, size_t vl);
vint8mf2_t __riscv_vmerge_vxm_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                       int8_t rs1, vbool16_t v0, size_t vl);
vint8m1_t __riscv_vmerge_vvm_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                     vbool8_t v0, size_t vl);
vint8m1_t __riscv_vmerge_vxm_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                     vbool8_t v0, size_t vl);
vint8m2_t __riscv_vmerge_vvm_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                     vbool4_t v0, size_t vl);
vint8m2_t __riscv_vmerge_vxm_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                     vbool4_t v0, size_t vl);
```

```
vint8m4_t __riscv_vmerge_vvm_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                     vbool2_t v0, size_t vl);
vint8m4_t __riscv_vmerge_vxm_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                     vbool2_t v0, size_t vl);
vint8m8_t __riscv_vmerge_vvm_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                     vbool1_t v0, size_t vl);
vint8m8_t __riscv_vmerge_vxm_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                     vbool1_t v0, size_t vl);
vint16mf4_t __riscv_vmerge_vvm_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                         vint16mf4_t vs1, vbool64_t v0,
                                         size_t vl);
vint16mf4_t __riscv_vmerge_vxm_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                         int16_t rs1, vbool64_t v0, size_t vl);
vint16mf2_t __riscv_vmerge_vvm_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                         vint16mf2_t vs1, vbool32_t v0,
                                         size_t vl);
vint16mf2_t __riscv_vmerge_vxm_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                         int16_t rs1, vbool32_t v0, size_t vl);
vint16m1_t __riscv_vmerge_vvm_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                       vint16m1_t vs1, vbool16_t v0, size_t vl);
vint16m1_t __riscv_vmerge_vxm_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                       int16_t rs1, vbool16_t v0, size_t vl);
vint16m2_t __riscv_vmerge_vvm_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                       vint16m2_t vs1, vbool8_t v0, size_t vl);
vint16m2_t __riscv_vmerge_vxm_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                       int16_t rs1, vbool8_t v0, size_t vl);
vint16m4_t __riscv_vmerge_vvm_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                       vint16m4_t vs1, vbool4_t v0, size_t vl);
vint16m4_t __riscv_vmerge_vxm_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                       int16_t rs1, vbool4_t v0, size_t vl);
vint16m8_t __riscv_vmerge_vvm_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                       vint16m8_t vs1, vbool2_t v0, size_t vl);
vint16m8_t __riscv_vmerge_vxm_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                       int16_t rs1, vbool2_t v0, size_t vl);
vint32mf2_t __riscv_vmerge_vvm_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                         vint32mf2_t vs1, vbool64_t v0,
                                         size_t vl);
vint32mf2_t __riscv_vmerge_vxm_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                         int32_t rs1, vbool64_t v0, size_t vl);
vint32m1_t __riscv_vmerge_vvm_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                       vint32m1_t vs1, vbool32_t v0, size_t vl);
vint32m1_t __riscv_vmerge_vxm_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                       int32_t rs1, vbool32_t v0, size_t vl);
vint32m2_t __riscv_vmerge_vvm_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                       vint32m2_t vs1, vbool16_t v0, size_t vl);
vint32m2_t __riscv_vmerge_vxm_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                       int32_t rs1, vbool16_t v0, size_t vl);
vint32m4_t __riscv_vmerge_vvm_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                       vint32m4_t vs1, vbool8_t v0, size_t vl);
vint32m4_t __riscv_vmerge_vxm_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                       int32_t rs1, vbool8_t v0, size_t vl);
vint32m8_t __riscv_vmerge_vvm_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                       vint32m8_t vs1, vbool4_t v0, size_t vl);
vint32m8_t __riscv_vmerge_vxm_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                       int32_t rs1, vbool4_t v0, size_t vl);
vint64m1_t __riscv_vmerge_vvm_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                       vint64m1_t vs1, vbool64_t v0, size_t vl);
vint64m1_t __riscv_vmerge_vxm_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                       int64_t rs1, vbool64_t v0, size_t vl);
vint64m2_t __riscv_vmerge_vvm_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                       vint64m2_t vs1, vbool32_t v0, size_t vl);
vint64m2_t __riscv_vmerge_vxm_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                       int64_t rs1, vbool32_t v0, size_t vl);
vint64m4_t __riscv_vmerge_vvm_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                       vint64m4_t vs1, vbool16_t v0, size_t vl);
vint64m4_t __riscv_vmerge_vxm_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                       int64_t rs1, vbool16_t v0, size_t vl);
```

```
vint64m8_t __riscv_vmerge_vvm_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                       vint64m8_t vs1, vbool8_t v0, size_t vl);
vint64m8_t __riscv_vmerge_vxm_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                       int64_t rs1, vbool8_t v0, size_t vl);
vuint8mf8_t __riscv_vmerge_vvm_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                        vuint8mf8_t vs1, vbool64_t v0,
                                        size_t vl);
vuint8mf8_t __riscv_vmerge_vxm_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                        uint8_t rs1, vbool64_t v0, size_t vl);
vuint8mf4_t __riscv_vmerge_vvm_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                        vuint8mf4_t vs1, vbool32_t v0,
                                        size_t vl);
vuint8mf4_t __riscv_vmerge_vxm_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                        uint8_t rs1, vbool32_t v0, size_t vl);
vuint8mf2_t __riscv_vmerge_vvm_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                        vuint8mf2_t vs1, vbool16_t v0,
                                        size_t vl);
vuint8mf2_t __riscv_vmerge_vxm_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                        uint8_t rs1, vbool16_t v0, size_t vl);
vuint8m1_t __riscv_vmerge_vvm_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                      vuint8m1_t vs1, vbool8_t v0, size_t vl);
vuint8m1_t __riscv_vmerge_vxm_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                      uint8_t rs1, vbool8_t v0, size_t vl);
vuint8m2_t __riscv_vmerge_vvm_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                      vuint8m2_t vs1, vbool4_t v0, size_t vl);
vuint8m2_t __riscv_vmerge_vxm_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                      uint8_t rs1, vbool4_t v0, size_t vl);
vuint8m4_t __riscv_vmerge_vvm_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                      vuint8m4_t vs1, vbool2_t v0, size_t vl);
vuint8m4_t __riscv_vmerge_vxm_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                      uint8_t rs1, vbool2_t v0, size_t vl);
vuint8m8_t __riscv_vmerge_vvm_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                      vuint8m8_t vs1, vbool1_t v0, size_t vl);
vuint8m8_t __riscv_vmerge_vxm_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                      uint8_t rs1, vbool1_t v0, size_t vl);
vuint16mf4_t __riscv_vmerge_vvm_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                          vuint16mf4_t vs1, vbool64_t v0,
                                          size_t vl);
vuint16mf4_t __riscv_vmerge_vxm_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                          uint16_t rs1, vbool64_t v0,
                                          size_t vl);
vuint16mf2_t __riscv_vmerge_vvm_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                          vuint16mf2_t vs1, vbool32_t v0,
                                          size_t vl);
vuint16mf2_t __riscv_vmerge_vxm_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                          uint16_t rs1, vbool32_t v0,
                                          size_t vl);
vuint16m1_t __riscv_vmerge_vvm_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                        vuint16m1_t vs1, vbool16_t v0,
                                        size_t vl);
vuint16m1_t __riscv_vmerge_vxm_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                        uint16_t rs1, vbool16_t v0, size_t vl);
vuint16m2_t __riscv_vmerge_vvm_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                        vuint16m2_t vs1, vbool8_t v0,
                                        size_t vl);
vuint16m2_t __riscv_vmerge_vxm_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                        uint16_t rs1, vbool8_t v0, size_t vl);
vuint16m4_t __riscv_vmerge_vvm_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                        vuint16m4_t vs1, vbool4_t v0,
                                        size_t vl);
vuint16m4_t __riscv_vmerge_vxm_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                        uint16_t rs1, vbool4_t v0, size_t vl);
vuint16m8_t __riscv_vmerge_vvm_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                        vuint16m8_t vs1, vbool2_t v0,
                                        size_t vl);
vuint16m8_t __riscv_vmerge_vxm_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                        uint16_t rs1, vbool2_t v0, size_t vl);
```

```
vuint32mf2_t __riscv_vmerge_vvm_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                          vuint32mf2_t vs1, vbool64_t v0,
                                          size_t vl);
vuint32mf2_t __riscv_vmerge_vxm_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                          uint32_t rs1, vbool64_t v0,
                                          size_t vl);
vuint32m1_t __riscv_vmerge_vvm_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                        vuint32m1_t vs1, vbool32_t v0,
                                        size_t vl);
vuint32m1_t __riscv_vmerge_vxm_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                        uint32_t rs1, vbool32_t v0, size_t vl);
vuint32m2_t __riscv_vmerge_vvm_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                        vuint32m2_t vs1, vbool16_t v0,
                                        size_t vl);
vuint32m2_t __riscv_vmerge_vxm_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                        uint32_t rs1, vbool16_t v0, size_t vl);
vuint32m4_t __riscv_vmerge_vvm_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                        vuint32m4_t vs1, vbool8_t v0,
                                        size_t vl);
vuint32m4_t __riscv_vmerge_vxm_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                        uint32_t rs1, vbool8_t v0, size_t vl);
vuint32m8_t __riscv_vmerge_vvm_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                        vuint32m8_t vs1, vbool4_t v0,
                                        size_t vl);
vuint32m8_t __riscv_vmerge_vxm_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                        uint32_t rs1, vbool4_t v0, size_t vl);
vuint64m1_t __riscv_vmerge_vvm_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                        vuint64m1_t vs1, vbool64_t v0,
                                        size_t vl);
vuint64m1_t __riscv_vmerge_vxm_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                        uint64_t rs1, vbool64_t v0, size_t vl);
vuint64m2_t __riscv_vmerge_vvm_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                        vuint64m2_t vs1, vbool32_t v0,
                                        size_t vl);
vuint64m2_t __riscv_vmerge_vxm_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                        uint64_t rs1, vbool32_t v0, size_t vl);
vuint64m4_t __riscv_vmerge_vvm_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                        vuint64m4_t vs1, vbool16_t v0,
                                        size_t vl);
vuint64m4_t __riscv_vmerge_vxm_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                        uint64_t rs1, vbool16_t v0, size_t vl);
vuint64m8_t __riscv_vmerge_vvm_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                        vuint64m8_t vs1, vbool8_t v0,
                                        size_t vl);
vuint64m8_t __riscv_vmerge_vxm_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                        uint64_t rs1, vbool8_t v0, size_t vl);
```

B.3.20. Vector Integer Move Intrinsics

```
vint8mf8_t __riscv_vmv_v_v_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmv_v_x_i8mf8_tu(vint8mf8_t vd, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmv_v_v_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmv_v_x_i8mf4_tu(vint8mf4_t vd, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmv_v_v_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmv_v_x_i8mf2_tu(vint8mf2_t vd, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmv_v_v_i8m1_tu(vint8m1_t vd, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmv_v_x_i8m1_tu(vint8m1_t vd, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmv_v_v_i8m2_tu(vint8m2_t vd, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmv_v_x_i8m2_tu(vint8m2_t vd, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmv_v_v_i8m4_tu(vint8m4_t vd, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmv_v_x_i8m4_tu(vint8m4_t vd, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmv_v_v_i8m8_tu(vint8m8_t vd, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmv_v_x_i8m8_tu(vint8m8_t vd, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmv_v_v_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs1,
                                      size_t vl);
```

```
vint16mf4_t __riscv_vmv_v_x_i16mf4_tu(vint16mf4_t vd, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmv_v_v_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vmv_v_x_i16mf2_tu(vint16mf2_t vd, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmv_v_v_i16m1_tu(vint16m1_t vd, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmv_v_x_i16m1_tu(vint16m1_t vd, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmv_v_v_i16m2_tu(vint16m2_t vd, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmv_v_x_i16m2_tu(vint16m2_t vd, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmv_v_v_i16m4_tu(vint16m4_t vd, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmv_v_x_i16m4_tu(vint16m4_t vd, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmv_v_v_i16m8_tu(vint16m8_t vd, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmv_v_x_i16m8_tu(vint16m8_t vd, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmv_v_v_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs1,
                                      size_t vl);
vint32mf2_t __riscv_vmv_v_x_i32mf2_tu(vint32mf2_t vd, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmv_v_v_i32m1_tu(vint32m1_t vd, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmv_v_x_i32m1_tu(vint32m1_t vd, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmv_v_v_i32m2_tu(vint32m2_t vd, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmv_v_x_i32m2_tu(vint32m2_t vd, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmv_v_v_i32m4_tu(vint32m4_t vd, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmv_v_x_i32m4_tu(vint32m4_t vd, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmv_v_v_i32m8_tu(vint32m8_t vd, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmv_v_x_i32m8_tu(vint32m8_t vd, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmv_v_v_i64m1_tu(vint64m1_t vd, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmv_v_x_i64m1_tu(vint64m1_t vd, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmv_v_v_i64m2_tu(vint64m2_t vd, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmv_v_x_i64m2_tu(vint64m2_t vd, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmv_v_v_i64m4_tu(vint64m4_t vd, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmv_v_x_i64m4_tu(vint64m4_t vd, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmv_v_v_i64m8_tu(vint64m8_t vd, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmv_v_x_i64m8_tu(vint64m8_t vd, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmv_v_v_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vmv_v_x_u8mf8_tu(vuint8mf8_t vd, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmv_v_v_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vmv_v_x_u8mf4_tu(vuint8mf4_t vd, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmv_v_v_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs1,
                                     size_t vl);
vuint8mf2_t __riscv_vmv_v_x_u8mf2_tu(vuint8mf2_t vd, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmv_v_v_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmv_v_x_u8m1_tu(vuint8m1_t vd, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmv_v_v_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmv_v_x_u8m2_tu(vuint8m2_t vd, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmv_v_v_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmv_v_x_u8m4_tu(vuint8m4_t vd, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmv_v_v_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmv_v_x_u8m8_tu(vuint8m8_t vd, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmv_v_v_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vmv_v_x_u16mf4_tu(vuint16mf4_t vd, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vmv_v_v_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vmv_v_x_u16mf2_tu(vuint16mf2_t vd, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vmv_v_v_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vmv_v_x_u16m1_tu(vuint16m1_t vd, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmv_v_v_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs1,
                                     size_t vl);
vuint16m2_t __riscv_vmv_v_x_u16m2_tu(vuint16m2_t vd, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmv_v_v_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs1,
                                     size_t vl);
vuint16m4_t __riscv_vmv_v_x_u16m4_tu(vuint16m4_t vd, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmv_v_v_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs1,
                                     size_t vl);
```

```
vuint16m8_t __riscv_vmv_v_x_u16m8_tu(vuint16m8_t vd, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmv_v_v_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs1,
                                       size_t vl);
vuint32mf2_t __riscv_vmv_v_x_u32mf2_tu(vuint32mf2_t vd, uint32_t rs1,
                                       size_t vl);
vuint32m1_t __riscv_vmv_v_v_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs1,
                                     size_t vl);
vuint32m1_t __riscv_vmv_v_x_u32m1_tu(vuint32m1_t vd, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmv_v_v_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs1,
                                     size_t vl);
vuint32m2_t __riscv_vmv_v_x_u32m2_tu(vuint32m2_t vd, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmv_v_v_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs1,
                                     size_t vl);
vuint32m4_t __riscv_vmv_v_x_u32m4_tu(vuint32m4_t vd, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmv_v_v_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs1,
                                     size_t vl);
vuint32m8_t __riscv_vmv_v_x_u32m8_tu(vuint32m8_t vd, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmv_v_v_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs1,
                                     size_t vl);
vuint64m1_t __riscv_vmv_v_x_u64m1_tu(vuint64m1_t vd, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmv_v_v_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs1,
                                     size_t vl);
vuint64m2_t __riscv_vmv_v_x_u64m2_tu(vuint64m2_t vd, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmv_v_v_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs1,
                                     size_t vl);
vuint64m4_t __riscv_vmv_v_x_u64m4_tu(vuint64m4_t vd, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmv_v_v_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs1,
                                     size_t vl);
vuint64m8_t __riscv_vmv_v_x_u64m8_tu(vuint64m8_t vd, uint64_t rs1, size_t vl);
```

B.4. Vector Fixed-Point Arithmetic Intrinsics

B.4.1. Vector Single-Width Saturating Add and Subtract Intrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vsadd_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                     vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsadd_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                     size_t vl);
vint8mf4_t __riscv_vsadd_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                     vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsadd_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                     size_t vl);
vint8mf2_t __riscv_vsadd_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                     vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsadd_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                     size_t vl);
vint8m1_t __riscv_vsadd_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                   size_t vl);
vint8m1_t __riscv_vsadd_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                   size_t vl);
vint8m2_t __riscv_vsadd_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                   size_t vl);
vint8m2_t __riscv_vsadd_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m4_t __riscv_vsadd_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                   size_t vl);
vint8m4_t __riscv_vsadd_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                   size_t vl);
vint8m8_t __riscv_vsadd_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                   size_t vl);
vint8m8_t __riscv_vsadd_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
```

```
                                    size_t vl);
vint16mf4_t __riscv_vsadd_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsadd_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsadd_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsadd_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       int16_t rs1, size_t vl);
vint16m1_t __riscv_vsadd_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                     vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsadd_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                     size_t vl);
vint16m2_t __riscv_vsadd_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsadd_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m4_t __riscv_vsadd_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsadd_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                     size_t vl);
vint16m8_t __riscv_vsadd_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsadd_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                     size_t vl);
vint32mf2_t __riscv_vsadd_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsadd_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       int32_t rs1, size_t vl);
vint32m1_t __riscv_vsadd_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                     vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsadd_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                     size_t vl);
vint32m2_t __riscv_vsadd_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                     vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsadd_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                     size_t vl);
vint32m4_t __riscv_vsadd_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsadd_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vint32m8_t __riscv_vsadd_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsadd_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                     size_t vl);
vint64m1_t __riscv_vsadd_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                     vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsadd_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                     size_t vl);
vint64m2_t __riscv_vsadd_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                     vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsadd_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                     size_t vl);
vint64m4_t __riscv_vsadd_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                     vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsadd_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                     size_t vl);
vint64m8_t __riscv_vsadd_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsadd_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                     size_t vl);
vint8mf8_t __riscv_vssub_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                     vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vssub_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                     size_t vl);
vint8mf4_t __riscv_vssub_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                     vint8mf4_t vs1, size_t vl);
```

```
vint8mf4_t __riscv_vssub_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                     size_t vl);
vint8mf2_t __riscv_vssub_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                     vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vssub_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                     size_t vl);
vint8m1_t __riscv_vssub_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                   size_t vl);
vint8m1_t __riscv_vssub_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                   size_t vl);
vint8m2_t __riscv_vssub_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                   size_t vl);
vint8m2_t __riscv_vssub_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                   size_t vl);
vint8m4_t __riscv_vssub_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                   size_t vl);
vint8m4_t __riscv_vssub_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                   size_t vl);
vint8m8_t __riscv_vssub_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                   size_t vl);
vint8m8_t __riscv_vssub_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                   size_t vl);
vint16mf4_t __riscv_vssub_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vssub_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       int16_t rs1, size_t vl);
vint16mf2_t __riscv_vssub_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vssub_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       int16_t rs1, size_t vl);
vint16m1_t __riscv_vssub_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                     vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vssub_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                     size_t vl);
vint16m2_t __riscv_vssub_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vssub_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                     size_t vl);
vint16m4_t __riscv_vssub_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vssub_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                     size_t vl);
vint16m8_t __riscv_vssub_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vssub_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                     size_t vl);
vint32mf2_t __riscv_vssub_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vssub_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       int32_t rs1, size_t vl);
vint32m1_t __riscv_vssub_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                     vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vssub_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                     size_t vl);
vint32m2_t __riscv_vssub_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                     vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vssub_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                     size_t vl);
vint32m4_t __riscv_vssub_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vssub_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                     size_t vl);
vint32m8_t __riscv_vssub_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vssub_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                     size_t vl);
vint64m1_t __riscv_vssub_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
```

```
                                    vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vssub_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                    size_t vl);
vint64m2_t __riscv_vssub_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vssub_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                    size_t vl);
vint64m4_t __riscv_vssub_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vssub_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                    size_t vl);
vint64m8_t __riscv_vssub_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vssub_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vsaddu_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsaddu_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsaddu_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsaddu_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m2_t __riscv_vsaddu_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsaddu_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m4_t __riscv_vsaddu_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsaddu_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                    size_t vl);
vuint8m8_t __riscv_vsaddu_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsaddu_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                    size_t vl);
vuint16mf4_t __riscv_vsaddu_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsaddu_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsaddu_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsaddu_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsaddu_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsaddu_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsaddu_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsaddu_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsaddu_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsaddu_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsaddu_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      uint16_t rs1, size_t vl);
```

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vuint32mf2_t __riscv_vsaddu_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                         vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsaddu_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                         uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsaddu_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsaddu_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsaddu_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                       vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsaddu_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsaddu_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                       vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsaddu_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsaddu_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                       vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsaddu_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsaddu_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                       vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsaddu_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                       uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsaddu_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                       vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsaddu_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                       uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsaddu_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                       vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsaddu_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                       uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsaddu_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                       vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsaddu_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                       uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vssubu_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                       vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vssubu_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                       uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vssubu_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                       vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vssubu_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                       uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vssubu_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                       vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vssubu_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                       uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vssubu_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vssubu_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m2_t __riscv_vssubu_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vssubu_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m4_t __riscv_vssubu_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vssubu_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m8_t __riscv_vssubu_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vssubu_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                     size_t vl);
vuint16mf4_t __riscv_vssubu_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                         vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vssubu_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
```

```
                                        uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vssubu_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                         vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vssubu_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                         uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vssubu_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                       vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vssubu_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vssubu_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                       vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vssubu_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vssubu_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                       vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vssubu_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                       uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vssubu_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                       vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vssubu_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                       uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vssubu_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                         vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vssubu_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                         uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vssubu_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vssubu_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vssubu_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                       vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vssubu_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vssubu_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                       vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vssubu_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                       uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vssubu_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                       vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vssubu_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                       uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vssubu_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                       vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vssubu_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                       uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vssubu_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                       vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vssubu_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                       uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vssubu_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                       vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vssubu_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                       uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vssubu_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                       vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vssubu_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                       uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsadd_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, vint8mf8_t vs1,
                                      size_t vl);
vint8mf8_t __riscv_vsadd_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsadd_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      size_t vl);
vint8mf4_t __riscv_vsadd_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
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                                      vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsadd_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      size_t vl);
vint8mf2_t __riscv_vsadd_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vsadd_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsadd_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    int8_t rs1, size_t vl);
vint8m2_t __riscv_vsadd_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsadd_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m4_t __riscv_vsadd_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsadd_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, size_t vl);
vint8m8_t __riscv_vsadd_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsadd_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsadd_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vsadd_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vsadd_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vsadd_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vsadd_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vsadd_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vsadd_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vsadd_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vsadd_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vsadd_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vsadd_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      size_t vl);
vint16m8_t __riscv_vsadd_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsadd_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vsadd_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vsadd_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vsadd_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vsadd_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
```

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                                    size_t vl);
vint32m2_t __riscv_vsadd_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vsadd_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vsadd_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vsadd_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, vint32m8_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vsadd_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vsadd_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint64m1_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vsadd_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vsadd_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint64m2_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vsadd_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vsadd_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint64m4_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vsadd_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vsadd_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vsadd_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vssub_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vint8mf8_t vs1,
                                    size_t vl);
vint8mf8_t __riscv_vssub_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vssub_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, vint8mf4_t vs1,
                                    size_t vl);
vint8mf4_t __riscv_vssub_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vssub_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vint8mf2_t vs1,
                                    size_t vl);
vint8mf2_t __riscv_vssub_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vssub_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vssub_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vssub_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vssub_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vssub_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vssub_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vssub_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vssub_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vssub_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      size_t vl);
```

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vint16mf4_t __riscv_vssub_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vssub_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        size_t vl);
vint16mf2_t __riscv_vssub_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vssub_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vssub_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vssub_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      size_t vl);
vint16m2_t __riscv_vssub_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vssub_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      size_t vl);
vint16m4_t __riscv_vssub_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vssub_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      size_t vl);
vint16m8_t __riscv_vssub_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vssub_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        size_t vl);
vint32mf2_t __riscv_vssub_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vssub_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vssub_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vssub_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      size_t vl);
vint32m2_t __riscv_vssub_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vssub_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      size_t vl);
vint32m4_t __riscv_vssub_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vssub_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      size_t vl);
vint32m8_t __riscv_vssub_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vssub_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      size_t vl);
vint64m1_t __riscv_vssub_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vssub_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint64m2_t vs1,
                                      size_t vl);
vint64m2_t __riscv_vssub_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vssub_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint64m4_t vs1,
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                                    size_t vl);
vint64m4_t __riscv_vssub_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vssub_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vssub_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsaddu_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vsaddu_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf4_t __riscv_vsaddu_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vsaddu_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf2_t __riscv_vsaddu_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vsaddu_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8m1_t __riscv_vsaddu_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vsaddu_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsaddu_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint8m2_t __riscv_vsaddu_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsaddu_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint8m4_t __riscv_vsaddu_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsaddu_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vuint8m8_t __riscv_vsaddu_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vsaddu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vsaddu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vsaddu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vsaddu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vsaddu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m2_t __riscv_vsaddu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
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vuint16m2_t __riscv_vsaddu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m4_t __riscv_vsaddu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vuint16m4_t __riscv_vsaddu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m8_t __riscv_vsaddu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, vuint16m8_t vs1,
                                        size_t vl);
vuint16m8_t __riscv_vsaddu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32mf2_t __riscv_vsaddu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vuint32mf2_t __riscv_vsaddu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m1_t __riscv_vsaddu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vsaddu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m2_t __riscv_vsaddu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vsaddu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m4_t __riscv_vsaddu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vsaddu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m8_t __riscv_vsaddu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vsaddu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vsaddu_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vsaddu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vsaddu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vsaddu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vsaddu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vsaddu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vsaddu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint64m8_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vsaddu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
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                                      vuint64m8_t vs2, uint64_t rs1,
                                      size_t vl);
vuint8mf8_t __riscv_vssubu_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vssubu_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf4_t __riscv_vssubu_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vssubu_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf2_t __riscv_vssubu_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vssubu_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8m1_t __riscv_vssubu_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vssubu_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vssubu_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint8m2_t __riscv_vssubu_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vssubu_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint8m4_t __riscv_vssubu_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vssubu_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vuint8m8_t __riscv_vssubu_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vssubu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        size_t vl);
vuint16mf4_t __riscv_vssubu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16mf2_t __riscv_vssubu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        size_t vl);
vuint16mf2_t __riscv_vssubu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m1_t __riscv_vssubu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vssubu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m2_t __riscv_vssubu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vssubu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m4_t __riscv_vssubu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
```

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vuint16m4_t __riscv_vssubu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m8_t __riscv_vssubu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, vuint16m8_t vs1,
                                        size_t vl);
vuint16m8_t __riscv_vssubu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32mf2_t __riscv_vssubu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vuint32mf2_t __riscv_vssubu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m1_t __riscv_vssubu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vssubu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m2_t __riscv_vssubu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vssubu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m4_t __riscv_vssubu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vssubu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m8_t __riscv_vssubu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vssubu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vssubu_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vssubu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vssubu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vssubu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vssubu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vssubu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vssubu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint64m8_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vssubu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, uint64_t rs1,
                                        size_t vl);
// masked functions
vint8mf8_t __riscv_vsadd_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs2, vint8mf8_t vs1,
                                       size_t vl);
```

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vint8mf8_t __riscv_vsadd_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsadd_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs2, vint8mf4_t vs1,
                                       size_t vl);
vint8mf4_t __riscv_vsadd_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsadd_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs2, vint8mf2_t vs1,
                                       size_t vl);
vint8mf2_t __riscv_vsadd_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vsadd_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                     vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsadd_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                     int8_t rs1, size_t vl);
vint8m2_t __riscv_vsadd_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                     vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsadd_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                     int8_t rs1, size_t vl);
vint8m4_t __riscv_vsadd_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                     vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsadd_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                     int8_t rs1, size_t vl);
vint8m8_t __riscv_vsadd_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                     vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsadd_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                     int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsadd_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vint16mf4_t __riscv_vsadd_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, int16_t rs1,
                                         size_t vl);
vint16mf2_t __riscv_vsadd_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, vint16mf2_t vs1,
                                         size_t vl);
vint16mf2_t __riscv_vsadd_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, int16_t rs1,
                                         size_t vl);
vint16m1_t __riscv_vsadd_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, vint16m1_t vs1,
                                       size_t vl);
vint16m1_t __riscv_vsadd_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vsadd_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, vint16m2_t vs1,
                                       size_t vl);
vint16m2_t __riscv_vsadd_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vsadd_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, vint16m4_t vs1,
                                       size_t vl);
vint16m4_t __riscv_vsadd_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vsadd_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, vint16m8_t vs1,
                                       size_t vl);
vint16m8_t __riscv_vsadd_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsadd_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, vint32mf2_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vsadd_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, int32_t rs1,
                                         size_t vl);
vint32m1_t __riscv_vsadd_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
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                                    vint32m1_t vs2, vint32m1_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vsadd_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vsadd_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vint32m2_t vs1,
                                    size_t vl);
vint32m2_t __riscv_vsadd_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vsadd_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, vint32m4_t vs1,
                                    size_t vl);
vint32m4_t __riscv_vsadd_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vsadd_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, vint32m8_t vs1,
                                    size_t vl);
vint32m8_t __riscv_vsadd_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vsadd_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint64m1_t vs1,
                                    size_t vl);
vint64m1_t __riscv_vsadd_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vsadd_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint64m2_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vsadd_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vsadd_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint64m4_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vsadd_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vsadd_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vsadd_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vssub_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vint8mf8_t vs1,
                                    size_t vl);
vint8mf8_t __riscv_vssub_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vssub_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, vint8mf4_t vs1,
                                    size_t vl);
vint8mf4_t __riscv_vssub_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vssub_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vint8mf2_t vs1,
                                    size_t vl);
vint8mf2_t __riscv_vssub_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vssub_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vssub_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vssub_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vssub_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vssub_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vssub_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vssub_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
```

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                                    vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vssub_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, size_t vl);
vint16mf4_t __riscv_vssub_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, vint16mf4_t vs1,
                                         size_t vl);
vint16mf4_t __riscv_vssub_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, int16_t rs1,
                                         size_t vl);
vint16mf2_t __riscv_vssub_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, vint16mf2_t vs1,
                                         size_t vl);
vint16mf2_t __riscv_vssub_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, int16_t rs1,
                                         size_t vl);
vint16m1_t __riscv_vssub_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, vint16m1_t vs1,
                                       size_t vl);
vint16m1_t __riscv_vssub_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vssub_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, vint16m2_t vs1,
                                       size_t vl);
vint16m2_t __riscv_vssub_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vssub_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, vint16m4_t vs1,
                                       size_t vl);
vint16m4_t __riscv_vssub_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vssub_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, vint16m8_t vs1,
                                       size_t vl);
vint16m8_t __riscv_vssub_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vssub_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, vint32mf2_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vssub_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, int32_t rs1,
                                         size_t vl);
vint32m1_t __riscv_vssub_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, vint32m1_t vs1,
                                       size_t vl);
vint32m1_t __riscv_vssub_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vssub_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, vint32m2_t vs1,
                                       size_t vl);
vint32m2_t __riscv_vssub_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vssub_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, vint32m4_t vs1,
                                       size_t vl);
vint32m4_t __riscv_vssub_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vssub_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, vint32m8_t vs1,
                                       size_t vl);
vint32m8_t __riscv_vssub_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vssub_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, vint64m1_t vs1,
                                       size_t vl);
vint64m1_t __riscv_vssub_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vssub_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
```

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                                    vint64m2_t vs2, vint64m2_t vs1,
                                    size_t vl);
vint64m2_t __riscv_vssub_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vssub_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint64m4_t vs1,
                                    size_t vl);
vint64m4_t __riscv_vssub_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vssub_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vint64m8_t vs1,
                                    size_t vl);
vint64m8_t __riscv_vssub_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsaddu_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, vuint8mf8_t vs1,
                                     size_t vl);
vuint8mf8_t __riscv_vsaddu_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf4_t __riscv_vsaddu_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, vuint8mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vsaddu_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8mf2_t __riscv_vsaddu_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, vuint8mf2_t vs1,
                                     size_t vl);
vuint8mf2_t __riscv_vsaddu_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, uint8_t rs1,
                                     size_t vl);
vuint8m1_t __riscv_vsaddu_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vsaddu_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsaddu_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint8m2_t __riscv_vsaddu_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsaddu_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint8m4_t __riscv_vsaddu_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsaddu_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vuint8m8_t __riscv_vsaddu_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vsaddu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vsaddu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vsaddu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vsaddu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
```

```
vuint16m1_t __riscv_vsaddu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m2_t __riscv_vsaddu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vuint16m2_t __riscv_vsaddu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m4_t __riscv_vsaddu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vuint16m4_t __riscv_vsaddu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m8_t __riscv_vsaddu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, vuint16m8_t vs1,
                                         size_t vl);
vuint16m8_t __riscv_vsaddu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32mf2_t __riscv_vsaddu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs2, vuint32mf2_t vs1,
                                           size_t vl);
vuint32mf2_t __riscv_vsaddu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs2, uint32_t rs1,
                                           size_t vl);
vuint32m1_t __riscv_vsaddu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vsaddu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m2_t __riscv_vsaddu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, vuint32m2_t vs1,
                                         size_t vl);
vuint32m2_t __riscv_vsaddu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m4_t __riscv_vsaddu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, vuint32m4_t vs1,
                                         size_t vl);
vuint32m4_t __riscv_vsaddu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m8_t __riscv_vsaddu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, vuint32m8_t vs1,
                                         size_t vl);
vuint32m8_t __riscv_vsaddu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, uint32_t rs1,
                                         size_t vl);
vuint64m1_t __riscv_vsaddu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint64m1_t vs2, vuint64m1_t vs1,
                                         size_t vl);
vuint64m1_t __riscv_vsaddu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint64m1_t vs2, uint64_t rs1,
                                         size_t vl);
vuint64m2_t __riscv_vsaddu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint64m2_t vs2, vuint64m2_t vs1,
                                         size_t vl);
vuint64m2_t __riscv_vsaddu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint64m2_t vs2, uint64_t rs1,
                                         size_t vl);
vuint64m4_t __riscv_vsaddu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         vuint64m4_t vs2, vuint64m4_t vs1,
                                         size_t vl);
vuint64m4_t __riscv_vsaddu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
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                                      vuint64m4_t vs2, uint64_t rs1,
                                      size_t vl);
vuint64m8_t __riscv_vsaddu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vsaddu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint64_t rs1,
                                      size_t vl);
vuint8mf8_t __riscv_vssubu_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      size_t vl);
vuint8mf8_t __riscv_vssubu_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf4_t __riscv_vssubu_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vssubu_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8mf2_t __riscv_vssubu_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vssubu_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      size_t vl);
vuint8m1_t __riscv_vssubu_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, vuint8m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vssubu_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vssubu_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, vuint8m2_t vs1,
                                    size_t vl);
vuint8m2_t __riscv_vssubu_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vssubu_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, vuint8m4_t vs1,
                                    size_t vl);
vuint8m4_t __riscv_vssubu_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vssubu_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, vuint8m8_t vs1,
                                    size_t vl);
vuint8m8_t __riscv_vssubu_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vssubu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf4_t __riscv_vssubu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vssubu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vssubu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vssubu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vssubu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m2_t __riscv_vssubu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
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vuint16m2_t __riscv_vssubu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m4_t __riscv_vssubu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vuint16m4_t __riscv_vssubu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m8_t __riscv_vssubu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, vuint16m8_t vs1,
                                         size_t vl);
vuint16m8_t __riscv_vssubu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, uint16_t rs1,
                                         size_t vl);
vuint32mf2_t __riscv_vssubu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs2, vuint32mf2_t vs1,
                                           size_t vl);
vuint32mf2_t __riscv_vssubu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs2, uint32_t rs1,
                                           size_t vl);
vuint32m1_t __riscv_vssubu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, vuint32m1_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vssubu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m2_t __riscv_vssubu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, vuint32m2_t vs1,
                                         size_t vl);
vuint32m2_t __riscv_vssubu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m4_t __riscv_vssubu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, vuint32m4_t vs1,
                                         size_t vl);
vuint32m4_t __riscv_vssubu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m8_t __riscv_vssubu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, vuint32m8_t vs1,
                                         size_t vl);
vuint32m8_t __riscv_vssubu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, uint32_t rs1,
                                         size_t vl);
vuint64m1_t __riscv_vssubu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint64m1_t vs2, vuint64m1_t vs1,
                                         size_t vl);
vuint64m1_t __riscv_vssubu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint64m1_t vs2, uint64_t rs1,
                                         size_t vl);
vuint64m2_t __riscv_vssubu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint64m2_t vs2, vuint64m2_t vs1,
                                         size_t vl);
vuint64m2_t __riscv_vssubu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint64m2_t vs2, uint64_t rs1,
                                         size_t vl);
vuint64m4_t __riscv_vssubu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         vuint64m4_t vs2, vuint64m4_t vs1,
                                         size_t vl);
vuint64m4_t __riscv_vssubu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         vuint64m4_t vs2, uint64_t rs1,
                                         size_t vl);
vuint64m8_t __riscv_vssubu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                         vuint64m8_t vs2, vuint64m8_t vs1,
                                         size_t vl);
vuint64m8_t __riscv_vssubu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
```

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                                      vuint64m8_t vs2, uint64_t rs1,
                                      size_t vl);
// masked functions
vint8mf8_t __riscv_vsadd_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsadd_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsadd_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsadd_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsadd_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsadd_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vsadd_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsadd_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vsadd_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsadd_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vsadd_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsadd_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vsadd_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsadd_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsadd_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vsadd_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsadd_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vsadd_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vsadd_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsadd_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vsadd_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsadd_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vsadd_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsadd_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vsadd_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsadd_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsadd_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vsadd_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vsadd_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsadd_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vsadd_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
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                                    vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsadd_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vsadd_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsadd_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vint32m8_t __riscv_vsadd_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsadd_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, size_t vl);
vint64m1_t __riscv_vsadd_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsadd_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vsadd_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsadd_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vsadd_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsadd_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vsadd_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsadd_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, size_t vl);
vint8mf8_t __riscv_vssub_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vssub_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vssub_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vssub_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vssub_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vssub_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vssub_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vssub_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vssub_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vssub_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vssub_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vssub_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vssub_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vssub_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vssub_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       size_t vl);
vint16mf4_t __riscv_vssub_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vssub_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       size_t vl);
vint16mf2_t __riscv_vssub_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vssub_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, vint16m1_t vs1, size_t vl);
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vint16m1_t __riscv_vssub_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vssub_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vssub_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, size_t vl);
vint16m4_t __riscv_vssub_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vssub_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, size_t vl);
vint16m8_t __riscv_vssub_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vssub_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     int16_t rs1, size_t vl);
vint32mf2_t __riscv_vssub_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vint32mf2_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vssub_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vssub_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vssub_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vssub_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vssub_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vssub_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vssub_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     int32_t rs1, size_t vl);
vint32m8_t __riscv_vssub_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vssub_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     int32_t rs1, size_t vl);
vint64m1_t __riscv_vssub_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vssub_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vssub_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vssub_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vssub_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vssub_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vssub_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vssub_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsaddu_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vsaddu_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vsaddu_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vsaddu_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsaddu_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
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                                    vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsaddu_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsaddu_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsaddu_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsaddu_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsaddu_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsaddu_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsaddu_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint16mf4_t __riscv_vsaddu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16mf2_t __riscv_vsaddu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vsaddu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m1_t __riscv_vsaddu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint16m1_t __riscv_vsaddu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m2_t __riscv_vsaddu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vsaddu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m4_t __riscv_vsaddu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vsaddu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, uint16_t rs1,
                                    size_t vl);
vuint16m8_t __riscv_vsaddu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vsaddu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, uint16_t rs1,
                                    size_t vl);
vuint32mf2_t __riscv_vsaddu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, vuint32mf2_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vsaddu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, uint32_t rs1,
                                      size_t vl);
vuint32m1_t __riscv_vsaddu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint32m1_t vs1,
                                    size_t vl);
vuint32m1_t __riscv_vsaddu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m2_t __riscv_vsaddu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vsaddu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
```

```
                                    vuint32m2_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m4_t __riscv_vsaddu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vsaddu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1,
                                    size_t vl);
vuint32m8_t __riscv_vsaddu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vsaddu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1,
                                    size_t vl);
vuint64m1_t __riscv_vsaddu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vsaddu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vsaddu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vsaddu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vsaddu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vsaddu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vsaddu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vsaddu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
vuint8mf8_t __riscv_vssubu_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vuint8mf8_t __riscv_vssubu_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vssubu_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vuint8mf4_t __riscv_vssubu_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vssubu_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    size_t vl);
vuint8mf2_t __riscv_vssubu_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vssubu_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vssubu_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vssubu_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vssubu_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vssubu_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vssubu_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vssubu_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                   vuint8m8_t vs1, size_t vl);
```

```
vuint8m8_t __riscv_vssubu_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vssubu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vssubu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vssubu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vssubu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vssubu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vssubu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vssubu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vssubu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vssubu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vssubu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vssubu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vssubu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vssubu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vssubu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vssubu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vssubu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vssubu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vssubu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vssubu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vssubu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, uint32_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vssubu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, vuint32m8_t vs1,
                                       size_t vl);
vuint32m8_t __riscv_vssubu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, uint32_t rs1,
```

```
                                    size_t vl);
vuint64m1_t __riscv_vssubu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vssubu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m2_t __riscv_vssubu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vssubu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m4_t __riscv_vssubu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vssubu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1,
                                    size_t vl);
vuint64m8_t __riscv_vssubu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vssubu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1,
                                    size_t vl);
```

B.4.2. Vector Single-Width Averaging Add and Subtract Intrinsics

```
vint8mf8_t __riscv_vaadd_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf8_t __riscv_vaadd_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf4_t __riscv_vaadd_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf2_t __riscv_vaadd_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                  unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                  unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                    vint16mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16mf4_t __riscv_vaadd_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                    int16_t rs1, unsigned int vxrm,
                                    size_t vl);
```

```
vint16mf2_t __riscv_vaadd_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       vint16mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vint16mf2_t __riscv_vaadd_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       int16_t rs1, unsigned int vxrm,
                                       size_t vl);
vint16m1_t __riscv_vaadd_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                     vint16m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m1_t __riscv_vaadd_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m2_t __riscv_vaadd_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m4_t __riscv_vaadd_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m8_t __riscv_vaadd_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       vint32mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vint32mf2_t __riscv_vaadd_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       int32_t rs1, unsigned int vxrm,
                                       size_t vl);
vint32m1_t __riscv_vaadd_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                     vint32m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m1_t __riscv_vaadd_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                     vint32m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m2_t __riscv_vaadd_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m4_t __riscv_vaadd_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m8_t __riscv_vaadd_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                     vint64m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m1_t __riscv_vaadd_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                     vint64m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m2_t __riscv_vaadd_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                     vint64m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m4_t __riscv_vaadd_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                     unsigned int vxrm, size_t vl);
```

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vint64m8_t __riscv_vaadd_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m8_t __riscv_vaadd_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                     vint8mf8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8mf8_t __riscv_vasub_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                     vint8mf4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8mf4_t __riscv_vasub_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                     vint8mf2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8mf2_t __riscv_vasub_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                   unsigned int vxrm, size_t vl);
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                                   unsigned int vxrm, size_t vl);
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                                   unsigned int vxrm, size_t vl);
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                                   unsigned int vxrm, size_t vl);
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                                   unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                   unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       vint16mf4_t vs1, unsigned int vxrm,
                                       size_t vl);
vint16mf4_t __riscv_vasub_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       int16_t rs1, unsigned int vxrm,
                                       size_t vl);
vint16mf2_t __riscv_vasub_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       vint16mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vint16mf2_t __riscv_vasub_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       int16_t rs1, unsigned int vxrm,
                                       size_t vl);
vint16m1_t __riscv_vasub_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                     vint16m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m1_t __riscv_vasub_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
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                                     vint16m2_t vs1, unsigned int vxrm,
                                     size_t vl);
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                                     unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, unsigned int vxrm,
                                     size_t vl);
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                                     unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m8_t __riscv_vasub_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
```

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                                    unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       vint32mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vint32mf2_t __riscv_vasub_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       int32_t rs1, unsigned int vxrm,
                                       size_t vl);
vint32m1_t __riscv_vasub_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                     vint32m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m1_t __riscv_vasub_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
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                                     vint32m2_t vs1, unsigned int vxrm,
                                     size_t vl);
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                                     unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, unsigned int vxrm,
                                     size_t vl);
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                                     vint32m8_t vs1, unsigned int vxrm,
                                     size_t vl);
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                                     vint64m1_t vs1, unsigned int vxrm,
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                                     unsigned int vxrm, size_t vl);
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                                     size_t vl);
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                                     unsigned int vxrm, size_t vl);
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                                     vint64m4_t vs1, unsigned int vxrm,
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                                       vuint8mf4_t vs1, unsigned int vxrm,
                                       size_t vl);
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                                       uint8_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint8mf2_t __riscv_vaaddu_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                       vuint8mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vuint8mf2_t __riscv_vaaddu_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                       uint8_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint8m1_t __riscv_vaaddu_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, unsigned int vxrm,
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                                    size_t vl);
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                                       size_t vl);
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                                       vuint16mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
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                                       uint16_t rs1, unsigned int vxrm,
                                       size_t vl);
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                                     vuint16m2_t vs1, unsigned int vxrm,
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                                     uint16_t rs1, unsigned int vxrm,
                                     size_t vl);
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                                     vuint16m4_t vs1, unsigned int vxrm,
                                     size_t vl);
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                                     uint16_t rs1, unsigned int vxrm,
                                     size_t vl);
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                                     vuint16m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint16m8_t __riscv_vaaddu_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                     uint16_t rs1, unsigned int vxrm,
                                     size_t vl);
vuint32mf2_t __riscv_vaaddu_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       vuint32mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vuint32mf2_t __riscv_vaaddu_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                       uint32_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint32m1_t __riscv_vaaddu_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                     vuint32m1_t vs1, unsigned int vxrm,
                                     size_t vl);
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                                     uint32_t rs1, unsigned int vxrm,
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vuint32m2_t __riscv_vaaddu_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
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                                    vuint32m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m2_t __riscv_vaaddu_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                    uint32_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32m4_t __riscv_vaaddu_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                    vuint32m4_t vs1, unsigned int vxrm,
                                    size_t vl);
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                                    vuint32m8_t vs1, unsigned int vxrm,
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                                    vuint64m1_t vs1, unsigned int vxrm,
                                    size_t vl);
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                                    uint64_t rs1, unsigned int vxrm,
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                                    vuint64m2_t vs1, unsigned int vxrm,
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                                    uint64_t rs1, unsigned int vxrm,
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                                    vuint64m4_t vs1, unsigned int vxrm,
                                    size_t vl);
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                                    uint64_t rs1, unsigned int vxrm,
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                                    vuint64m8_t vs1, unsigned int vxrm,
                                    size_t vl);
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                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
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                                    vuint8mf8_t vs1, unsigned int vxrm,
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                                    vuint8mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf4_t __riscv_vasubu_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                    uint8_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf2_t __riscv_vasubu_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                    vuint8mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8mf2_t __riscv_vasubu_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                    uint8_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint8m1_t __riscv_vasubu_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, unsigned int vxrm,
                                   size_t vl);
vuint8m1_t __riscv_vasubu_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                   unsigned int vxrm, size_t vl);
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                                   vuint8m2_t vs1, unsigned int vxrm,
                                   size_t vl);
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vuint8m2_t __riscv_vasubu_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint8m4_t __riscv_vasubu_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint8m8_t __riscv_vasubu_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                         vuint16mf4_t vs1, unsigned int vxrm,
                                         size_t vl);
vuint16mf4_t __riscv_vasubu_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                         uint16_t rs1, unsigned int vxrm,
                                         size_t vl);
vuint16mf2_t __riscv_vasubu_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                         vuint16mf2_t vs1, unsigned int vxrm,
                                         size_t vl);
vuint16mf2_t __riscv_vasubu_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                         uint16_t rs1, unsigned int vxrm,
                                         size_t vl);
vuint16m1_t __riscv_vasubu_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                       vuint16m1_t vs1, unsigned int vxrm,
                                       size_t vl);
vuint16m1_t __riscv_vasubu_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                       uint16_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint16m2_t __riscv_vasubu_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                       vuint16m2_t vs1, unsigned int vxrm,
                                       size_t vl);
vuint16m2_t __riscv_vasubu_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                       uint16_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint16m4_t __riscv_vasubu_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                       vuint16m4_t vs1, unsigned int vxrm,
                                       size_t vl);
vuint16m4_t __riscv_vasubu_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                       uint16_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint16m8_t __riscv_vasubu_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                       vuint16m8_t vs1, unsigned int vxrm,
                                       size_t vl);
vuint16m8_t __riscv_vasubu_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                       uint16_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint32mf2_t __riscv_vasubu_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                         vuint32mf2_t vs1, unsigned int vxrm,
                                         size_t vl);
vuint32mf2_t __riscv_vasubu_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                         uint32_t rs1, unsigned int vxrm,
                                         size_t vl);
vuint32m1_t __riscv_vasubu_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       vuint32m1_t vs1, unsigned int vxrm,
                                       size_t vl);
vuint32m1_t __riscv_vasubu_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                       uint32_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint32m2_t __riscv_vasubu_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                       vuint32m2_t vs1, unsigned int vxrm,
                                       size_t vl);
vuint32m2_t __riscv_vasubu_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                       uint32_t rs1, unsigned int vxrm,
                                       size_t vl);
vuint32m4_t __riscv_vasubu_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
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                                    vuint32m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m4_t __riscv_vasubu_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                    uint32_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint32m8_t __riscv_vasubu_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                    vuint32m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint32m8_t __riscv_vasubu_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                    uint32_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m1_t __riscv_vasubu_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                    vuint64m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m1_t __riscv_vasubu_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m2_t __riscv_vasubu_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                    vuint64m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m2_t __riscv_vasubu_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m4_t __riscv_vasubu_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                    vuint64m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m4_t __riscv_vasubu_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
vuint64m8_t __riscv_vasubu_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                    vuint64m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m8_t __riscv_vasubu_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                    uint64_t rs1, unsigned int vxrm,
                                    size_t vl);
// masked functions
vint8mf8_t __riscv_vaadd_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                   vint8mf8_t vs2, vint8mf8_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vaadd_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                   vint8mf8_t vs2, int8_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                   vint8mf4_t vs2, vint8mf4_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                   vint8mf4_t vs2, int8_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                   vint8mf2_t vs2, vint8mf2_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                   vint8mf2_t vs2, int8_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vint8m1_t vs1, unsigned int vxrm,
                                  size_t vl);
vint8m1_t __riscv_vaadd_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vint8m2_t vs1, unsigned int vxrm,
                                  size_t vl);
vint8m2_t __riscv_vaadd_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vint8m4_t vs1, unsigned int vxrm,
                                  size_t vl);
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vint8m4_t __riscv_vaadd_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m8_t __riscv_vaadd_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
```

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vint32m8_t __riscv_vaadd_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint64m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint64m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vint64m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, vint8mf8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, int8_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, int8_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, int8_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m1_t __riscv_vasub_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m2_t __riscv_vasub_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m4_t __riscv_vasub_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m8_t __riscv_vasub_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
```

```
                                    int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
```

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vint64m1_t __riscv_vasub_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint64m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint64m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vint64m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs2, vuint8mf8_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs2, uint8_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs2, vuint8mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs2, uint8_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs2, vuint8mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs2, uint8_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, vuint8m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, uint8_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, vuint8m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, uint8_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, vuint8m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, uint8_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, vuint8m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, uint8_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
```

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                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, uint32_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, uint32_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, uint32_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, vuint32m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, uint32_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, vuint64m1_t vs1,
```

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                                       unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, uint64_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, vuint64m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, uint64_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, vuint64m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, uint64_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, vuint64m8_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, uint64_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, uint8_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, uint8_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, uint8_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                     vuint8m1_t vs2, vuint8m1_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                     vuint8m1_t vs2, uint8_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                     vuint8m2_t vs2, vuint8m2_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                     vuint8m2_t vs2, uint8_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                     vuint8m4_t vs2, vuint8m4_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                     vuint8m4_t vs2, uint8_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                     vuint8m8_t vs2, vuint8m8_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                     vuint8m8_t vs2, uint8_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         unsigned int vxrm, size_t vl);
```

```
vuint16mf4_t __riscv_vasubu_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, uint16_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, vuint16mf2_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, uint16_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, vuint16m1_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, vuint16m2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, vuint16m4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, vuint16m8_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, uint32_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
```

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                                      vuint64m1_t vs2, uint64_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, vuint64m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, uint64_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, uint64_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint64_t rs1,
                                      unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vaadd_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vaadd_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m1_t __riscv_vaadd_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m2_t __riscv_vaadd_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m4_t __riscv_vaadd_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m8_t __riscv_vaadd_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
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                                        unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, int16_t rs1,
                                         unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, vint16m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, vint16m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, vint16m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, vint16m8_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, vint32mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, int32_t rs1,
                                         unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, vint32m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, int32_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, vint32m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, int32_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, vint32m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, int32_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, vint32m8_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, int32_t rs1,
                                       unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, vint64m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, int64_t rs1,
                                       unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs2, vint64m2_t vs1,
                                       unsigned int vxrm, size_t vl);
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vint64m2_t __riscv_vaadd_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs2, int64_t rs1,
                                       unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs2, vint64m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs2, int64_t rs1,
                                       unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, vint64m8_t vs1,
                                       unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, int64_t rs1,
                                       unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs2, vint8mf8_t vs1,
                                       unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs2, int8_t rs1,
                                       unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs2, vint8mf4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs2, int8_t rs1,
                                       unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs2, vint8mf2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs2, int8_t rs1,
                                       unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                     vint8m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8m1_t __riscv_vasub_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                     int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                     vint8m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8m2_t __riscv_vasub_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                     int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                     vint8m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8m4_t __riscv_vasub_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                     int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                     vint8m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8m8_t __riscv_vasub_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                     int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, vint16mf4_t vs1,
                                         unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, int16_t rs1,
                                         unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, vint16mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, int16_t rs1,
                                         unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, vint16m1_t vs1,
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                                        unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, vint16m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, vint16m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, vint16m8_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, vint32mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, int32_t rs1,
                                         unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, vint32m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, int32_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, vint32m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                       vint32m2_t vs2, int32_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, vint32m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                       vint32m4_t vs2, int32_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, vint32m8_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                       vint32m8_t vs2, int32_t rs1,
                                       unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, vint64m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                       vint64m1_t vs2, int64_t rs1,
                                       unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs2, vint64m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                       vint64m2_t vs2, int64_t rs1,
                                       unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs2, vint64m4_t vs1,
                                       unsigned int vxrm, size_t vl);
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vint64m4_t __riscv_vasub_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                       vint64m4_t vs2, int64_t rs1,
                                       unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, vint64m8_t vs1,
                                       unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, int64_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                         vuint8mf8_t vs2, vuint8mf8_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                         vuint8mf8_t vs2, uint8_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                         vuint8mf4_t vs2, vuint8mf4_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                         vuint8mf4_t vs2, uint8_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                         vuint8mf2_t vs2, vuint8mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                         vuint8mf2_t vs2, uint8_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                       vuint8m1_t vs2, vuint8m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                       vuint8m1_t vs2, uint8_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                       vuint8m2_t vs2, vuint8m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                       vuint8m2_t vs2, uint8_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                       vuint8m4_t vs2, vuint8m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                       vuint8m4_t vs2, uint8_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                       vuint8m8_t vs2, vuint8m8_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                       vuint8m8_t vs2, uint8_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                           vuint16mf4_t vs2, vuint16mf4_t vs1,
                                           unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                           vuint16mf4_t vs2, uint16_t rs1,
                                           unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                           vuint16mf2_t vs2, vuint16mf2_t vs1,
                                           unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                           vuint16mf2_t vs2, uint16_t rs1,
                                           unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs2, vuint16m1_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
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                                        vuint16m1_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, vuint16m2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, vuint16m4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, vuint16m8_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, uint32_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, uint64_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, uint64_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, uint64_t rs1,
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                                        unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint64m8_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, uint64_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs2, vuint8mf8_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                        vuint8mf8_t vs2, uint8_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs2, vuint8mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                        vuint8mf4_t vs2, uint8_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs2, vuint8mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs2, uint8_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, vuint8m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, uint8_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, vuint8m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, uint8_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, vuint8m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, uint8_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, vuint8m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, uint8_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, vuint16mf4_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, uint16_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, vuint16mf2_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, uint16_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, vuint16m1_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
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vuint16m2_t __riscv_vasubu_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, vuint16m2_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, uint16_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, vuint16m4_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, uint16_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, vuint16m8_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, uint16_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs2, vuint32mf2_t vs1,
                                           unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs2, uint32_t rs1,
                                           unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, vuint32m1_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, uint32_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, vuint32m2_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, uint32_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, vuint32m4_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, uint32_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, vuint32m8_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, uint32_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint64m1_t vs2, vuint64m1_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint64m1_t vs2, uint64_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint64m2_t vs2, vuint64m2_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint64m2_t vs2, uint64_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         vuint64m4_t vs2, vuint64m4_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         vuint64m4_t vs2, uint64_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
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                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, uint64_t rs1,
                                      unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vaadd_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vaadd_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1,
                                     unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m2_t __riscv_vaadd_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m4_t __riscv_vaadd_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
```

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                                    int16_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16m8_t __riscv_vaadd_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, vint32m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vint32m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m4_t __riscv_vaadd_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m8_t __riscv_vaadd_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint64m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint64m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint64m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m8_t __riscv_vaadd_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vint8mf8_t vs1,
                                    unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, vint8mf4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
```

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                                    vint8mf4_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vint8mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, vint16m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, int16_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vint16m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16m2_t __riscv_vasub_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    int16_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vint16m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16m4_t __riscv_vasub_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    int16_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vint16m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16m8_t __riscv_vasub_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, vint32m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
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                                    vint32m1_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vint32m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m4_t __riscv_vasub_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m8_t __riscv_vasub_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint64m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint64m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint64m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m8_t __riscv_vasub_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, uint8_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, uint8_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, uint8_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m1_t __riscv_vaaddu_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, unsigned int vxrm,
                                    size_t vl);
```

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vuint8m2_t __riscv_vaaddu_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint8m4_t __riscv_vaaddu_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint8m8_t __riscv_vaaddu_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     uint8_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, uint16_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, uint16_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, uint16_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, uint16_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, uint16_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, uint16_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, uint32_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, uint32_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, uint32_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
```

```
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, vuint8mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, uint8_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, unsigned int vxrm,
                                   size_t vl);
vuint8m1_t __riscv_vasubu_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, unsigned int vxrm,
                                   size_t vl);
vuint8m2_t __riscv_vasubu_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, unsigned int vxrm,
                                   size_t vl);
vuint8m4_t __riscv_vasubu_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
```

```
                                    uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m8_t __riscv_vasubu_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, uint16_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, uint16_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, uint32_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, uint32_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, uint32_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, uint32_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
```

```
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1,
                                    unsigned int vxrm, size_t vl);
```

B.4.3. Vector Single-Width Fractional Multiply with Rounding and SaturationIntrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vsmul_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vint8mf8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf8_t __riscv_vsmul_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vint8mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf4_t __riscv_vsmul_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vint8mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf2_t __riscv_vsmul_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                                   unsigned int vxrm, size_t vl);
```

```
vint8m8_t __riscv_vsmul_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                   unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       vint16mf4_t vs1, unsigned int vxrm,
                                       size_t vl);
vint16mf4_t __riscv_vsmul_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       int16_t rs1, unsigned int vxrm,
                                       size_t vl);
vint16mf2_t __riscv_vsmul_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       vint16mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vint16mf2_t __riscv_vsmul_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       int16_t rs1, unsigned int vxrm,
                                       size_t vl);
vint16m1_t __riscv_vsmul_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                     vint16m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m1_t __riscv_vsmul_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m2_t __riscv_vsmul_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m4_t __riscv_vsmul_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                     vint16m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m8_t __riscv_vsmul_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       vint32mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vint32mf2_t __riscv_vsmul_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       int32_t rs1, unsigned int vxrm,
                                       size_t vl);
vint32m1_t __riscv_vsmul_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                     vint32m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m1_t __riscv_vsmul_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                     vint32m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m2_t __riscv_vsmul_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                     vint32m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m4_t __riscv_vsmul_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                     vint32m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m8_t __riscv_vsmul_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                     vint64m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m1_t __riscv_vsmul_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                     vint64m2_t vs1, unsigned int vxrm,
```

```
                                    size_t vl);
vint64m2_t __riscv_vsmul_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                     vint64m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m4_t __riscv_vsmul_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                     vint64m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m8_t __riscv_vsmul_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                     unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vsmul_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, vint8mf8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vsmul_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, int8_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, vint8mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, int8_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, vint8mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, int8_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    vint8m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m1_t __riscv_vsmul_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    vint8m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m2_t __riscv_vsmul_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vint8m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m4_t __riscv_vsmul_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    vint8m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m8_t __riscv_vsmul_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, vint16mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, int16_t rs1,
                                        unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, vint16mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, int16_t rs1,
                                        unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, vint16m1_t vs1,
                                      unsigned int vxrm, size_t vl);
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vint16m1_t __riscv_vsmul_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, vint16m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint64m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint64m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
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                                    vint64m4_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, vint64m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                    vint64m8_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vsmul_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vsmul_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m1_t __riscv_vsmul_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m2_t __riscv_vsmul_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m4_t __riscv_vsmul_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m8_t __riscv_vsmul_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vint16mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vint16mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1,
                                     unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                     vint16m2_t vs2, vint16m2_t vs1,
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                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, vint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vint16m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, int16_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, int32_t rs1,
                                        unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vint32m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vint32m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vint32m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vint32m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vint64m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vint64m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vint64m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, int64_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vint64m8_t vs1,
                                      unsigned int vxrm, size_t vl);
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vint64m8_t __riscv_vsmul_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                       vint64m8_t vs2, int64_t rs1,
                                       unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vsmul_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vint8mf8_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vsmul_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vint8mf4_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vint8mf2_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, int8_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vint16mf4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vint16mf2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, int16_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vint16m1_t vs1,
                                     unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, int16_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vint16m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m2_t __riscv_vsmul_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     int16_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vint16m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m4_t __riscv_vsmul_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     int16_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
```

```
                                    vint16m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint16m8_t __riscv_vsmul_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vint32mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, int32_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, vint32m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vint32m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, int32_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vint32m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m4_t __riscv_vsmul_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vint32m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint32m8_t __riscv_vsmul_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vint64m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vint64m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vint64m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, int64_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vint64m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint64m8_t __riscv_vsmul_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, unsigned int vxrm, size_t vl);
```

B.4.4. Vector Single-Width Scaling Shift Intrinsics

```
vint8mf8_t __riscv_vssra_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                    vuint8mf8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf8_t __riscv_vssra_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                    vuint8mf4_t vs1, unsigned int vxrm,
```

```
                                    size_t vl);
vint8mf4_t __riscv_vssra_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                    vuint8mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf2_t __riscv_vssra_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, vuint8m1_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, vuint8m2_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, vuint8m4_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, vuint8m8_t vs1,
                                   unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                                   unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       vuint16mf4_t vs1, unsigned int vxrm,
                                       size_t vl);
vint16mf4_t __riscv_vssra_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                       size_t rs1, unsigned int vxrm,
                                       size_t vl);
vint16mf2_t __riscv_vssra_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       vuint16mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vint16mf2_t __riscv_vssra_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                       size_t rs1, unsigned int vxrm,
                                       size_t vl);
vint16m1_t __riscv_vssra_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                     vuint16m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m1_t __riscv_vssra_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                     vuint16m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m2_t __riscv_vssra_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                     vuint16m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m4_t __riscv_vssra_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                     vuint16m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m8_t __riscv_vssra_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       vuint32mf2_t vs1, unsigned int vxrm,
                                       size_t vl);
vint32mf2_t __riscv_vssra_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                       size_t rs1, unsigned int vxrm,
                                       size_t vl);
vint32m1_t __riscv_vssra_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                     vuint32m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m1_t __riscv_vssra_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
```

```
vint32m2_t __riscv_vssra_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                     vuint32m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m2_t __riscv_vssra_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                     vuint32m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m4_t __riscv_vssra_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                     vuint32m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m8_t __riscv_vssra_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                     vuint64m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m1_t __riscv_vssra_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                     vuint64m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m2_t __riscv_vssra_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                     vuint64m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m4_t __riscv_vssra_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                     vuint64m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m8_t __riscv_vssra_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      vuint8mf8_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf8_t __riscv_vssrl_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      vuint8mf4_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf4_t __riscv_vssrl_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      vuint8mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf2_t __riscv_vssrl_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m1_t __riscv_vssrl_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m2_t __riscv_vssrl_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m4_t __riscv_vssrl_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, unsigned int vxrm,
```

```
                                    size_t vl);
vuint8m8_t __riscv_vssrl_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        vuint16mf4_t vs1, unsigned int vxrm,
                                        size_t vl);
vuint16mf4_t __riscv_vssrl_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
vuint16mf2_t __riscv_vssrl_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        vuint16mf2_t vs1, unsigned int vxrm,
                                        size_t vl);
vuint16mf2_t __riscv_vssrl_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
vuint16m1_t __riscv_vssrl_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      vuint16m1_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint16m1_t __riscv_vssrl_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      vuint16m2_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint16m2_t __riscv_vssrl_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      vuint16m4_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint16m4_t __riscv_vssrl_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      vuint16m8_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint16m8_t __riscv_vssrl_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        vuint32mf2_t vs1, unsigned int vxrm,
                                        size_t vl);
vuint32mf2_t __riscv_vssrl_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
vuint32m1_t __riscv_vssrl_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      vuint32m1_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint32m1_t __riscv_vssrl_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      vuint32m2_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint32m2_t __riscv_vssrl_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      vuint32m4_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint32m4_t __riscv_vssrl_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      vuint32m8_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint32m8_t __riscv_vssrl_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      vuint64m1_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint64m1_t __riscv_vssrl_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                      size_t rs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
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                                    vuint64m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m2_t __riscv_vssrl_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                    vuint64m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m4_t __riscv_vssrl_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                    vuint64m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint64m8_t __riscv_vssrl_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vssra_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, vuint8mf8_t vs1,
                                    unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vssra_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                    vint8mf8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, vuint8mf4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                    vint8mf4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, vuint8mf2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                    vint8mf2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vuint8m1_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m1_t __riscv_vssra_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   size_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vuint8m2_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m2_t __riscv_vssra_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   size_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vuint8m4_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m4_t __riscv_vssra_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   size_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vuint8m8_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m8_t __riscv_vssra_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   size_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vuint16mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vuint16mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, vuint16m1_t vs1,
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                                    unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                    vint16m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs2, vuint16m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                    vint16m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, vuint16m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                    vint16m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs2, vuint16m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                    vint16m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vuint32mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, vuint32m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                    vint32m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, vuint32m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                    vint32m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, vuint32m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                    vint32m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, vuint32m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                    vint32m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, vuint64m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                    vint64m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, vuint64m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                    vint64m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                    vint64m4_t vs2, vuint64m4_t vs1,
                                    unsigned int vxrm, size_t vl);
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vint64m4_t __riscv_vssra_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vuint64m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint8m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint8m1_t __riscv_vssrl_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint8m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint8m2_t __riscv_vssrl_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint8m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint8m4_t __riscv_vssrl_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     vuint8m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vuint8m8_t __riscv_vssrl_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
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                                      unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint32m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint32m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, vuint32m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, vuint64m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, vuint64m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint64m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint64m8_t vs1,
                                      unsigned int vxrm, size_t vl);
```

```
vuint64m8_t __riscv_vssrl_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vssra_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs2, vuint8mf8_t vs1,
                                       unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vssra_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                       vint8mf8_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs2, vuint8mf4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                       vint8mf4_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs2, vuint8mf2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                       vint8mf2_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                     vuint8m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8m1_t __riscv_vssra_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                     vuint8m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8m2_t __riscv_vssra_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                     vuint8m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8m4_t __riscv_vssra_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                     vuint8m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8m8_t __riscv_vssra_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, vuint16mf4_t vs1,
                                         unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, vuint16mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, vuint16m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, vuint16m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
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                                      vint16m4_t vs2, vuint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, vuint16m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, vuint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, vuint32m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, vuint32m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, vuint32m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, vuint32m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, vuint64m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, vuint64m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, vuint64m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                      vint64m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, vuint64m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
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                                      unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, vuint8m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                    vuint8m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, vuint8m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                    vuint8m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, vuint8m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                    vuint8m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, vuint8m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                    vuint8m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
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vuint16m4_t __riscv_vssrl_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, vuint16m8_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, size_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint64m8_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vssra_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vuint8mf8_t vs1,
                                     unsigned int vxrm, size_t vl);
```

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vint8mf8_t __riscv_vssra_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vuint8mf4_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vuint8mf2_t vs1,
                                     unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vuint8m1_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m1_t __riscv_vssra_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   size_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vuint8m2_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m2_t __riscv_vssra_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   size_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vuint8m4_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m4_t __riscv_vssra_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   size_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   vuint8m8_t vs1, unsigned int vxrm,
                                   size_t vl);
vint8m8_t __riscv_vssra_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   size_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, vuint16mf4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                       vint16mf4_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, vuint16mf2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                       vint16mf2_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vuint16m1_t vs1,
                                     unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vuint16m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m2_t __riscv_vssra_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vuint16m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m4_t __riscv_vssra_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vuint16m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint16m8_t __riscv_vssra_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
```

```
                                    size_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, vuint32mf2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                       vint32mf2_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vuint32m1_t vs1,
                                     unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vuint32m2_t vs1,
                                     unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vuint32m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m4_t __riscv_vssra_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vuint32m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint32m8_t __riscv_vssra_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vuint64m1_t vs1,
                                     unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vuint64m2_t vs1,
                                     unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vuint64m4_t vs1,
                                     unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vuint64m8_t vs1, unsigned int vxrm,
                                     size_t vl);
vint64m8_t __riscv_vssra_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint8mf8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint8mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint8mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
```

```
vuint8mf2_t __riscv_vssrl_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint8m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m1_t __riscv_vssrl_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint8m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m2_t __riscv_vssrl_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint8m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m4_t __riscv_vssrl_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    vuint8m8_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m8_t __riscv_vssrl_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, vuint16mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint16mf4_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, vuint16mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint16mf2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, vuint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint32mf2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint32m1_t vs1,
```

```
                                    unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint32m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint32m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint32m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint64m1_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint64m2_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint64m4_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint64m8_t vs1,
                                    unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
```

B.4.5. Vector Narrowing Fixed-Point Clip Intrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vnclip_wv_i8mf8_tu(vint8mf8_t vd, vint16mf4_t vs2,
                                    vuint8mf8_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf8_t __riscv_vnclip_wx_i8mf8_tu(vint8mf8_t vd, vint16mf4_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_wv_i8mf4_tu(vint8mf4_t vd, vint16mf2_t vs2,
                                    vuint8mf4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8mf4_t __riscv_vnclip_wx_i8mf4_tu(vint8mf4_t vd, vint16mf2_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_wv_i8mf2_tu(vint8mf2_t vd, vint16m1_t vs2,
                                    vuint8mf2_t vs1, unsigned int vxrm,
                                    size_t vl);
```

```
vint8mf2_t __riscv_vnclip_wx_i8mf2_tu(vint8mf2_t vd, vint16m1_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_wv_i8m1_tu(vint8m1_t vd, vint16m2_t vs2,
                                    vuint8m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m1_t __riscv_vnclip_wx_i8m1_tu(vint8m1_t vd, vint16m2_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_wv_i8m2_tu(vint8m2_t vd, vint16m4_t vs2,
                                    vuint8m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m2_t __riscv_vnclip_wx_i8m2_tu(vint8m2_t vd, vint16m4_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_wv_i8m4_tu(vint8m4_t vd, vint16m8_t vs2,
                                    vuint8m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m4_t __riscv_vnclip_wx_i8m4_tu(vint8m4_t vd, vint16m8_t vs2, size_t rs1,
                                    unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_wv_i16mf4_tu(vint16mf4_t vd, vint32mf2_t vs2,
                                        vuint16mf4_t vs1, unsigned int vxrm,
                                        size_t vl);
vint16mf4_t __riscv_vnclip_wx_i16mf4_tu(vint16mf4_t vd, vint32mf2_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
vint16mf2_t __riscv_vnclip_wv_i16mf2_tu(vint16mf2_t vd, vint32m1_t vs2,
                                        vuint16mf2_t vs1, unsigned int vxrm,
                                        size_t vl);
vint16mf2_t __riscv_vnclip_wx_i16mf2_tu(vint16mf2_t vd, vint32m1_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
vint16m1_t __riscv_vnclip_wv_i16m1_tu(vint16m1_t vd, vint32m2_t vs2,
                                      vuint16m1_t vs1, unsigned int vxrm,
                                      size_t vl);
vint16m1_t __riscv_vnclip_wx_i16m1_tu(vint16m1_t vd, vint32m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_wv_i16m2_tu(vint16m2_t vd, vint32m4_t vs2,
                                      vuint16m2_t vs1, unsigned int vxrm,
                                      size_t vl);
vint16m2_t __riscv_vnclip_wx_i16m2_tu(vint16m2_t vd, vint32m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_wv_i16m4_tu(vint16m4_t vd, vint32m8_t vs2,
                                      vuint16m4_t vs1, unsigned int vxrm,
                                      size_t vl);
vint16m4_t __riscv_vnclip_wx_i16m4_tu(vint16m4_t vd, vint32m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_wv_i32mf2_tu(vint32mf2_t vd, vint64m1_t vs2,
                                        vuint32mf2_t vs1, unsigned int vxrm,
                                        size_t vl);
vint32mf2_t __riscv_vnclip_wx_i32mf2_tu(vint32mf2_t vd, vint64m1_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
vint32m1_t __riscv_vnclip_wv_i32m1_tu(vint32m1_t vd, vint64m2_t vs2,
                                      vuint32m1_t vs1, unsigned int vxrm,
                                      size_t vl);
vint32m1_t __riscv_vnclip_wx_i32m1_tu(vint32m1_t vd, vint64m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_wv_i32m2_tu(vint32m2_t vd, vint64m4_t vs2,
                                      vuint32m2_t vs1, unsigned int vxrm,
                                      size_t vl);
vint32m2_t __riscv_vnclip_wx_i32m2_tu(vint32m2_t vd, vint64m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_wv_i32m4_tu(vint32m4_t vd, vint64m8_t vs2,
                                      vuint32m4_t vs1, unsigned int vxrm,
                                      size_t vl);
vint32m4_t __riscv_vnclip_wx_i32m4_tu(vint32m4_t vd, vint64m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_wv_u8mf8_tu(vuint8mf8_t vd, vuint16mf4_t vs2,
                                        vuint8mf8_t vs1, unsigned int vxrm,
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                                      size_t vl);
vuint8mf8_t __riscv_vnclipu_wx_u8mf8_tu(vuint8mf8_t vd, vuint16mf4_t vs2,
                                      size_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf4_t __riscv_vnclipu_wv_u8mf4_tu(vuint8mf4_t vd, vuint16mf2_t vs2,
                                      vuint8mf4_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf4_t __riscv_vnclipu_wx_u8mf4_tu(vuint8mf4_t vd, vuint16mf2_t vs2,
                                      size_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf2_t __riscv_vnclipu_wv_u8mf2_tu(vuint8mf2_t vd, vuint16m1_t vs2,
                                      vuint8mf2_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint8mf2_t __riscv_vnclipu_wx_u8mf2_tu(vuint8mf2_t vd, vuint16m1_t vs2,
                                      size_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint8m1_t __riscv_vnclipu_wv_u8m1_tu(vuint8m1_t vd, vuint16m2_t vs2,
                                    vuint8m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m1_t __riscv_vnclipu_wx_u8m1_tu(vuint8m1_t vd, vuint16m2_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_wv_u8m2_tu(vuint8m2_t vd, vuint16m4_t vs2,
                                    vuint8m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m2_t __riscv_vnclipu_wx_u8m2_tu(vuint8m2_t vd, vuint16m4_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_wv_u8m4_tu(vuint8m4_t vd, vuint16m8_t vs2,
                                    vuint8m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vuint8m4_t __riscv_vnclipu_wx_u8m4_tu(vuint8m4_t vd, vuint16m8_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_wv_u16mf4_tu(vuint16mf4_t vd, vuint32mf2_t vs2,
                                        vuint16mf4_t vs1, unsigned int vxrm,
                                        size_t vl);
vuint16mf4_t __riscv_vnclipu_wx_u16mf4_tu(vuint16mf4_t vd, vuint32mf2_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
vuint16mf2_t __riscv_vnclipu_wv_u16mf2_tu(vuint16mf2_t vd, vuint32m1_t vs2,
                                        vuint16mf2_t vs1, unsigned int vxrm,
                                        size_t vl);
vuint16mf2_t __riscv_vnclipu_wx_u16mf2_tu(vuint16mf2_t vd, vuint32m1_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
vuint16m1_t __riscv_vnclipu_wv_u16m1_tu(vuint16m1_t vd, vuint32m2_t vs2,
                                      vuint16m1_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint16m1_t __riscv_vnclipu_wx_u16m1_tu(vuint16m1_t vd, vuint32m2_t vs2,
                                      size_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint16m2_t __riscv_vnclipu_wv_u16m2_tu(vuint16m2_t vd, vuint32m4_t vs2,
                                      vuint16m2_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint16m2_t __riscv_vnclipu_wx_u16m2_tu(vuint16m2_t vd, vuint32m4_t vs2,
                                      size_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint16m4_t __riscv_vnclipu_wv_u16m4_tu(vuint16m4_t vd, vuint32m8_t vs2,
                                      vuint16m4_t vs1, unsigned int vxrm,
                                      size_t vl);
vuint16m4_t __riscv_vnclipu_wx_u16m4_tu(vuint16m4_t vd, vuint32m8_t vs2,
                                      size_t rs1, unsigned int vxrm,
                                      size_t vl);
vuint32mf2_t __riscv_vnclipu_wv_u32mf2_tu(vuint32mf2_t vd, vuint64m1_t vs2,
                                        vuint32mf2_t vs1, unsigned int vxrm,
                                        size_t vl);
vuint32mf2_t __riscv_vnclipu_wx_u32mf2_tu(vuint32mf2_t vd, vuint64m1_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
```

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vuint32m1_t __riscv_vnclipu_wv_u32m1_tu(vuint32m1_t vd, vuint64m2_t vs2,
                                        vuint32m1_t vs1, unsigned int vxrm,
                                        size_t vl);
vuint32m1_t __riscv_vnclipu_wx_u32m1_tu(vuint32m1_t vd, vuint64m2_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
vuint32m2_t __riscv_vnclipu_wv_u32m2_tu(vuint32m2_t vd, vuint64m4_t vs2,
                                        vuint32m2_t vs1, unsigned int vxrm,
                                        size_t vl);
vuint32m2_t __riscv_vnclipu_wx_u32m2_tu(vuint32m2_t vd, vuint64m4_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
vuint32m4_t __riscv_vnclipu_wv_u32m4_tu(vuint32m4_t vd, vuint64m8_t vs2,
                                        vuint32m4_t vs1, unsigned int vxrm,
                                        size_t vl);
vuint32m4_t __riscv_vnclipu_wx_u32m4_tu(vuint32m4_t vd, vuint64m8_t vs2,
                                        size_t rs1, unsigned int vxrm,
                                        size_t vl);
// masked functions
vint8mf8_t __riscv_vnclip_wv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                       vint16mf4_t vs2, vuint8mf8_t vs1,
                                       unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vnclip_wx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                       vint16mf4_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_wv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                       vint16mf2_t vs2, vuint8mf4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_wx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                       vint16mf2_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_wv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                       vint16m1_t vs2, vuint8mf2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_wx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                       vint16m1_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_wv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                     vuint8m1_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8m1_t __riscv_vnclip_wx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_wv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                     vuint8m2_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8m2_t __riscv_vnclip_wx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_wv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                     vuint8m4_t vs1, unsigned int vxrm,
                                     size_t vl);
vint8m4_t __riscv_vnclip_wx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                     size_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_wv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                         vint32mf2_t vs2, vuint16mf4_t vs1,
                                         unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_wx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                         vint32mf2_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_wv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                         vint32m1_t vs2, vuint16mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_wx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                         vint32m1_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_wv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                       vint32m2_t vs2, vuint16m1_t vs1,
                                       unsigned int vxrm, size_t vl);
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vint16m1_t __riscv_vnclip_wx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                       vint32m2_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_wv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                       vint32m4_t vs2, vuint16m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_wx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                       vint32m4_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_wv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                       vint32m8_t vs2, vuint16m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_wx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                       vint32m8_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_wv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                         vint64m1_t vs2, vuint32mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_wx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                         vint64m1_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_wv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                       vint64m2_t vs2, vuint32m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_wx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                       vint64m2_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_wv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                       vint64m4_t vs2, vuint32m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_wx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                       vint64m4_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_wv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                       vint64m8_t vs2, vuint32m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_wx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                       vint64m8_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_wv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                         vuint16mf4_t vs2, vuint8mf8_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_wx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                         vuint16mf4_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_wv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                         vuint16mf2_t vs2, vuint8mf4_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_wx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                         vuint16mf2_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_wv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                         vuint16m1_t vs2, vuint8mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_wx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                         vuint16m1_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_wv_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                       vuint16m2_t vs2, vuint8m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_wx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                       vuint16m2_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_wv_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                       vuint16m4_t vs2, vuint8m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_wx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
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                                      vuint16m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_wv_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                      vuint16m8_t vs2, vuint8m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_wx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                      vuint16m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_wv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint32mf2_t vs2, vuint16mf4_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_wx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint32mf2_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_wv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint32m1_t vs2, vuint16mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_wx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint32m1_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_wv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint32m2_t vs2, vuint16m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_wx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint32m2_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_wv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint32m4_t vs2, vuint16m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_wx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint32m4_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_wv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint32m8_t vs2, vuint16m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_wx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint32m8_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_wv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint64m1_t vs2, vuint32mf2_t vs1,
                                         unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_wx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint64m1_t vs2, size_t rs1,
                                         unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_wv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint64m2_t vs2, vuint32m1_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_wx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                       vuint64m2_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_wv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint64m4_t vs2, vuint32m2_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_wx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                       vuint64m4_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_wv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint64m8_t vs2, vuint32m4_t vs1,
                                       unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_wx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                       vuint64m8_t vs2, size_t rs1,
                                       unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vnclip_wv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                      vint16mf4_t vs2, vuint8mf8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vnclip_wx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
```

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                                      vint16mf4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_wv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint16mf2_t vs2, vuint8mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_wx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                      vint16mf2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_wv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint16m1_t vs2, vuint8mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_wx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                      vint16m1_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_wv_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                    vuint8m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m1_t __riscv_vnclip_wx_i8m1_tumu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_wv_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                    vuint8m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m2_t __riscv_vnclip_wx_i8m2_tumu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_wv_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                    vuint8m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m4_t __riscv_vnclip_wx_i8m4_tumu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_wv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint32mf2_t vs2, vuint16mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_wx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                        vint32mf2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_wv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint32m1_t vs2, vuint16mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_wx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                        vint32m1_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_wv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint32m2_t vs2, vuint16m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_wx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                      vint32m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_wv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint32m4_t vs2, vuint16m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_wx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                      vint32m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_wv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint32m8_t vs2, vuint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_wx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                      vint32m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_wv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint64m1_t vs2, vuint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_wx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                        vint64m1_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_wv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                      vint64m2_t vs2, vuint32m1_t vs1,
```

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                                        unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_wx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                        vint64m2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_wv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        vint64m4_t vs2, vuint32m2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_wx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                        vint64m4_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_wv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        vint64m8_t vs2, vuint32m4_t vs1,
                                        unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_wx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                        vint64m8_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_wv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                          vuint16mf4_t vs2, vuint8mf8_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_wx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                          vuint16mf4_t vs2, size_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_wv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                          vuint16mf2_t vs2, vuint8mf4_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_wx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                          vuint16mf2_t vs2, size_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_wv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                          vuint16m1_t vs2, vuint8mf2_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_wx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                          vuint16m1_t vs2, size_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_wv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                        vuint16m2_t vs2, vuint8m1_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_wx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                        vuint16m2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_wv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                        vuint16m4_t vs2, vuint8m2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_wx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                        vuint16m4_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_wv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                        vuint16m8_t vs2, vuint8m4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_wx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                        vuint16m8_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_wv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                            vuint32mf2_t vs2, vuint16mf4_t vs1,
                                            unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_wx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                            vuint32mf2_t vs2, size_t rs1,
                                            unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_wv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                            vuint32m1_t vs2, vuint16mf2_t vs1,
                                            unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_wx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                            vuint32m1_t vs2, size_t rs1,
                                            unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_wv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                          vuint32m2_t vs2, vuint16m1_t vs1,
                                          unsigned int vxrm, size_t vl);
```

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vuint16m1_t __riscv_vnclipu_wx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                          vuint32m2_t vs2, size_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_wv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                          vuint32m4_t vs2, vuint16m2_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_wx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                          vuint32m4_t vs2, size_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_wv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                          vuint32m8_t vs2, vuint16m4_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_wx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                          vuint32m8_t vs2, size_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_wv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                            vuint64m1_t vs2, vuint32mf2_t vs1,
                                            unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_wx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                            vuint64m1_t vs2, size_t rs1,
                                            unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_wv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                          vuint64m2_t vs2, vuint32m1_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_wx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                          vuint64m2_t vs2, size_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_wv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                          vuint64m4_t vs2, vuint32m2_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_wx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                          vuint64m4_t vs2, size_t rs1,
                                          unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_wv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                          vuint64m8_t vs2, vuint32m4_t vs1,
                                          unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_wx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                          vuint64m8_t vs2, size_t rs1,
                                          unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vnclip_wv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                      vint16mf4_t vs2, vuint8mf8_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vnclip_wx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                      vint16mf4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_wv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                      vint16mf2_t vs2, vuint8mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_wx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                      vint16mf2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_wv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                      vint16m1_t vs2, vuint8mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_wx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                      vint16m1_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_wv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                    vuint8m1_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m1_t __riscv_vnclip_wx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_wv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                                    vuint8m2_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m2_t __riscv_vnclip_wx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
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                                    size_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_wv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                    vuint8m4_t vs1, unsigned int vxrm,
                                    size_t vl);
vint8m4_t __riscv_vnclip_wx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                                    size_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_wv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        vint32mf2_t vs2, vuint16mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_wx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        vint32mf2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_wv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        vint32m1_t vs2, vuint16mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_wx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        vint32m1_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_wv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                      vint32m2_t vs2, vuint16m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_wx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                      vint32m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_wv_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                      vint32m4_t vs2, vuint16m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_wx_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                      vint32m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_wv_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                      vint32m8_t vs2, vuint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_wx_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                      vint32m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_wv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        vint64m1_t vs2, vuint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_wx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        vint64m1_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_wv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                      vint64m2_t vs2, vuint32m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_wx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                      vint64m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_wv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      vint64m4_t vs2, vuint32m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_wx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      vint64m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_wv_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      vint64m8_t vs2, vuint32m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_wx_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      vint64m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_wv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                        vuint16mf4_t vs2, vuint8mf8_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_wx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                        vuint16mf4_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_wv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
```

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                                      vuint16mf2_t vs2, vuint8mf4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_wx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint16mf2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_wv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint16m1_t vs2, vuint8mf2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_wx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint16m1_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_wv_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                     vuint16m2_t vs2, vuint8m1_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_wx_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                     vuint16m2_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_wv_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                     vuint16m4_t vs2, vuint8m2_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_wx_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                     vuint16m4_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_wv_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                     vuint16m8_t vs2, vuint8m4_t vs1,
                                     unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_wx_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                     vuint16m8_t vs2, size_t rs1,
                                     unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_wv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint32mf2_t vs2, vuint16mf4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_wx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                        vuint32mf2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_wv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint32m1_t vs2, vuint16mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_wx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                        vuint32m1_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_wv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint32m2_t vs2, vuint16m1_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_wx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                      vuint32m2_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_wv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint32m4_t vs2, vuint16m2_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_wx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                      vuint32m4_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_wv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint32m8_t vs2, vuint16m4_t vs1,
                                      unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_wx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                      vuint32m8_t vs2, size_t rs1,
                                      unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_wv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint64m1_t vs2, vuint32mf2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_wx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                        vuint64m1_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_wv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                      vuint64m2_t vs2, vuint32m1_t vs1,
```

```
                                        unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_wx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                        vuint64m2_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_wv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                        vuint64m4_t vs2, vuint32m2_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_wx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                        vuint64m4_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_wv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        vuint64m8_t vs2, vuint32m4_t vs1,
                                        unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_wx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        vuint64m8_t vs2, size_t rs1,
                                        unsigned int vxrm, size_t vl);
```

B.5. Vector Floating-Point Intrinsics

B.5.1. Vector Single-Width Floating-Point Add/Subtract Intrinsics

```
vfloat16mf4_t __riscv_vfadd_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfadd_vf_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfadd_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfadd_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfadd_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         float rs1, size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       float rs1, size_t vl);
vfloat32m8_t __riscv_vfadd_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       vfloat32m8_t vs1, size_t vl);
```

```
vfloat32m8_t __riscv_vfadd_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       float rs1, size_t vl);
vfloat64m1_t __riscv_vfadd_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsub_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         float rs1, size_t vl);
vfloat32m1_t __riscv_vfsub_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vfloat32m2_t __riscv_vfsub_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       float rs1, size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       float rs1, size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
```

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                                      vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                      double rs1, size_t vl);
vfloat64m4_t __riscv_vfsub_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                      vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                      double rs1, size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                      vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                      double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrsub_vf_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         float rs1, size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vfloat32m2_t __riscv_vfrsub_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       float rs1, size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       float rs1, size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vfloat64m2_t __riscv_vfrsub_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       double rs1, size_t vl);
vfloat16mf4_t __riscv_vfneg_v_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs,
                                       size_t vl);
vfloat16mf2_t __riscv_vfneg_v_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs,
                                       size_t vl);
vfloat16m1_t __riscv_vfneg_v_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs,
                                     size_t vl);
vfloat16m2_t __riscv_vfneg_v_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs,
                                     size_t vl);
vfloat16m4_t __riscv_vfneg_v_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs,
                                     size_t vl);
vfloat16m8_t __riscv_vfneg_v_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs,
                                     size_t vl);
vfloat32mf2_t __riscv_vfneg_v_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs,
                                       size_t vl);
vfloat32m1_t __riscv_vfneg_v_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs,
                                     size_t vl);
vfloat32m2_t __riscv_vfneg_v_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs,
                                     size_t vl);
vfloat32m4_t __riscv_vfneg_v_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs,
                                     size_t vl);
vfloat32m8_t __riscv_vfneg_v_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs,
                                     size_t vl);
vfloat64m1_t __riscv_vfneg_v_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs,
                                     size_t vl);
vfloat64m2_t __riscv_vfneg_v_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs,
                                     size_t vl);
```

```
vfloat64m4_t __riscv_vfneg_v_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs,
                                      size_t vl);
vfloat64m8_t __riscv_vfneg_v_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs,
                                      size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfadd_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfadd_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfadd_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfadd_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfadd_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfadd_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1, size_t vl);
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vfloat64m1_t __riscv_vfadd_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfsub_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfsub_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
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                                      vfloat32m1_t vs2, vfloat32m1_t vs1,
                                      size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsub_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, vfloat32m2_t vs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, vfloat32m8_t vs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, vfloat64m1_t vs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, double rs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, vfloat64m2_t vs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, double rs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfsub_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, vfloat64m4_t vs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, double rs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, vfloat64m8_t vs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, double rs1,
                                      size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vfrsub_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, float rs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, float rs1,
                                       size_t vl);
```

```
vfloat32m2_t __riscv_vfrsub_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, float rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, double rs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfrsub_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, double rs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, double rs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, double rs1,
                                         size_t vl);
vfloat16mf4_t __riscv_vfneg_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs, size_t vl);
vfloat16mf2_t __riscv_vfneg_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs, size_t vl);
vfloat16m1_t __riscv_vfneg_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs, size_t vl);
vfloat16m2_t __riscv_vfneg_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs, size_t vl);
vfloat16m4_t __riscv_vfneg_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs, size_t vl);
vfloat16m8_t __riscv_vfneg_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs, size_t vl);
vfloat32mf2_t __riscv_vfneg_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs, size_t vl);
vfloat32m1_t __riscv_vfneg_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs, size_t vl);
vfloat32m2_t __riscv_vfneg_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs, size_t vl);
vfloat32m4_t __riscv_vfneg_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs, size_t vl);
vfloat32m8_t __riscv_vfneg_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs, size_t vl);
vfloat64m1_t __riscv_vfneg_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs, size_t vl);
vfloat64m2_t __riscv_vfneg_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs, size_t vl);
vfloat64m4_t __riscv_vfneg_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs, size_t vl);
vfloat64m8_t __riscv_vfneg_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                           size_t vl);
vfloat16mf4_t __riscv_vfadd_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, vfloat16m1_t vs1,
                                         size_t vl);
```

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vfloat16m1_t __riscv_vfadd_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, vfloat16m2_t vs1,
                                         size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, vfloat16m4_t vs1,
                                         size_t vl);
vfloat16m4_t __riscv_vfadd_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, vfloat16m8_t vs1,
                                         size_t vl);
vfloat16m8_t __riscv_vfadd_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                           size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, float rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, vfloat32m1_t vs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, vfloat32m2_t vs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, vfloat32m4_t vs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfadd_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, vfloat32m8_t vs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfadd_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, float rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfadd_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, vfloat64m1_t vs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, double rs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, vfloat64m2_t vs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, double rs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, vfloat64m4_t vs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
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                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfsub_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfsub_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, float rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfsub_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, float rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1,
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                                        size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfsub_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfrsub_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, float rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfrsub_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, float rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, double rs1,
                                         size_t vl);
```

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vfloat64m2_t __riscv_vfrsub_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, double rs1,
                                          size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, double rs1,
                                          size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, double rs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfneg_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs, size_t vl);
vfloat16mf2_t __riscv_vfneg_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs, size_t vl);
vfloat16m1_t __riscv_vfneg_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs, size_t vl);
vfloat16m2_t __riscv_vfneg_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs, size_t vl);
vfloat16m4_t __riscv_vfneg_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs, size_t vl);
vfloat16m8_t __riscv_vfneg_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs, size_t vl);
vfloat32mf2_t __riscv_vfneg_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs, size_t vl);
vfloat32m1_t __riscv_vfneg_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs, size_t vl);
vfloat32m2_t __riscv_vfneg_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs, size_t vl);
vfloat32m4_t __riscv_vfneg_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs, size_t vl);
vfloat32m8_t __riscv_vfneg_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs, size_t vl);
vfloat64m1_t __riscv_vfneg_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs, size_t vl);
vfloat64m2_t __riscv_vfneg_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs, size_t vl);
vfloat64m4_t __riscv_vfneg_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs, size_t vl);
vfloat64m8_t __riscv_vfneg_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                         size_t vl);
vfloat16mf4_t __riscv_vfadd_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, vfloat16m1_t vs1,
                                       size_t vl);
vfloat16m1_t __riscv_vfadd_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, vfloat16m2_t vs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, vfloat16m4_t vs1,
                                       size_t vl);
```

```
vfloat16m4_t __riscv_vfadd_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, vfloat16m8_t vs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfadd_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, float rs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, vfloat32m1_t vs1,
                                       size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, vfloat32m2_t vs1,
                                       size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, vfloat32m4_t vs1,
                                       size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfadd_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, vfloat32m8_t vs1,
                                       size_t vl);
vfloat32m8_t __riscv_vfadd_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfadd_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, vfloat64m1_t vs1,
                                       size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, vfloat64m2_t vs1,
                                       size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, vfloat64m4_t vs1,
                                       size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, vfloat64m8_t vs1,
                                       size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                         size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, _Float16 rs1,
                                         size_t vl);
```

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vfloat16m1_t __riscv_vfsub_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, vfloat16m1_t vs1,
                                       size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, vfloat16m2_t vs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, vfloat16m4_t vs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, vfloat16m8_t vs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, float rs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfsub_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, vfloat32m1_t vs1,
                                       size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsub_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, vfloat32m2_t vs1,
                                       size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, vfloat32m4_t vs1,
                                       size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, vfloat32m8_t vs1,
                                       size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, vfloat64m1_t vs1,
                                       size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, vfloat64m2_t vs1,
                                       size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsub_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, vfloat64m4_t vs1,
                                       size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, vfloat64m8_t vs1,
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                                      size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfrsub_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, float rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfrsub_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, double rs1,
                                       size_t vl);
vfloat64m2_t __riscv_vfrsub_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, double rs1,
                                       size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, double rs1,
                                       size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, double rs1,
                                       size_t vl);
vfloat16mf4_t __riscv_vfneg_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                       vfloat16mf4_t vs, size_t vl);
vfloat16mf2_t __riscv_vfneg_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                       vfloat16mf2_t vs, size_t vl);
vfloat16m1_t __riscv_vfneg_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                     vfloat16m1_t vs, size_t vl);
vfloat16m2_t __riscv_vfneg_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                     vfloat16m2_t vs, size_t vl);
vfloat16m4_t __riscv_vfneg_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                     vfloat16m4_t vs, size_t vl);
vfloat16m8_t __riscv_vfneg_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                     vfloat16m8_t vs, size_t vl);
vfloat32mf2_t __riscv_vfneg_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                       vfloat32mf2_t vs, size_t vl);
vfloat32m1_t __riscv_vfneg_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                     vfloat32m1_t vs, size_t vl);
vfloat32m2_t __riscv_vfneg_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                     vfloat32m2_t vs, size_t vl);
vfloat32m4_t __riscv_vfneg_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                     vfloat32m4_t vs, size_t vl);
vfloat32m8_t __riscv_vfneg_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                     vfloat32m8_t vs, size_t vl);
vfloat64m1_t __riscv_vfneg_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
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                                      vfloat64m1_t vs, size_t vl);
vfloat64m2_t __riscv_vfneg_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs, size_t vl);
vfloat64m4_t __riscv_vfneg_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs, size_t vl);
vfloat64m8_t __riscv_vfneg_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs, size_t vl);
vfloat16mf4_t __riscv_vfadd_vv_f16mf4_rm_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1, unsigned int frm,
                                            size_t vl);
vfloat16mf4_t __riscv_vfadd_vf_f16mf4_rm_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                            _Float16 rs1, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2_rm_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                            vfloat16mf2_t vs1, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2_rm_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                            _Float16 rs1, unsigned int frm,
                                            size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                          vfloat16m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16m1_t __riscv_vfadd_vf_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                          vfloat16m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                          vfloat16m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16m4_t __riscv_vfadd_vf_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                          vfloat16m8_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfadd_vf_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2_rm_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                            vfloat32mf2_t vs1, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2_rm_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                            float rs1, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                          vfloat32m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                          vfloat32m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                          vfloat32m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
```

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vfloat32m8_t __riscv_vfadd_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          vfloat32m8_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfadd_vf_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfadd_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          vfloat64m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          vfloat64m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          vfloat64m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                          vfloat64m8_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4_rm_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1, unsigned int frm,
                                            size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4_rm_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                            _Float16 rs1, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2_rm_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                            vfloat16mf2_t vs1, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2_rm_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                            _Float16 rs1, unsigned int frm,
                                            size_t vl);
vfloat16m1_t __riscv_vfsub_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                          vfloat16m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                          vfloat16m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                          vfloat16m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                          vfloat16m8_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2_rm_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
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                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2_rm_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfsub_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfsub_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        vfloat32m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        vfloat32m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        vfloat32m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        vfloat64m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        vfloat64m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfsub_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        vfloat64m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                        vfloat64m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4_rm_tu(vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrsub_vf_f16mf2_rm_tu(vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                         _Float16 rs1, unsigned int frm,
```

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                                          size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2_rm_tu(vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfrsub_vf_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfrsub_vf_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_vv_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfadd_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2,
                                            vfloat16mf2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vfloat16m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vfloat16m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vfloat16m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, vfloat16m8_t vs1,
                                          unsigned int frm, size_t vl);
```

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vfloat16m8_t __riscv_vfadd_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2,
                                             vfloat32mf2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, vfloat32m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, vfloat32m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, vfloat32m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, vfloat32m8_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, vfloat64m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, vfloat64m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, vfloat64m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, vfloat64m8_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2,
                                             vfloat16mf4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs2,
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                                          vfloat16mf2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
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                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrsub_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrsub_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrsub_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1,
                                          unsigned int frm, size_t vl);
```

```
vfloat16mf4_t __riscv_vfadd_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2, _Float16 rs1,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2,
                                              vfloat16mf2_t vs1,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2, _Float16 rs1,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs2, vfloat16m1_t vs1,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs2, vfloat16m2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs2, vfloat16m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                            vfloat16m8_t vs2, vfloat16m8_t vs1,
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                            vfloat16m8_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat32mf2_t vs2,
                                              vfloat32mf2_t vs1,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat32mf2_t vs2, float rs1,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs2, vfloat32m1_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs2, vfloat32m2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs2, vfloat32m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, vfloat32m8_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs2, vfloat64m1_t vs1,
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```
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, vfloat64m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, vfloat64m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, vfloat64m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2,
                                            vfloat16mf2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vfloat16m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vfloat16m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vfloat16m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, vfloat16m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            vfloat32mf2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
```

```
vfloat32m1_t __riscv_vfsub_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs2, vfloat32m1_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs2, vfloat32m2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs2, vfloat32m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, vfloat32m8_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs2, vfloat64m1_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs2, double rs1,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs2, vfloat64m2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs2, double rs1,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs2, vfloat64m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs2, double rs1,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs2, vfloat64m8_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs2, double rs1,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                               vfloat16mf4_t vs2, _Float16 rs1,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrsub_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                               vfloat16mf2_t vs2, _Float16 rs1,
                                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                             vfloat16m1_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                             vfloat16m2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                             vfloat16m4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                             vfloat16m8_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
```

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                                            vfloat32mf2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat32m1_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrsub_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat32m2_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat32m4_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                             vfloat32m8_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat64m1_t vs2, double rs1,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrsub_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat64m2_t vs2, double rs1,
                                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vfloat64m4_t vs2, double rs1,
                                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                             vfloat64m8_t vs2, double rs1,
                                             unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1, unsigned int frm,
                                            size_t vl);
vfloat16mf4_t __riscv_vfadd_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2,
                                            vfloat16mf2_t vs1, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfadd_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vfloat16m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vfloat16m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vfloat16m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, vfloat16m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
```

```
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfadd_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, vfloat32m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, vfloat32m2_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, vfloat32m4_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, vfloat32m8_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, vfloat64m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, vfloat64m2_t vs1,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, vfloat64m4_t vs1,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, vfloat64m8_t vs1,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2,
                                           vfloat16mf4_t vs1, unsigned int frm,
                                           size_t vl);
vfloat16mf4_t __riscv_vfsub_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2,
                                           vfloat16mf2_t vs1, unsigned int frm,
                                           size_t vl);
vfloat16mf2_t __riscv_vfsub_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
```

```
vfloat16m1_t __riscv_vfsub_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vfloat16m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vfloat16m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vfloat16m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, vfloat16m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            vfloat32mf2_t vs1, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfsub_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, vfloat32m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, vfloat32m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, vfloat32m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, vfloat32m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, vfloat64m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, vfloat64m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
```

```
vfloat64m4_t __riscv_vfsub_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, vfloat64m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, vfloat64m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrsub_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrsub_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrsub_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrsub_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrsub_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrsub_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrsub_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrsub_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrsub_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrsub_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrsub_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrsub_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrsub_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrsub_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrsub_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
```

B.5.2. Vector Widening Floating-Point Add/Subtract Intrinsics

```
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
```

```
                                          vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                        vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                        vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                        float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                        vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                        float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                        vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                        float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                        vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                        float rs1, size_t vl);
```

```
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                        vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_f32m2_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                        vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                        float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_f64m4_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                        vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_f64m4_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                        float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                        vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
```

```
                                       float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       float rs1, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
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                                        vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs2, float rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, float rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs2, float rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, float rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs2, float rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, float rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs2, float rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, float rs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat16mf2_t vs1,
```

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                                        size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs2, float rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, float rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs2, float rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, float rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
```

```
vfloat64m4_t __riscv_vfwsub_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, vfloat32m2_t vs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, float rs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat32m4_t vs2, vfloat32m4_t vs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, vfloat32m4_t vs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, float rs1,
                                         size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs2, _Float16 rs1,
                                            size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, _Float16 rs1,
                                            size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat16m1_t vs2, vfloat16m1_t vs1,
                                          size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat16m1_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, vfloat16m1_t vs1,
                                          size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat16m2_t vs2, vfloat16m2_t vs1,
                                          size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat16m2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, vfloat16m2_t vs1,
                                          size_t vl);
```

```
vfloat32m4_t __riscv_vfwadd_wf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat16m4_t vs2, vfloat16m4_t vs1,
                                          size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat16m4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, vfloat16m4_t vs1,
                                          size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                          size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                          size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, float rs1,
                                          size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs2, vfloat32m1_t vs1,
                                          size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs2, float rs1,
                                          size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, vfloat32m1_t vs1,
                                          size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, float rs1,
                                          size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs2, vfloat32m2_t vs1,
                                          size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs2, float rs1,
                                          size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, vfloat32m2_t vs1,
                                          size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, float rs1,
                                          size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs2, vfloat32m4_t vs1,
                                          size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs2, float rs1,
                                          size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, vfloat32m4_t vs1,
                                          size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, float rs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
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                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2,
                                          vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs2, float rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, float rs1,
```

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                                        size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs2, float rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, float rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs2, float rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, float rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs2, float rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, float rs1,
                                        size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat16mf4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat16m1_t vs2, vfloat16m1_t vs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat16m1_t vs2, _Float16 rs1,
```

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                                      size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, vfloat16m1_t vs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat16m2_t vs2, vfloat16m2_t vs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat16m2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, vfloat16m2_t vs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat16m4_t vs2, vfloat16m4_t vs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat16m4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, vfloat16m4_t vs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat32mf2_t vs2, float rs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat32m1_t vs2, vfloat32m1_t vs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, vfloat32m1_t vs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat32m2_t vs2, vfloat32m2_t vs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, vfloat32m2_t vs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat32m4_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat32m4_t vs2, float rs1, size_t vl);
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vfloat64m8_t __riscv_vfwadd_wv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, float rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs2, vfloat32mf2_t vs1,
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                                      size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat32mf2_t vs2, float rs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat32m1_t vs2, vfloat32m1_t vs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, vfloat32m1_t vs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat32m2_t vs2, vfloat32m2_t vs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, vfloat32m2_t vs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat32m4_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat32m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, float rs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                           vfloat16mf4_t vs2,
                                           vfloat16mf4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2_rm_tu(vfloat32mf2_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2,
                                           vfloat16mf4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2_rm_tu(vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                         vfloat16mf2_t vs1, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1_rm_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                         vfloat16mf2_t vs1, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                         _Float16 rs1, unsigned int frm,
                                         size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                         vfloat16m1_t vs1, unsigned int frm,
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                                          size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2_rm_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                          vfloat16m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                          vfloat16m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4_rm_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                          vfloat16m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                          vfloat16m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8_rm_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          vfloat16m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1_rm_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                          vfloat32m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2_rm_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          vfloat32m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                          vfloat32m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4_rm_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          vfloat32m2_t vs1, unsigned int frm,
                                          size_t vl);
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vfloat64m4_t __riscv_vfwadd_wf_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                           float rs1, unsigned int frm,
                                           size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                           vfloat32m4_t vs1, unsigned int frm,
                                           size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8_rm_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                           float rs1, unsigned int frm,
                                           size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                           vfloat32m4_t vs1, unsigned int frm,
                                           size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                           float rs1, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                             vfloat16mf4_t vs2,
                                             vfloat16mf4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2_rm_tu(vfloat32mf2_t vd,
                                             vfloat16mf4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2,
                                             vfloat16mf4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2_rm_tu(vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                           vfloat16mf2_t vs1, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1_rm_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                           vfloat16mf2_t vs1, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                           vfloat16m1_t vs1, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_f32m2_rm_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                           vfloat16m1_t vs1, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                           vfloat16m2_t vs1, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4_rm_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                           vfloat16m2_t vs1, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                           vfloat16m4_t vs1, unsigned int frm,
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                                          size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8_rm_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          vfloat16m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1_rm_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                          vfloat32m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2_rm_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          vfloat32m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                          vfloat32m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_f64m4_rm_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          vfloat32m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                          vfloat32m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8_rm_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                          vfloat32m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat16mf4_t vs2,
                                             vfloat16mf4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat16mf4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
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                                          vfloat32mf2_t vs2,
                                          vfloat16mf4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2,
                                        vfloat16mf2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat16m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, float rs1,
```

```
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs2, vfloat32m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, vfloat32m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs2, vfloat32m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, vfloat32m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs2, vfloat32m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, vfloat32m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            vfloat16mf4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat16m1_t vs2, vfloat16m1_t vs1,
                                          unsigned int frm, size_t vl);
```

```
vfloat32m2_t __riscv_vfwsub_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat16m1_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs2, vfloat16m1_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat16m2_t vs2, vfloat16m2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat16m2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs2, vfloat16m2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat16m4_t vs2, vfloat16m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat16m4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, vfloat16m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs2,
                                            vfloat32mf2_t vs1, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs2, vfloat32m1_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs2, vfloat32m1_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs2, vfloat32m2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs2, vfloat32m2_t vs1,
                                            unsigned int frm, size_t vl);
```

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vfloat64m4_t __riscv_vfwsub_wf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs2, vfloat32m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs2, vfloat32m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat16mf4_t vs2,
                                               vfloat16mf4_t vs1,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat16mf4_t vs2, _Float16 rs1,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat32mf2_t vs2,
                                               vfloat16mf4_t vs1,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat32mf2_t vs2, _Float16 rs1,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat16mf2_t vs2,
                                             vfloat16mf2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat16mf2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat32m1_t vs2,
                                             vfloat16mf2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat32m1_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat16m1_t vs2, vfloat16m1_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat16m1_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat32m2_t vs2, vfloat16m1_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat32m2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat16m2_t vs2, vfloat16m2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat16m2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat32m4_t vs2, vfloat16m2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat32m4_t vs2, _Float16 rs1,
```

```
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat16m4_t vs2, vfloat16m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat16m4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, vfloat16m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs2,
                                            vfloat32mf2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs2,
                                            vfloat32mf2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs2, vfloat32m1_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs2, vfloat32m1_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs2, vfloat32m2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs2, vfloat32m2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs2, vfloat32m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs2, vfloat32m4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat16mf4_t vs2,
                                              vfloat16mf4_t vs1,
                                              unsigned int frm, size_t vl);
```

```
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat16mf4_t vs2, _Float16 rs1,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat32mf2_t vs2,
                                               vfloat16mf4_t vs1,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat32mf2_t vs2, _Float16 rs1,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat16mf2_t vs2,
                                             vfloat16mf2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat16mf2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat32m1_t vs2,
                                             vfloat16mf2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat32m1_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat16m1_t vs2, vfloat16m1_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat16m1_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat32m2_t vs2, vfloat16m1_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat32m2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat16m2_t vs2, vfloat16m2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat16m2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat32m4_t vs2, vfloat16m2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat32m4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                             vfloat16m4_t vs2, vfloat16m4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                             vfloat16m4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                             vfloat32m8_t vs2, vfloat16m4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                             vfloat32m8_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat32mf2_t vs2,
                                             vfloat32mf2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat32mf2_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
```

```
vfloat64m1_t __riscv_vfwsub_wv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat64m1_t vs2,
                                             vfloat32mf2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat64m1_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat32m1_t vs2, vfloat32m1_t vs1,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat32m1_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat64m2_t vs2, vfloat32m1_t vs1,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat64m2_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vfloat32m2_t vs2, vfloat32m2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vfloat32m2_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vfloat64m4_t vs2, vfloat32m2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vfloat64m4_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                             vfloat32m4_t vs2, vfloat32m4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                             vfloat32m4_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                             vfloat64m8_t vs2, vfloat32m4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                             vfloat64m8_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat16mf4_t vs2,
                                             vfloat16mf4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat16mf4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2,
                                             vfloat16mf4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                           unsigned int frm, size_t vl);
```

```
vfloat32m1_t __riscv_vfwadd_wf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs2, vfloat16m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, vfloat16m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs2, vfloat16m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, vfloat16m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs2, vfloat16m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, vfloat16m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat32m1_t vs2, vfloat32m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat32m1_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, vfloat32m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat32m2_t vs2, vfloat32m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
```

```
                                        vfloat32m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat32m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat32m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2,
                                          vfloat16mf4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
```

```
vfloat32m4_t __riscv_vfwsub_wf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs2, vfloat16m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, vfloat16m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat32m1_t vs2, vfloat32m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat32m1_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, vfloat32m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat32m2_t vs2, vfloat32m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat32m2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, vfloat32m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat32m4_t vs2, vfloat32m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat32m4_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, vfloat32m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
```

B.5.3. Vector Single-Width Floating-Point Multiply/Divide Intrinsics

```
vfloat16mf4_t __riscv_vfmul_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmul_vf_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmul_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmul_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmul_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         float rs1, size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmul_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vfloat32m2_t __riscv_vfmul_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       float rs1, size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmul_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       float rs1, size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vfloat64m4_t __riscv_vfmul_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       double rs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         _Float16 rs1, size_t vl);
```

```
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         float rs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       float rs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       float rs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrdiv_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
```

```
                                        _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          float rs1, size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        float rs1, size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        float rs1, size_t vl);
vfloat32m4_t __riscv_vfrdiv_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        float rs1, size_t vl);
vfloat32m8_t __riscv_vfrdiv_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        float rs1, size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        double rs1, size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        double rs1, size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        double rs1, size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                        double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmul_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfmul_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmul_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfmul_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfmul_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, float rs1, size_t vl);
```

```
vfloat32m2_t __riscv_vfmul_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfmul_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfmul_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfdiv_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
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                                      vfloat16m4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, vfloat16m8_t vs1,
                                      size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, float rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, vfloat32m1_t vs1,
                                      size_t vl);
vfloat32m1_t __riscv_vfdiv_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, vfloat32m2_t vs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, vfloat32m8_t vs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, vfloat64m1_t vs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, double rs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, vfloat64m2_t vs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfdiv_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, double rs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, vfloat64m4_t vs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfdiv_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, double rs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, vfloat64m8_t vs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, double rs1,
                                      size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, _Float16 rs1,
                                       size_t vl);
```

```
vfloat16m2_t __riscv_vfrdiv_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, float rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfrdiv_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfrdiv_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, float rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, double rs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, double rs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, double rs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, double rs1,
                                         size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                           size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfmul_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, vfloat16m1_t vs1,
                                         size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, vfloat16m2_t vs1,
                                         size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, vfloat16m4_t vs1,
                                         size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, _Float16 rs1,
                                         size_t vl);
```

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vfloat16m8_t __riscv_vfmul_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, vfloat16m8_t vs1,
                                         size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfmul_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                           size_t vl);
vfloat32mf2_t __riscv_vfmul_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, float rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, vfloat32m1_t vs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfmul_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfmul_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, vfloat32m2_t vs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, vfloat32m4_t vs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, vfloat32m8_t vs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfmul_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, float rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, vfloat64m1_t vs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, double rs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, vfloat64m2_t vs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, double rs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfmul_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, vfloat64m4_t vs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, double rs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, vfloat64m8_t vs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, double rs1,
                                         size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                           size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
```

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                                        vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, vfloat16m1_t vs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfdiv_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, vfloat16m2_t vs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, vfloat16m4_t vs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, vfloat16m8_t vs1,
                                      size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, float rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, vfloat32m1_t vs1,
                                      size_t vl);
vfloat32m1_t __riscv_vfdiv_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, float rs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, vfloat32m2_t vs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, float rs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, float rs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfdiv_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, vfloat32m8_t vs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, float rs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, vfloat64m1_t vs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, double rs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, vfloat64m2_t vs1,
```

```
                                        size_t vl);
vfloat64m2_t __riscv_vfdiv_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfdiv_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m2_t __riscv_vfrdiv_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, float rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfrdiv_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfrdiv_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, float rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, double rs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, double rs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, double rs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, double rs1,
                                         size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, _Float16 rs1,
```

```
                                        size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vfmul_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, vfloat16m1_t vs1,
                                       size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, vfloat16m2_t vs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, vfloat16m4_t vs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfmul_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, vfloat16m8_t vs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfmul_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfmul_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, float rs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, vfloat32m1_t vs1,
                                       size_t vl);
vfloat32m1_t __riscv_vfmul_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmul_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, vfloat32m2_t vs1,
                                       size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, vfloat32m4_t vs1,
                                       size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, vfloat32m8_t vs1,
                                       size_t vl);
vfloat32m8_t __riscv_vfmul_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, vfloat64m1_t vs1,
                                       size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, vfloat64m2_t vs1,
                                       size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, double rs1, size_t vl);
```

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vfloat64m4_t __riscv_vfmul_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, vfloat64m4_t vs1,
                                       size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, vfloat64m8_t vs1,
                                       size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                         size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, vfloat16m1_t vs1,
                                       size_t vl);
vfloat16m1_t __riscv_vfdiv_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, vfloat16m2_t vs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, vfloat16m4_t vs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, vfloat16m8_t vs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, float rs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, vfloat32m1_t vs1,
                                       size_t vl);
vfloat32m1_t __riscv_vfdiv_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, vfloat32m2_t vs1,
                                       size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, vfloat32m4_t vs1,
                                       size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, float rs1, size_t vl);
```

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vfloat32m8_t __riscv_vfdiv_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, vfloat32m8_t vs1,
                                       size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, vfloat64m1_t vs1,
                                       size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, vfloat64m2_t vs1,
                                       size_t vl);
vfloat64m2_t __riscv_vfdiv_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, vfloat64m4_t vs1,
                                       size_t vl);
vfloat64m4_t __riscv_vfdiv_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, vfloat64m8_t vs1,
                                       size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfrdiv_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfrdiv_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfrdiv_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfmul_vv_f16mf4_rm_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
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                                          vfloat16mf4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4_rm_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2_rm_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmul_vf_f16mf2_rm_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                        vfloat16m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                        vfloat16m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfmul_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                        vfloat16m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmul_vv_f32mf2_rm_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfmul_vf_f32mf2_rm_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfmul_vf_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfmul_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        vfloat32m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        vfloat32m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        vfloat32m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfmul_vf_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        vfloat64m1_t vs1, unsigned int frm,
```

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                                        size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        vfloat64m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfmul_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        vfloat64m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                        vfloat64m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4_rm_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4_rm_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2_rm_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2_rm_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                          _Float16 rs1, unsigned int frm,
                                          size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                        vfloat16m1_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m1_t __riscv_vfdiv_vf_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                        vfloat16m2_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                        vfloat16m8_t vs1, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                        _Float16 rs1, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2_rm_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2_rm_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, unsigned int frm,
                                        size_t vl);
```

```
vfloat32m1_t __riscv_vfdiv_vf_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                          vfloat32m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                          vfloat32m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfdiv_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          vfloat32m8_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          float rs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          vfloat64m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          vfloat64m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfdiv_vf_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          vfloat64m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfdiv_vf_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                          vfloat64m8_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                          double rs1, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4_rm_tu(vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2_rm_tu(vfloat16mf2_t vd,
                                             vfloat16mf2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat16m2_t __riscv_vfrdiv_vf_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2_rm_tu(vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
```

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                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfrdiv_vf_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfrdiv_vf_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        float rs1, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                        double rs1, unsigned int frm,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_vv_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
```

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                                          vfloat32mf2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, vfloat32m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, vfloat32m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, vfloat32m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, vfloat32m8_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, vfloat64m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, vfloat64m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, vfloat64m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, vfloat64m8_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2,
                                             vfloat16mf4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs2,
                                             vfloat16mf2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs2, vfloat16m1_t vs1,
                                           unsigned int frm, size_t vl);
```

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vfloat16m1_t __riscv_vfdiv_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs2, vfloat16m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs2, vfloat16m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs2, vfloat16m8_t vs1,
                                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2,
                                             vfloat32mf2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, vfloat32m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, vfloat32m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, vfloat32m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, vfloat32m8_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, vfloat64m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, vfloat64m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, vfloat64m4_t vs1,
                                           unsigned int frm, size_t vl);
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vfloat64m4_t __riscv_vfdiv_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, vfloat64m8_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, double rs1,
                                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2, _Float16 rs1,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2, _Float16 rs1,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrdiv_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                            vfloat16m8_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat32mf2_t vs2, float rs1,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrdiv_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrdiv_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs2, double rs1,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs2, double rs1,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs2, double rs1,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs2, double rs1,
                                            unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2,
                                              vfloat16mf4_t vs1,
                                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2, _Float16 rs1,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2,
                                              vfloat16mf2_t vs1,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
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                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
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                                          vfloat64m2_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, vfloat64m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, vfloat64m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2,
                                            vfloat16mf2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vfloat16m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vfloat16m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vfloat16m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, vfloat16m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            vfloat32mf2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, vfloat32m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, vfloat32m2_t vs1,
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                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, vfloat32m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, vfloat32m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, vfloat64m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, vfloat64m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, vfloat64m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, vfloat64m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrdiv_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
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vfloat32m4_t __riscv_vfrdiv_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat32m4_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrdiv_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                             vfloat32m8_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat64m1_t vs2, double rs1,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat64m2_t vs2, double rs1,
                                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vfloat64m4_t vs2, double rs1,
                                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                             vfloat64m8_t vs2, double rs1,
                                             unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1, unsigned int frm,
                                            size_t vl);
vfloat16mf4_t __riscv_vfmul_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2,
                                            vfloat16mf2_t vs1, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfmul_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vfloat16m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vfloat16m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vfloat16m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, vfloat16m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            vfloat32mf2_t vs1, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfmul_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, float rs1,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, vfloat32m1_t vs1,
                                          unsigned int frm, size_t vl);
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vfloat32m1_t __riscv_vfmul_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, vfloat32m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, vfloat32m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, vfloat32m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, vfloat64m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, vfloat64m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, vfloat64m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, vfloat64m8_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, double rs1,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1, unsigned int frm,
                                            size_t vl);
vfloat16mf4_t __riscv_vfdiv_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2,
                                            vfloat16mf2_t vs1, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfdiv_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vfloat16m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vfloat16m2_t vs1,
```

```
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfdiv_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
```

```
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrdiv_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrdiv_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrdiv_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrdiv_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, _Float16 rs1,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrdiv_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrdiv_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrdiv_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrdiv_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, float rs1,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrdiv_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrdiv_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrdiv_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrdiv_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, double rs1,
                                         unsigned int frm, size_t vl);
```

B.5.4. Vector Widening Floating-Point Multiply Intrinsics

```
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                        vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                      vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                      vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwmul_vf_f32m2_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
```

```
                                        vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                        vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwmul_vf_f64m1_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                        float rs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                        float rs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                        vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                        float rs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                        vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                        float rs1, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                           size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs2, vfloat16m1_t vs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfwmul_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs2, vfloat16m2_t vs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat16m4_t vs2, vfloat16m4_t vs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat16m4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfwmul_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs2, float rs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat32m1_t vs2, vfloat32m1_t vs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
```

```
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs2, float rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs2, float rs1,
                                        size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs2,
                                           vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs2, vfloat16m1_t vs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfwmul_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs2, vfloat16m2_t vs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat16m4_t vs2, vfloat16m4_t vs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat16m4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfwmul_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs2, float rs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat32m1_t vs2, vfloat32m1_t vs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat32m2_t vs2, vfloat32m2_t vs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat32m4_t vs2, vfloat32m4_t vs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         size_t vl);
// masked functions
```

```
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmul_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmul_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs2, float rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                             vfloat16mf4_t vs2,
                                             vfloat16mf4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2_rm_tu(vfloat32mf2_t vd,
                                             vfloat16mf4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                           vfloat16mf2_t vs1, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1_rm_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                           vfloat16m1_t vs1, unsigned int frm,
                                           size_t vl);
```

```
vfloat32m2_t __riscv_vfwmul_vf_f32m2_rm_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                          vfloat16m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4_rm_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                          vfloat16m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8_rm_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                           _Float16 rs1, unsigned int frm,
                                           size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwmul_vf_f64m1_rm_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                           float rs1, unsigned int frm,
                                           size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                          vfloat32m1_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2_rm_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                           float rs1, unsigned int frm,
                                           size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                          vfloat32m2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4_rm_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                           float rs1, unsigned int frm,
                                           size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                          vfloat32m4_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8_rm_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                           float rs1, unsigned int frm,
                                           size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat16mf4_t vs2,
                                              vfloat16mf4_t vs1,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat16mf4_t vs2, _Float16 rs1,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat16mf2_t vs2,
                                            vfloat16mf2_t vs1, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat16mf2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat16m1_t vs2, vfloat16m1_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat16m1_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat16m2_t vs2, vfloat16m2_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat16m2_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
```

```
                                          vfloat16m4_t vs2, vfloat16m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat16m4_t vs2, _Float16 rs1,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwmul_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs2, vfloat32m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs2, vfloat32m2_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs2, vfloat32m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs2, _Float16 rs1,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs2,
                                           vfloat16mf2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs2, vfloat16m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs2, vfloat16m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs2, vfloat16m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs2,
                                           vfloat32mf2_t vs1,
                                           unsigned int frm, size_t vl);
```

```
vfloat64m1_t __riscv_vfwmul_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat32mf2_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat32m1_t vs2, vfloat32m1_t vs1,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat32m1_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vfloat32m2_t vs2, vfloat32m2_t vs1,
                                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vfloat32m2_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                             vfloat32m4_t vs2, vfloat32m4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                             vfloat32m4_t vs2, float rs1,
                                             unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat16mf4_t vs2,
                                             vfloat16mf4_t vs1,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmul_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat16mf4_t vs2, _Float16 rs1,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs2, vfloat16m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs2, vfloat16m2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs2, vfloat16m4_t vs1,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs2, _Float16 rs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat32m1_t vs2, vfloat32m1_t vs1,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat32m1_t vs2, float rs1,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat32m2_t vs2, vfloat32m2_t vs1,
```

```
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs2, vfloat32m4_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs2, float rs1,
                                          unsigned int frm, size_t vl);
```

B.5.5. Vector Single-Width Floating-Point Fused Multiply-Add Intrinsics

```
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4_tu(vfloat16mf4_t vd, _Float16 rs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2_tu(vfloat16mf2_t vd, _Float16 rs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1_tu(vfloat16m1_t vd, _Float16 rs1,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                        vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2_tu(vfloat16m2_t vd, _Float16 rs1,
                                        vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                        vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4_tu(vfloat16m4_t vd, _Float16 rs1,
                                        vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                        vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8_tu(vfloat16m8_t vd, _Float16 rs1,
                                        vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2_tu(vfloat32mf2_t vd, float rs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                        vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1_tu(vfloat32m1_t vd, float rs1,
                                        vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                        vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2_tu(vfloat32m2_t vd, float rs1,
                                        vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4_tu(vfloat32m4_t vd, float rs1,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                        vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8_tu(vfloat32m8_t vd, float rs1,
                                        vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1_tu(vfloat64m1_t vd, double rs1,
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                        vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2_tu(vfloat64m2_t vd, double rs1,
                                        vfloat64m2_t vs2, size_t vl);
```

```
vfloat64m4_t __riscv_vfmacc_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                        vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4_tu(vfloat64m4_t vd, double rs1,
                                        vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                        vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8_tu(vfloat64m8_t vd, double rs1,
                                        vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4_tu(vfloat16mf4_t vd, _Float16 rs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2_tu(vfloat16mf2_t vd, _Float16 rs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1_tu(vfloat16m1_t vd, _Float16 rs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2_tu(vfloat16m2_t vd, _Float16 rs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4_tu(vfloat16m4_t vd, _Float16 rs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                         vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vf_f16m8_tu(vfloat16m8_t vd, _Float16 rs1,
                                         vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2_tu(vfloat32mf2_t vd, float rs1,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1_tu(vfloat32m1_t vd, float rs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                         vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2_tu(vfloat32m2_t vd, float rs1,
                                         vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4_tu(vfloat32m4_t vd, float rs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                         vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8_tu(vfloat32m8_t vd, float rs1,
                                         vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                         vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1_tu(vfloat64m1_t vd, double rs1,
                                         vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                         vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2_tu(vfloat64m2_t vd, double rs1,
                                         vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                         vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4_tu(vfloat64m4_t vd, double rs1,
                                         vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                         vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8_tu(vfloat64m8_t vd, double rs1,
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                                        vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4_tu(vfloat16mf4_t vd, _Float16 rs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2_tu(vfloat16mf2_t vd, _Float16 rs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1_tu(vfloat16m1_t vd, _Float16 rs1,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                        vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2_tu(vfloat16m2_t vd, _Float16 rs1,
                                        vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                        vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4_tu(vfloat16m4_t vd, _Float16 rs1,
                                        vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                        vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8_tu(vfloat16m8_t vd, _Float16 rs1,
                                        vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2_tu(vfloat32mf2_t vd, float rs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                        vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac_vf_f32m1_tu(vfloat32m1_t vd, float rs1,
                                        vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                        vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2_tu(vfloat32m2_t vd, float rs1,
                                        vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                        vfloat32m4_t vs2, size_t vl);
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                                        vfloat32m4_t vs2, size_t vl);
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                                        vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8_tu(vfloat32m8_t vd, float rs1,
                                        vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1_tu(vfloat64m1_t vd, double rs1,
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                        vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2_tu(vfloat64m2_t vd, double rs1,
                                        vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                        vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4_tu(vfloat64m4_t vd, double rs1,
                                        vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                        vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8_tu(vfloat64m8_t vd, double rs1,
                                        vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4_tu(vfloat16mf4_t vd, _Float16 rs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, size_t vl);
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vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2_tu(vfloat16mf2_t vd, _Float16 rs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1_tu(vfloat16m1_t vd, _Float16 rs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2_tu(vfloat16m2_t vd, _Float16 rs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4_tu(vfloat16m4_t vd, _Float16 rs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                         vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8_tu(vfloat16m8_t vd, _Float16 rs1,
                                         vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2_tu(vfloat32mf2_t vd, float rs1,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1_tu(vfloat32m1_t vd, float rs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                         vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2_tu(vfloat32m2_t vd, float rs1,
                                         vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4_tu(vfloat32m4_t vd, float rs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                         vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8_tu(vfloat32m8_t vd, float rs1,
                                         vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                         vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1_tu(vfloat64m1_t vd, double rs1,
                                         vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                         vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2_tu(vfloat64m2_t vd, double rs1,
                                         vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                         vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4_tu(vfloat64m4_t vd, double rs1,
                                         vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                         vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8_tu(vfloat64m8_t vd, double rs1,
                                         vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4_tu(vfloat16mf4_t vd, _Float16 rs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2_tu(vfloat16mf2_t vd, _Float16 rs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_vf_f16m1_tu(vfloat16m1_t vd, _Float16 rs1,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
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                                        vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2_tu(vfloat16m2_t vd, _Float16 rs1,
                                        vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                        vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4_tu(vfloat16m4_t vd, _Float16 rs1,
                                        vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                        vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8_tu(vfloat16m8_t vd, _Float16 rs1,
                                        vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2_tu(vfloat32mf2_t vd, float rs1,
                                          vfloat32mf2_t vs2, size_t vl);
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                                        vfloat32m2_t vs2, size_t vl);
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                                        vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                        vfloat32m4_t vs2, size_t vl);
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                                        vfloat32m4_t vs2, size_t vl);
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                                        vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8_tu(vfloat32m8_t vd, float rs1,
                                        vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1_tu(vfloat64m1_t vd, double rs1,
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vfloat64m2_t __riscv_vfmadd_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
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                                        vfloat64m4_t vs2, size_t vl);
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                                        vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8_tu(vfloat64m8_t vd, double rs1,
                                        vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4_tu(vfloat16mf4_t vd, _Float16 rs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2_tu(vfloat16mf2_t vd, _Float16 rs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1_tu(vfloat16m1_t vd, _Float16 rs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2_tu(vfloat16m2_t vd, _Float16 rs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4_tu(vfloat16m4_t vd, _Float16 rs1,
                                         vfloat16m4_t vs2, size_t vl);
```

```
vfloat16m8_t __riscv_vfnmadd_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                         vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmadd_vf_f16m8_tu(vfloat16m8_t vd, _Float16 rs1,
                                         vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2_tu(vfloat32mf2_t vd, float rs1,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1_tu(vfloat32m1_t vd, float rs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                         vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2_tu(vfloat32m2_t vd, float rs1,
                                         vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vf_f32m4_tu(vfloat32m4_t vd, float rs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                         vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vf_f32m8_tu(vfloat32m8_t vd, float rs1,
                                         vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                         vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1_tu(vfloat64m1_t vd, double rs1,
                                         vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                         vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vf_f64m2_tu(vfloat64m2_t vd, double rs1,
                                         vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                         vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd_vf_f64m4_tu(vfloat64m4_t vd, double rs1,
                                         vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                         vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8_tu(vfloat64m8_t vd, double rs1,
                                         vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4_tu(vfloat16mf4_t vd, _Float16 rs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vf_f16mf2_tu(vfloat16mf2_t vd, _Float16 rs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1_tu(vfloat16m1_t vd, _Float16 rs1,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                        vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub_vf_f16m2_tu(vfloat16m2_t vd, _Float16 rs1,
                                        vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                        vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4_tu(vfloat16m4_t vd, _Float16 rs1,
                                        vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                        vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8_tu(vfloat16m8_t vd, _Float16 rs1,
                                        vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vf_f32mf2_tu(vfloat32mf2_t vd, float rs1,
```

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                                        vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                        vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub_vf_f32m1_tu(vfloat32m1_t vd, float rs1,
                                        vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                        vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_vf_f32m2_tu(vfloat32m2_t vd, float rs1,
                                        vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_vf_f32m4_tu(vfloat32m4_t vd, float rs1,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                        vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_vf_f32m8_tu(vfloat32m8_t vd, float rs1,
                                        vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1_tu(vfloat64m1_t vd, double rs1,
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                        vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_vf_f64m2_tu(vfloat64m2_t vd, double rs1,
                                        vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                        vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub_vf_f64m4_tu(vfloat64m4_t vd, double rs1,
                                        vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                        vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_vf_f64m8_tu(vfloat64m8_t vd, double rs1,
                                        vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vf_f16mf4_tu(vfloat16mf4_t vd, _Float16 rs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2_tu(vfloat16mf2_t vd, _Float16 rs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1_tu(vfloat16m1_t vd, _Float16 rs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub_vf_f16m2_tu(vfloat16m2_t vd, _Float16 rs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4_tu(vfloat16m4_t vd, _Float16 rs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                         vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8_tu(vfloat16m8_t vd, _Float16 rs1,
                                         vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2_tu(vfloat32mf2_t vd, float rs1,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsub_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsub_vf_f32m1_tu(vfloat32m1_t vd, float rs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsub_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                         vfloat32m2_t vs2, size_t vl);
```

```
vfloat32m2_t __riscv_vfnmsub_vf_f32m2_tu(vfloat32m2_t vd, float rs1,
                                         vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub_vf_f32m4_tu(vfloat32m4_t vd, float rs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsub_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                         vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsub_vf_f32m8_tu(vfloat32m8_t vd, float rs1,
                                         vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                         vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1_tu(vfloat64m1_t vd, double rs1,
                                         vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                         vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2_tu(vfloat64m2_t vd, double rs1,
                                         vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                         vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4_tu(vfloat64m4_t vd, double rs1,
                                         vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                         vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8_tu(vfloat64m8_t vd, double rs1,
                                         vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                         _Float16 rs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfmacc_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
```

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                                        float rs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         float rs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         float rs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         float rs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         double rs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfmacc_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         double rs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfmacc_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         double rs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         double rs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            _Float16 rs1, vfloat16mf4_t vs2,
                                            size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            _Float16 rs1, vfloat16mf2_t vs2,
                                            size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                          _Float16 rs1, vfloat16m1_t vs2,
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                                        size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfnmacc_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfnmacc_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
```

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vfloat64m8_t __riscv_vfnmacc_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfmsac_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                         _Float16 rs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfmsac_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfmsac_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         float rs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfmsac_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         float rs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfmsac_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
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                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                         _Float16 rs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
```

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                                          vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         float rs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmsac_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         float rs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmsac_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         float rs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         double rs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         double rs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfnmsac_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         double rs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         double rs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmadd_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
```

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vfloat16m1_t __riscv_vfmadd_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                         _Float16 rs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfmadd_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfmadd_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfmadd_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfmadd_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         float rs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfmadd_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         float rs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfmadd_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         float rs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         double rs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfmadd_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfmadd_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         double rs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfmadd_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfmadd_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
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                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmadd_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmadd_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmadd_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmadd_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmadd_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                         _Float16 rs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         float rs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmadd_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         float rs1, vfloat32m4_t vs2,
```

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                                        size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfnmadd_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfnmadd_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfnmadd_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                         _Float16 rs1, vfloat16mf4_t vs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vfmsub_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                         _Float16 rs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs1, vfloat16m1_t vs2,
                                       size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                       _Float16 rs1, vfloat16m1_t vs2,
                                       size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs1, vfloat16m2_t vs2,
                                       size_t vl);
vfloat16m2_t __riscv_vfmsub_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                       _Float16 rs1, vfloat16m2_t vs2,
                                       size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs1, vfloat16m4_t vs2,
                                       size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                       _Float16 rs1, vfloat16m4_t vs2,
                                       size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs1, vfloat16m8_t vs2,
                                       size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                       _Float16 rs1, vfloat16m8_t vs2,
                                       size_t vl);
```

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vfloat32mf2_t __riscv_vfmsub_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfmsub_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfmsub_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfmsub_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfmsub_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         float rs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfmsub_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfmsub_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         float rs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfmsub_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfmsub_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                         float rs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                         double rs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfmsub_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfmsub_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                         double rs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfmsub_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfmsub_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         double rs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfmsub_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfmsub_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         double rs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            _Float16 rs1, vfloat16mf4_t vs2,
                                            size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            _Float16 rs1, vfloat16mf2_t vs2,
                                            size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
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                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfnmsub_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfnmsub_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfnmsub_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfnmsub_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfnmsub_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfnmsub_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfnmsub_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfnmsub_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfnmsub_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfnmsub_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
```

```
                                        size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmacc_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
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                                        size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmacc_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmacc_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         size_t vl);
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vfloat16m8_t __riscv_vfnmacc_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                           _Float16 rs1, vfloat16m8_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs1,
                                             vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             float rs1, vfloat32mf2_t vs2,
                                             size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs1, vfloat32m1_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           float rs1, vfloat32m1_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs1, vfloat32m2_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           float rs1, vfloat32m2_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfnmacc_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs1, vfloat32m4_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           float rs1, vfloat32m4_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs1, vfloat32m8_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           float rs1, vfloat32m8_t vs2,
                                           size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs1, vfloat64m1_t vs2,
                                           size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           double rs1, vfloat64m1_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs1, vfloat64m2_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           double rs1, vfloat64m2_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs1, vfloat64m4_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           double rs1, vfloat64m4_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfnmacc_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs1, vfloat64m8_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           double rs1, vfloat64m8_t vs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            _Float16 rs1, vfloat16mf4_t vs2,
                                            size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
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                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          _Float16 rs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          _Float16 rs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          _Float16 rs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat16m8_t __riscv_vfmsac_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1, vfloat16m8_t vs2,
                                          size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfmsac_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfmsac_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfmsac_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfmsac_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
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                                        size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         _Float16 rs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         float rs1, vfloat32m2_t vs2,
                                         size_t vl);
```

```
vfloat32m4_t __riscv_vfnmsac_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs1, vfloat32m4_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           float rs1, vfloat32m4_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfnmsac_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs1, vfloat32m8_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           float rs1, vfloat32m8_t vs2,
                                           size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs1, vfloat64m1_t vs2,
                                           size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           double rs1, vfloat64m1_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs1, vfloat64m2_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           double rs1, vfloat64m2_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfnmsac_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs1, vfloat64m4_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           double rs1, vfloat64m4_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs1, vfloat64m8_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           double rs1, vfloat64m8_t vs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            _Float16 rs1, vfloat16mf4_t vs2,
                                            size_t vl);
vfloat16mf2_t __riscv_vfmadd_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            _Float16 rs1, vfloat16mf2_t vs2,
                                            size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfmadd_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          _Float16 rs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          _Float16 rs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          _Float16 rs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
```

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                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfmadd_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfmadd_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfmadd_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfmadd_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfmadd_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfmadd_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmadd_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmadd_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmadd_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmadd_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmadd_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1,
```

```
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfnmadd_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfnmadd_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfnmadd_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfnmadd_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfnmadd_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfnmadd_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
```

```
vfloat64m2_t __riscv_vfnmadd_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           double rs1, vfloat64m2_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs1, vfloat64m4_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfnmadd_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           double rs1, vfloat64m4_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs1, vfloat64m8_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           double rs1, vfloat64m8_t vs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            _Float16 rs1, vfloat16mf4_t vs2,
                                            size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            _Float16 rs1, vfloat16mf2_t vs2,
                                            size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          _Float16 rs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat16m2_t __riscv_vfmsub_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          _Float16 rs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          _Float16 rs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1, vfloat16m8_t vs2,
                                          size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfmsub_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfmsub_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfmsub_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfmsub_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
```

```
                                        float rs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfmsub_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfmsub_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfmsub_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfmsub_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmsub_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmsub_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmsub_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmsub_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmsub_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmsub_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsub_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsub_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
```

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                                          size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1, vfloat16m8_t vs2,
                                          size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfnmsub_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfnmsub_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfnmsub_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfnmsub_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfnmsub_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfnmsub_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfnmsub_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfnmsub_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         _Float16 rs1, vfloat16mf4_t vs2,
```

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                                        size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        _Float16 rs1, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs1, vfloat16m1_t vs2,
                                      size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                      _Float16 rs1, vfloat16m1_t vs2,
                                      size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs1, vfloat16m2_t vs2,
                                      size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                      _Float16 rs1, vfloat16m2_t vs2,
                                      size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs1, vfloat16m4_t vs2,
                                      size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                      _Float16 rs1, vfloat16m4_t vs2,
                                      size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs1, vfloat16m8_t vs2,
                                      size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                      _Float16 rs1, vfloat16m8_t vs2,
                                      size_t vl);
vfloat32mf2_t __riscv_vfmacc_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        float rs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs1, vfloat32m1_t vs2,
                                      size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      float rs1, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs1, vfloat32m2_t vs2,
                                      size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      float rs1, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs1, vfloat32m4_t vs2,
                                      size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                      vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs1, vfloat32m8_t vs2,
                                      size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                      vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs1, vfloat64m1_t vs2,
                                      size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      double rs1, vfloat64m1_t vs2,
                                      size_t vl);
vfloat64m2_t __riscv_vfmacc_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs1, vfloat64m2_t vs2,
                                      size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
```

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                                      double rs1, vfloat64m2_t vs2,
                                      size_t vl);
vfloat64m4_t __riscv_vfmacc_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs1, vfloat64m4_t vs2,
                                      size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      double rs1, vfloat64m4_t vs2,
                                      size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs1, vfloat64m8_t vs2,
                                      size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      double rs1, vfloat64m8_t vs2,
                                      size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         _Float16 rs1, vfloat16mf4_t vs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         _Float16 rs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs1, vfloat16m1_t vs2,
                                       size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       _Float16 rs1, vfloat16m1_t vs2,
                                       size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs1, vfloat16m2_t vs2,
                                       size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       _Float16 rs1, vfloat16m2_t vs2,
                                       size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs1, vfloat16m4_t vs2,
                                       size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       _Float16 rs1, vfloat16m4_t vs2,
                                       size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs1, vfloat16m8_t vs2,
                                       size_t vl);
vfloat16m8_t __riscv_vfnmacc_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       _Float16 rs1, vfloat16m8_t vs2,
                                       size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         float rs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs1, vfloat32m1_t vs2,
                                       size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       float rs1, vfloat32m1_t vs2,
                                       size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs1, vfloat32m2_t vs2,
                                       size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       float rs1, vfloat32m2_t vs2,
```

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                                        size_t vl);
vfloat32m4_t __riscv_vfnmacc_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         float rs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         float rs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         double rs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         double rs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         double rs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmacc_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         double rs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        size_t vl);
```

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vfloat16m8_t __riscv_vfmsac_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfmsac_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfmsac_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfmsac_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                        vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
```

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                                          size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                         _Float16 rs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         float rs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmsac_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         float rs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmsac_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         float rs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         double rs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         double rs1, vfloat64m2_t vs2,
                                         size_t vl);
```

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vfloat64m4_t __riscv_vfnmsac_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         double rs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         double rs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmadd_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfmadd_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfmadd_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfmadd_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfmadd_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
```

```
vfloat32m4_t __riscv_vfmadd_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                        vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmadd_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfmadd_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmadd_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfmadd_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmadd_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmadd_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmadd_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmadd_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmadd_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                         _Float16 rs1, vfloat16m8_t vs2,
                                         size_t vl);
```

```
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         float rs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmadd_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         float rs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmadd_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         float rs1, vfloat32m8_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         double rs1, vfloat64m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfnmadd_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         double rs1, vfloat64m2_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfnmadd_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         double rs1, vfloat64m4_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         double rs1, vfloat64m8_t vs2,
                                         size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmsub_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
```

```
                                      vfloat16m1_t vs1, vfloat16m1_t vs2,
                                      size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                      _Float16 rs1, vfloat16m1_t vs2,
                                      size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs1, vfloat16m2_t vs2,
                                      size_t vl);
vfloat16m2_t __riscv_vfmsub_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                      _Float16 rs1, vfloat16m2_t vs2,
                                      size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs1, vfloat16m4_t vs2,
                                      size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                      _Float16 rs1, vfloat16m4_t vs2,
                                      size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs1, vfloat16m8_t vs2,
                                      size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                      _Float16 rs1, vfloat16m8_t vs2,
                                      size_t vl);
vfloat32mf2_t __riscv_vfmsub_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmsub_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        float rs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs1, vfloat32m1_t vs2,
                                      size_t vl);
vfloat32m1_t __riscv_vfmsub_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      float rs1, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs1, vfloat32m2_t vs2,
                                      size_t vl);
vfloat32m2_t __riscv_vfmsub_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      float rs1, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs1, vfloat32m4_t vs2,
                                      size_t vl);
vfloat32m4_t __riscv_vfmsub_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                      vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs1, vfloat32m8_t vs2,
                                      size_t vl);
vfloat32m8_t __riscv_vfmsub_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                      vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs1, vfloat64m1_t vs2,
                                      size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      double rs1, vfloat64m1_t vs2,
                                      size_t vl);
vfloat64m2_t __riscv_vfmsub_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs1, vfloat64m2_t vs2,
                                      size_t vl);
vfloat64m2_t __riscv_vfmsub_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      double rs1, vfloat64m2_t vs2,
                                      size_t vl);
vfloat64m4_t __riscv_vfmsub_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs1, vfloat64m4_t vs2,
                                      size_t vl);
vfloat64m4_t __riscv_vfmsub_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      double rs1, vfloat64m4_t vs2,
                                      size_t vl);
```

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vfloat64m8_t __riscv_vfmsub_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfmsub_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m2_t __riscv_vfnmsub_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsub_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                         _Float16 rs1, vfloat16m8_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfnmsub_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfnmsub_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsub_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfnmsub_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         float rs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmsub_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfnmsub_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         float rs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfnmsub_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
```

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                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfnmsub_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        size_t vl);
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4_rm_tu(vfloat16mf4_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4_rm_tu(vfloat16mf4_t vd, _Float16 rs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2_rm_tu(vfloat16mf2_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2_rm_tu(vfloat16mf2_t vd, _Float16 rs1,
                                            vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                          vfloat16m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1_rm_tu(vfloat16m1_t vd, _Float16 rs1,
                                          vfloat16m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                          vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2_rm_tu(vfloat16m2_t vd, _Float16 rs1,
                                          vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                          vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4_rm_tu(vfloat16m4_t vd, _Float16 rs1,
                                          vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                          vfloat16m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8_rm_tu(vfloat16m8_t vd, _Float16 rs1,
                                          vfloat16m8_t vs2, unsigned int frm,
                                          size_t vl);
```

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vfloat32mf2_t __riscv_vfmacc_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                             vfloat32mf2_t vs1,
                                             vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2_rm_tu(vfloat32mf2_t vd, float rs1,
                                             vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                           vfloat32m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1_rm_tu(vfloat32m1_t vd, float rs1,
                                           vfloat32m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                           vfloat32m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2_rm_tu(vfloat32m2_t vd, float rs1,
                                           vfloat32m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                           vfloat32m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4_rm_tu(vfloat32m4_t vd, float rs1,
                                           vfloat32m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                           vfloat32m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8_rm_tu(vfloat32m8_t vd, float rs1,
                                           vfloat32m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                           vfloat64m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1_rm_tu(vfloat64m1_t vd, double rs1,
                                           vfloat64m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m2_t __riscv_vfmacc_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                           vfloat64m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2_rm_tu(vfloat64m2_t vd, double rs1,
                                           vfloat64m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m4_t __riscv_vfmacc_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                           vfloat64m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4_rm_tu(vfloat64m4_t vd, double rs1,
                                           vfloat64m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                           vfloat64m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8_rm_tu(vfloat64m8_t vd, double rs1,
                                           vfloat64m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4_rm_tu(vfloat16mf4_t vd,
                                              vfloat16mf4_t vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4_rm_tu(vfloat16mf4_t vd, _Float16 rs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2_rm_tu(vfloat16mf2_t vd,
                                              vfloat16mf2_t vs1,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2_rm_tu(vfloat16mf2_t vd, _Float16 rs1,
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                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                            vfloat16m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1_rm_tu(vfloat16m1_t vd, _Float16 rs1,
                                            vfloat16m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                            vfloat16m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2_rm_tu(vfloat16m2_t vd, _Float16 rs1,
                                            vfloat16m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                            vfloat16m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4_rm_tu(vfloat16m4_t vd, _Float16 rs1,
                                            vfloat16m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                            vfloat16m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m8_t __riscv_vfnmacc_vf_f16m8_rm_tu(vfloat16m8_t vd, _Float16 rs1,
                                            vfloat16m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                              vfloat32mf2_t vs1,
                                              vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2_rm_tu(vfloat32mf2_t vd, float rs1,
                                              vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                            vfloat32m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1_rm_tu(vfloat32m1_t vd, float rs1,
                                            vfloat32m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                            vfloat32m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2_rm_tu(vfloat32m2_t vd, float rs1,
                                            vfloat32m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m4_t __riscv_vfnmacc_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                            vfloat32m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4_rm_tu(vfloat32m4_t vd, float rs1,
                                            vfloat32m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                            vfloat32m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8_rm_tu(vfloat32m8_t vd, float rs1,
                                            vfloat32m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                            vfloat64m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1_rm_tu(vfloat64m1_t vd, double rs1,
                                            vfloat64m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                            vfloat64m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2_rm_tu(vfloat64m2_t vd, double rs1,
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                                        vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                        vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4_rm_tu(vfloat64m4_t vd, double rs1,
                                        vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfnmacc_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                        vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8_rm_tu(vfloat64m8_t vd, double rs1,
                                        vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4_rm_tu(vfloat16mf4_t vd,
                                         vfloat16mf4_t vs1,
                                         vfloat16mf4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4_rm_tu(vfloat16mf4_t vd, _Float16 rs1,
                                         vfloat16mf4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2_rm_tu(vfloat16mf2_t vd,
                                         vfloat16mf2_t vs1,
                                         vfloat16mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2_rm_tu(vfloat16mf2_t vd, _Float16 rs1,
                                         vfloat16mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                       vfloat16m1_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1_rm_tu(vfloat16m1_t vd, _Float16 rs1,
                                       vfloat16m1_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                       vfloat16m2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2_rm_tu(vfloat16m2_t vd, _Float16 rs1,
                                       vfloat16m2_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                       vfloat16m4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4_rm_tu(vfloat16m4_t vd, _Float16 rs1,
                                       vfloat16m4_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m8_t __riscv_vfmsac_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                       vfloat16m8_t vs2, unsigned int frm,
                                       size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8_rm_tu(vfloat16m8_t vd, _Float16 rs1,
                                       vfloat16m8_t vs2, unsigned int frm,
                                       size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                         vfloat32mf2_t vs1,
                                         vfloat32mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2_rm_tu(vfloat32mf2_t vd, float rs1,
                                         vfloat32mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                       vfloat32m1_t vs2, unsigned int frm,
                                       size_t vl);
vfloat32m1_t __riscv_vfmsac_vf_f32m1_rm_tu(vfloat32m1_t vd, float rs1,
                                       vfloat32m1_t vs2, unsigned int frm,
                                       size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                       vfloat32m2_t vs2, unsigned int frm,
```

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                                          size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2_rm_tu(vfloat32m2_t vd, float rs1,
                                          vfloat32m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                          vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfmsac_vf_f32m4_rm_tu(vfloat32m4_t vd, float rs1,
                                          vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfmsac_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                          vfloat32m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8_rm_tu(vfloat32m8_t vd, float rs1,
                                          vfloat32m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                          vfloat64m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1_rm_tu(vfloat64m1_t vd, double rs1,
                                          vfloat64m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                          vfloat64m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2_rm_tu(vfloat64m2_t vd, double rs1,
                                          vfloat64m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                          vfloat64m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4_rm_tu(vfloat64m4_t vd, double rs1,
                                          vfloat64m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                          vfloat64m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8_rm_tu(vfloat64m8_t vd, double rs1,
                                          vfloat64m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4_rm_tu(vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4_rm_tu(vfloat16mf4_t vd, _Float16 rs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2_rm_tu(vfloat16mf2_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2_rm_tu(vfloat16mf2_t vd, _Float16 rs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                           vfloat16m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1_rm_tu(vfloat16m1_t vd, _Float16 rs1,
                                           vfloat16m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                           vfloat16m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2_rm_tu(vfloat16m2_t vd, _Float16 rs1,
                                           vfloat16m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
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                                          vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4_rm_tu(vfloat16m4_t vd, _Float16 rs1,
                                          vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                          vfloat16m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8_rm_tu(vfloat16m8_t vd, _Float16 rs1,
                                          vfloat16m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2_rm_tu(vfloat32mf2_t vd, float rs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                          vfloat32m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1_rm_tu(vfloat32m1_t vd, float rs1,
                                          vfloat32m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                          vfloat32m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2_rm_tu(vfloat32m2_t vd, float rs1,
                                          vfloat32m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfnmsac_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                          vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4_rm_tu(vfloat32m4_t vd, float rs1,
                                          vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfnmsac_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                          vfloat32m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8_rm_tu(vfloat32m8_t vd, float rs1,
                                          vfloat32m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                          vfloat64m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1_rm_tu(vfloat64m1_t vd, double rs1,
                                          vfloat64m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                          vfloat64m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2_rm_tu(vfloat64m2_t vd, double rs1,
                                          vfloat64m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfnmsac_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                          vfloat64m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4_rm_tu(vfloat64m4_t vd, double rs1,
                                          vfloat64m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                          vfloat64m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8_rm_tu(vfloat64m8_t vd, double rs1,
                                          vfloat64m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4_rm_tu(vfloat16mf4_t vd,
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                                          vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4_rm_tu(vfloat16mf4_t vd, _Float16 rs1,
                                          vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vv_f16mf2_rm_tu(vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2_rm_tu(vfloat16mf2_t vd, _Float16 rs1,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                        vfloat16m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m1_t __riscv_vfmadd_vf_f16m1_rm_tu(vfloat16m1_t vd, _Float16 rs1,
                                        vfloat16m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                        vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2_rm_tu(vfloat16m2_t vd, _Float16 rs1,
                                        vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4_rm_tu(vfloat16m4_t vd, _Float16 rs1,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                        vfloat16m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8_rm_tu(vfloat16m8_t vd, _Float16 rs1,
                                        vfloat16m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2_rm_tu(vfloat32mf2_t vd, float rs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfmadd_vf_f32m1_rm_tu(vfloat32m1_t vd, float rs1,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfmadd_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfmadd_vf_f32m2_rm_tu(vfloat32m2_t vd, float rs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfmadd_vf_f32m4_rm_tu(vfloat32m4_t vd, float rs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfmadd_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                        vfloat32m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8_rm_tu(vfloat32m8_t vd, float rs1,
                                        vfloat32m8_t vs2, unsigned int frm,
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                                          size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                           vfloat64m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1_rm_tu(vfloat64m1_t vd, double rs1,
                                           vfloat64m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m2_t __riscv_vfmadd_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                           vfloat64m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m2_t __riscv_vfmadd_vf_f64m2_rm_tu(vfloat64m2_t vd, double rs1,
                                           vfloat64m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m4_t __riscv_vfmadd_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                           vfloat64m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m4_t __riscv_vfmadd_vf_f64m4_rm_tu(vfloat64m4_t vd, double rs1,
                                           vfloat64m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m8_t __riscv_vfmadd_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                           vfloat64m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8_rm_tu(vfloat64m8_t vd, double rs1,
                                           vfloat64m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4_rm_tu(vfloat16mf4_t vd,
                                              vfloat16mf4_t vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4_rm_tu(vfloat16mf4_t vd, _Float16 rs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2_rm_tu(vfloat16mf2_t vd,
                                              vfloat16mf2_t vs1,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2_rm_tu(vfloat16mf2_t vd, _Float16 rs1,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                            vfloat16m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1_rm_tu(vfloat16m1_t vd, _Float16 rs1,
                                            vfloat16m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m2_t __riscv_vfnmadd_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                            vfloat16m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2_rm_tu(vfloat16m2_t vd, _Float16 rs1,
                                            vfloat16m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m4_t __riscv_vfnmadd_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                            vfloat16m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4_rm_tu(vfloat16m4_t vd, _Float16 rs1,
                                            vfloat16m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m8_t __riscv_vfnmadd_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                            vfloat16m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m8_t __riscv_vfnmadd_vf_f16m8_rm_tu(vfloat16m8_t vd, _Float16 rs1,
                                            vfloat16m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                              vfloat32mf2_t vs1,
                                              vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
```

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vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2_rm_tu(vfloat32mf2_t vd, float rs1,
                                              vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                            vfloat32m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1_rm_tu(vfloat32m1_t vd, float rs1,
                                            vfloat32m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                            vfloat32m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2_rm_tu(vfloat32m2_t vd, float rs1,
                                            vfloat32m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                            vfloat32m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m4_t __riscv_vfnmadd_vf_f32m4_rm_tu(vfloat32m4_t vd, float rs1,
                                            vfloat32m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                            vfloat32m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m8_t __riscv_vfnmadd_vf_f32m8_rm_tu(vfloat32m8_t vd, float rs1,
                                            vfloat32m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                            vfloat64m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1_rm_tu(vfloat64m1_t vd, double rs1,
                                            vfloat64m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                            vfloat64m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m2_t __riscv_vfnmadd_vf_f64m2_rm_tu(vfloat64m2_t vd, double rs1,
                                            vfloat64m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                            vfloat64m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m4_t __riscv_vfnmadd_vf_f64m4_rm_tu(vfloat64m4_t vd, double rs1,
                                            vfloat64m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                            vfloat64m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8_rm_tu(vfloat64m8_t vd, double rs1,
                                            vfloat64m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4_rm_tu(vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4_rm_tu(vfloat16mf4_t vd, _Float16 rs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2_rm_tu(vfloat16mf2_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vf_f16mf2_rm_tu(vfloat16mf2_t vd, _Float16 rs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                           vfloat16m1_t vs2, unsigned int frm,
```

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                                        size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1_rm_tu(vfloat16m1_t vd, _Float16 rs1,
                                        vfloat16m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                        vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfmsub_vf_f16m2_rm_tu(vfloat16m2_t vd, _Float16 rs1,
                                        vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4_rm_tu(vfloat16m4_t vd, _Float16 rs1,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                        vfloat16m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8_rm_tu(vfloat16m8_t vd, _Float16 rs1,
                                        vfloat16m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmsub_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vf_f32mf2_rm_tu(vfloat32mf2_t vd, float rs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfmsub_vf_f32m1_rm_tu(vfloat32m1_t vd, float rs1,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfmsub_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfmsub_vf_f32m2_rm_tu(vfloat32m2_t vd, float rs1,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfmsub_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfmsub_vf_f32m4_rm_tu(vfloat32m4_t vd, float rs1,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfmsub_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                        vfloat32m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfmsub_vf_f32m8_rm_tu(vfloat32m8_t vd, float rs1,
                                        vfloat32m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                        vfloat64m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1_rm_tu(vfloat64m1_t vd, double rs1,
                                        vfloat64m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfmsub_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                        vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfmsub_vf_f64m2_rm_tu(vfloat64m2_t vd, double rs1,
                                        vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfmsub_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                        vfloat64m4_t vs2, unsigned int frm,
```

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                                          size_t vl);
vfloat64m4_t __riscv_vfmsub_vf_f64m4_rm_tu(vfloat64m4_t vd, double rs1,
                                          vfloat64m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfmsub_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                          vfloat64m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfmsub_vf_f64m8_rm_tu(vfloat64m8_t vd, double rs1,
                                          vfloat64m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vv_f16mf4_rm_tu(vfloat16mf4_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vf_f16mf4_rm_tu(vfloat16mf4_t vd, _Float16 rs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vv_f16mf2_rm_tu(vfloat16mf2_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2_rm_tu(vfloat16mf2_t vd, _Float16 rs1,
                                            vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                           vfloat16m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1_rm_tu(vfloat16m1_t vd, _Float16 rs1,
                                           vfloat16m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                           vfloat16m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m2_t __riscv_vfnmsub_vf_f16m2_rm_tu(vfloat16m2_t vd, _Float16 rs1,
                                           vfloat16m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m4_t __riscv_vfnmsub_vv_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                           vfloat16m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4_rm_tu(vfloat16m4_t vd, _Float16 rs1,
                                           vfloat16m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                           vfloat16m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8_rm_tu(vfloat16m8_t vd, _Float16 rs1,
                                           vfloat16m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2_rm_tu(vfloat32mf2_t vd, float rs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                           vfloat32m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m1_t __riscv_vfnmsub_vf_f32m1_rm_tu(vfloat32m1_t vd, float rs1,
                                           vfloat32m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfnmsub_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                           vfloat32m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfnmsub_vf_f32m2_rm_tu(vfloat32m2_t vd, float rs1,
                                           vfloat32m2_t vs2, unsigned int frm,
                                           size_t vl);
```

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vfloat32m4_t __riscv_vfnmsub_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                            vfloat32m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m4_t __riscv_vfnmsub_vf_f32m4_rm_tu(vfloat32m4_t vd, float rs1,
                                            vfloat32m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m8_t __riscv_vfnmsub_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                            vfloat32m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m8_t __riscv_vfnmsub_vf_f32m8_rm_tu(vfloat32m8_t vd, float rs1,
                                            vfloat32m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                            vfloat64m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1_rm_tu(vfloat64m1_t vd, double rs1,
                                            vfloat64m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                            vfloat64m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2_rm_tu(vfloat64m2_t vd, double rs1,
                                            vfloat64m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                            vfloat64m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4_rm_tu(vfloat64m4_t vd, double rs1,
                                            vfloat64m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                            vfloat64m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8_rm_tu(vfloat64m8_t vd, double rs1,
                                            vfloat64m8_t vs2, unsigned int frm,
                                            size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                              _Float16 rs1, vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs1,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                              _Float16 rs1, vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                            _Float16 rs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                            _Float16 rs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
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```
                                          _Float16 rs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
```

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vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                               _Float16 rs1, vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               vfloat16mf2_t vs1,
                                               vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               _Float16 rs1, vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                             vfloat16m1_t vs1, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                             _Float16 rs1, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                             vfloat16m2_t vs1, vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                             _Float16 rs1, vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                             vfloat16m4_t vs1, vfloat16m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                             _Float16 rs1, vfloat16m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                             vfloat16m8_t vs1, vfloat16m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                             _Float16 rs1, vfloat16m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat32mf2_t vs1,
                                               vfloat32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               float rs1, vfloat32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat32m1_t vs1, vfloat32m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                             float rs1, vfloat32m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat32m2_t vs1, vfloat32m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                             float rs1, vfloat32m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat32m4_t vs1, vfloat32m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                             float rs1, vfloat32m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                             vfloat32m8_t vs1, vfloat32m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                             float rs1, vfloat32m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat64m1_t vs1, vfloat64m1_t vs2,
```

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                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            double rs1, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs1, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            double rs1, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs1, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            double rs1, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            double rs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             _Float16 rs1, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                             _Float16 rs1, vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                           _Float16 rs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                           _Float16 rs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs1, vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                           _Float16 rs1, vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs1, vfloat16m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                           _Float16 rs1, vfloat16m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs1,
                                             vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             float rs1, vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
```

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vfloat32m1_t __riscv_vfmsac_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                            float rs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            float rs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            float rs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs1, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            float rs1, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs1, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            double rs1, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs1, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            double rs1, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs1, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            double rs1, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            double rs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                               vfloat16mf4_t vs1,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                               _Float16 rs1, vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               vfloat16mf2_t vs1,
                                               vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               _Float16 rs1, vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                             vfloat16m1_t vs1, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                             _Float16 rs1, vfloat16m1_t vs2,
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                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                          _Float16 rs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                          _Float16 rs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
```

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                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs1, vfloat64m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vv_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
```

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vfloat32m4_t __riscv_vfmadd_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            float rs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs1, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            float rs1, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs1, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            double rs1, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs1, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            double rs1, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs1, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            double rs1, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            double rs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                               vfloat16mf4_t vs1,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                               _Float16 rs1, vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               vfloat16mf2_t vs1,
                                               vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               _Float16 rs1, vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                             vfloat16m1_t vs1, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                             _Float16 rs1, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
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                                             vfloat16m2_t vs1, vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                             _Float16 rs1, vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                             vfloat16m4_t vs1, vfloat16m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                             _Float16 rs1, vfloat16m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                             vfloat16m8_t vs1, vfloat16m8_t vs2,
```

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                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                            _Float16 rs1, vfloat16m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat32mf2_t vs1,
                                              vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                              float rs1, vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                            float rs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            float rs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
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                                            float rs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs1, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
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                                            float rs1, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs1, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            double rs1, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs1, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            double rs1, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs1, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            double rs1, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            double rs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             _Float16 rs1, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
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                                          vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
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                                        float rs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
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                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
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                                        float rs1, vfloat32m2_t vs2,
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                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
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                                        float rs1, vfloat32m4_t vs2,
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                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
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                                        float rs1, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
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vfloat64m2_t __riscv_vfmsub_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs1, vfloat64m2_t vs2,
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                                            double rs1, vfloat64m2_t vs2,
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                                            double rs1, vfloat64m4_t vs2,
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                                            vfloat64m8_t vs1, vfloat64m8_t vs2,
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                                            double rs1, vfloat64m8_t vs2,
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                                               vfloat16mf4_t vs2,
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                                               _Float16 rs1, vfloat16mf4_t vs2,
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                                               vfloat16mf2_t vs1,
                                               vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               _Float16 rs1, vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                             vfloat16m1_t vs1, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                             _Float16 rs1, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                             vfloat16m2_t vs1, vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_vf_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                             _Float16 rs1, vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vv_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                             vfloat16m4_t vs1, vfloat16m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                             _Float16 rs1, vfloat16m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                             vfloat16m8_t vs1, vfloat16m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                             _Float16 rs1, vfloat16m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat32mf2_t vs1,
                                               vfloat32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               float rs1, vfloat32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat32m1_t vs1, vfloat32m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
```

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                                          float rs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            _Float16 rs1, vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            _Float16 rs1, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          _Float16 rs1, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs1, vfloat16m2_t vs2,
```

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                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          _Float16 rs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          _Float16 rs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
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                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            double rs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                              _Float16 rs1, vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs1,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                              _Float16 rs1, vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs1,
                                            vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                            _Float16 rs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs1,
                                            vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                            _Float16 rs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs1,
                                            vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                            _Float16 rs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                            vfloat16m8_t vs1,
                                            vfloat16m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                            _Float16 rs1, vfloat16m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat32mf2_t vs1,
                                              vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                              float rs1, vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs1,
                                            vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                            float rs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs1,
                                            vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                            float rs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
```

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vfloat32m4_t __riscv_vfnmacc_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                              vfloat32m4_t vs1,
                                              vfloat32m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                              float rs1, vfloat32m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                              vfloat32m8_t vs1,
                                              vfloat32m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                              float rs1, vfloat32m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                              vfloat64m1_t vs1,
                                              vfloat64m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                              double rs1, vfloat64m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                              vfloat64m2_t vs1,
                                              vfloat64m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                              double rs1, vfloat64m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                              vfloat64m4_t vs1,
                                              vfloat64m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                              double rs1, vfloat64m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                              vfloat64m8_t vs1,
                                              vfloat64m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                              double rs1, vfloat64m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                               vfloat16mf4_t vs1,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                               _Float16 rs1, vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                               vfloat16mf2_t vs1,
                                               vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                               _Float16 rs1, vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                             vfloat16m1_t vs1, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                             _Float16 rs1, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                             vfloat16m2_t vs1, vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                             _Float16 rs1, vfloat16m2_t vs2,
```

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                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          _Float16 rs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
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                                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                                vfloat16mf4_t vs1,
                                                vfloat16mf4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                                _Float16 rs1, vfloat16mf4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                                vfloat16mf2_t vs1,
                                                vfloat16mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                                _Float16 rs1, vfloat16mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                              vfloat16m1_t vs1,
                                              vfloat16m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                              _Float16 rs1, vfloat16m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                              vfloat16m2_t vs1,
                                              vfloat16m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                              _Float16 rs1, vfloat16m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                              vfloat16m4_t vs1,
                                              vfloat16m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                              _Float16 rs1, vfloat16m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                              vfloat16m8_t vs1,
                                              vfloat16m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                              _Float16 rs1, vfloat16m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                                vfloat32mf2_t vs1,
                                                vfloat32mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                                float rs1, vfloat32mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                              vfloat32m1_t vs1,
                                              vfloat32m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                              float rs1, vfloat32m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                              vfloat32m2_t vs1,
                                              vfloat32m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                              float rs1, vfloat32m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                              vfloat32m4_t vs1,
                                              vfloat32m4_t vs2,
```

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                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                            float rs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs1,
                                            vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            float rs1, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs1,
                                            vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            double rs1, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs1,
                                            vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            double rs1, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs1,
                                            vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            double rs1, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs1,
                                            vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            double rs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             _Float16 rs1, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                             _Float16 rs1, vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                           _Float16 rs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                           _Float16 rs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs1, vfloat16m4_t vs2,
```

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                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          _Float16 rs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
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                                                vfloat16mf4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                                _Float16 rs1, vfloat16mf4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                                vfloat16mf2_t vs1,
                                                vfloat16mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                                _Float16 rs1, vfloat16mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                              vfloat16m1_t vs1,
                                              vfloat16m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                              _Float16 rs1, vfloat16m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                              vfloat16m2_t vs1,
                                              vfloat16m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                              _Float16 rs1, vfloat16m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                              vfloat16m4_t vs1,
                                              vfloat16m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                              _Float16 rs1, vfloat16m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                              vfloat16m8_t vs1,
                                              vfloat16m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                              _Float16 rs1, vfloat16m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                                vfloat32mf2_t vs1,
                                                vfloat32mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                                float rs1, vfloat32mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                              vfloat32m1_t vs1,
                                              vfloat32m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                              float rs1, vfloat32m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                              vfloat32m2_t vs1,
                                              vfloat32m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                              float rs1, vfloat32m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                              vfloat32m4_t vs1,
                                              vfloat32m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                              float rs1, vfloat32m4_t vs2,
```

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                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs1,
                                            vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            float rs1, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs1,
                                            vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            double rs1, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs1,
                                            vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            double rs1, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs1,
                                            vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            double rs1, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs1,
                                            vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            double rs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             _Float16 rs1, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                             _Float16 rs1, vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                           _Float16 rs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                           _Float16 rs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs1, vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                           _Float16 rs1, vfloat16m4_t vs2,
```

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                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vv_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vf_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
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                                            _Float16 rs1, vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vv_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            _Float16 rs1, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs1,
                                          vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          _Float16 rs1, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs1,
                                          vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_vf_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          _Float16 rs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vv_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs1,
                                          vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          _Float16 rs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1,
                                          vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1,
                                          vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1,
                                          vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1,
                                          vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1,
```

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                                            vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            float rs1, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs1,
                                            vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            double rs1, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs1,
                                            vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            double rs1, vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs1,
                                            vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            double rs1, vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs1,
                                            vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            double rs1, vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmacc_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
```

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                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs1, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                        float rs1, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                        double rs1, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs1, vfloat64m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                        double rs1, vfloat64m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs1, vfloat64m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                        double rs1, vfloat64m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs1, vfloat64m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                        double rs1, vfloat64m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
```

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vfloat16mf2_t __riscv_vfnmacc_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs1,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                              _Float16 rs1, vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                            _Float16 rs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                            _Float16 rs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                            _Float16 rs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                            vfloat16m8_t vs1, vfloat16m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                            _Float16 rs1, vfloat16m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat32mf2_t vs1,
                                              vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                              float rs1, vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                            float rs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                            float rs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                            float rs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs1, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                            float rs1, vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs1, vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                            double rs1, vfloat64m1_t vs2,
```

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                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           _Float16 rs1, vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           _Float16 rs1, vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                         _Float16 rs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                         _Float16 rs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                         _Float16 rs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs1, vfloat16m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                         _Float16 rs1, vfloat16m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
```

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vfloat32m1_t __riscv_vfmsac_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                           float rs1, vfloat32m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs1, vfloat32m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                           float rs1, vfloat32m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs1, vfloat32m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           float rs1, vfloat32m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs1, vfloat32m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           float rs1, vfloat32m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs1, vfloat64m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           double rs1, vfloat64m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs1, vfloat64m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           double rs1, vfloat64m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs1, vfloat64m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           double rs1, vfloat64m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs1, vfloat64m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                           double rs1, vfloat64m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                              _Float16 rs1, vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs1,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                              _Float16 rs1, vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                            _Float16 rs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs1, vfloat16m2_t vs2,
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                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                          _Float16 rs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                          _Float16 rs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                          _Float16 rs1, vfloat16m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            float rs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                          float rs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
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                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                         double rs1, vfloat64m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          _Float16 rs1, vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                        _Float16 rs1, vfloat16m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                        _Float16 rs1, vfloat16m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                        _Float16 rs1, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                        _Float16 rs1, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          float rs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                        float rs1, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                        float rs1, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                        float rs1, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
```

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vfloat32m8_t __riscv_vfmadd_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs1, vfloat32m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           float rs1, vfloat32m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs1, vfloat64m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           double rs1, vfloat64m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs1, vfloat64m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           double rs1, vfloat64m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs1, vfloat64m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           double rs1, vfloat64m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs1, vfloat64m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                           double rs1, vfloat64m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                              _Float16 rs1, vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs1,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                              _Float16 rs1, vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                            _Float16 rs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                            _Float16 rs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                            _Float16 rs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                            vfloat16m8_t vs1, vfloat16m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                            _Float16 rs1, vfloat16m8_t vs2,
```

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                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           float rs1, vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                         float rs1, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                         float rs1, vfloat32m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                         float rs1, vfloat32m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs1, vfloat32m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                         float rs1, vfloat32m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs1, vfloat64m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                         double rs1, vfloat64m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs1, vfloat64m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                         double rs1, vfloat64m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs1, vfloat64m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                         double rs1, vfloat64m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs1, vfloat64m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                         double rs1, vfloat64m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          _Float16 rs1, vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
```

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vfloat16mf2_t __riscv_vfmsub_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                             _Float16 rs1, vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                           _Float16 rs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                           _Float16 rs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs1, vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                           _Float16 rs1, vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs1, vfloat16m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                           _Float16 rs1, vfloat16m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs1,
                                             vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                             float rs1, vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs1, vfloat32m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                           float rs1, vfloat32m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs1, vfloat32m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                           float rs1, vfloat32m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs1, vfloat32m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                           float rs1, vfloat32m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs1, vfloat32m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                           float rs1, vfloat32m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs1, vfloat64m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                           double rs1, vfloat64m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs1, vfloat64m2_t vs2,
                                           unsigned int frm, size_t vl);
```

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vfloat64m2_t __riscv_vfmsub_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                           double rs1, vfloat64m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs1, vfloat64m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                           double rs1, vfloat64m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs1, vfloat64m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                           double rs1, vfloat64m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vv_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_vf_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                              _Float16 rs1, vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vv_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs1,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_vf_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                              _Float16 rs1, vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vv_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_vf_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                            _Float16 rs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_vv_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_vf_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                            _Float16 rs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vv_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_vf_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                            _Float16 rs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vv_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                            vfloat16m8_t vs1, vfloat16m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_vf_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                            _Float16 rs1, vfloat16m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat32mf2_t vs1,
                                              vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                              float rs1, vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                            float rs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
```

```
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          float rs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          float rs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          float rs1, vfloat32m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          double rs1, vfloat64m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          double rs1, vfloat64m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          double rs1, vfloat64m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          double rs1, vfloat64m8_t vs2,
                                          unsigned int frm, size_t vl);
```

B.5.6. Vector Widening Floating-Point Fused Multiply-Add Intrinsics

```
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2_tu(vfloat32mf2_t vd, _Float16 vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                         vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1_tu(vfloat32m1_t vd, _Float16 vs1,
                                         vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2_tu(vfloat32m2_t vd, _Float16 vs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4_tu(vfloat32m4_t vd, _Float16 vs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8_tu(vfloat32m8_t vd, _Float16 vs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
```

```
                                        vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1_tu(vfloat64m1_t vd, float vs1,
                                        vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                        vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc_vf_f64m2_tu(vfloat64m2_t vd, float vs1,
                                        vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                        vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vf_f64m4_tu(vfloat64m4_t vd, float vs1,
                                        vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                        vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8_tu(vfloat64m8_t vd, float vs1,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2_tu(vfloat32mf2_t vd, _Float16 vs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                         vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1_tu(vfloat32m1_t vd, _Float16 vs1,
                                         vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2_tu(vfloat32m2_t vd, _Float16 vs1,
                                         vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4_tu(vfloat32m4_t vd, _Float16 vs1,
                                         vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8_tu(vfloat32m8_t vd, _Float16 vs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                         vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1_tu(vfloat64m1_t vd, float vs1,
                                         vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2_tu(vfloat64m2_t vd, float vs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                         vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4_tu(vfloat64m4_t vd, float vs1,
                                         vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8_tu(vfloat64m8_t vd, float vs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2_tu(vfloat32mf2_t vd, _Float16 vs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmsac_vv_f32m1_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                        vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1_tu(vfloat32m1_t vd, _Float16 vs1,
                                        vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                        vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vf_f32m2_tu(vfloat32m2_t vd, _Float16 vs1,
                                        vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                        vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4_tu(vfloat32m4_t vd, _Float16 vs1,
                                        vfloat16m2_t vs2, size_t vl);
```

```
vfloat32m8_t __riscv_vfwmsac_vv_f32m8_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac_vf_f32m8_tu(vfloat32m8_t vd, _Float16 vs1,
                                         vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                         vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1_tu(vfloat64m1_t vd, float vs1,
                                         vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vv_f64m2_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2_tu(vfloat64m2_t vd, float vs1,
                                         vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                         vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4_tu(vfloat64m4_t vd, float vs1,
                                         vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8_tu(vfloat64m8_t vd, float vs1,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2_tu(vfloat32mf2_t vd, _Float16 vs1,
                                            vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1_tu(vfloat32m1_t vd, _Float16 vs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                          vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2_tu(vfloat32m2_t vd, _Float16 vs1,
                                          vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                          vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4_tu(vfloat32m4_t vd, _Float16 vs1,
                                          vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                          vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8_tu(vfloat32m8_t vd, _Float16 vs1,
                                          vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vf_f64m1_tu(vfloat64m1_t vd, float vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                          vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2_tu(vfloat64m2_t vd, float vs1,
                                          vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                          vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4_tu(vfloat64m4_t vd, float vs1,
                                          vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                          vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8_tu(vfloat64m8_t vd, float vs1,
                                          vfloat32m4_t vs2, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            _Float16 vs1, vfloat16mf4_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
```

```
                                        _Float16 vs1, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        _Float16 vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        _Float16 vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        _Float16 vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        float vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmacc_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        float vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmacc_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        float vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        float vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                           _Float16 vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                         _Float16 vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                         _Float16 vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                         _Float16 vs1, vfloat16m2_t vs2,
```

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                                          size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs1, vfloat16m4_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                           _Float16 vs1, vfloat16m4_t vs2,
                                           size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                           float vs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat32m1_t vs1, vfloat32m1_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                           float vs1, vfloat32m1_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat32m2_t vs1, vfloat32m2_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                           float vs1, vfloat32m2_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat32m4_t vs1, vfloat32m4_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                           float vs1, vfloat32m4_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            _Float16 vs1, vfloat16mf4_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfwmsac_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          _Float16 vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfwmsac_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          _Float16 vs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat16m2_t vs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          _Float16 vs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfwmsac_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfwmsac_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                          _Float16 vs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                          float vs1, vfloat32mf2_t vs2,
                                          size_t vl);
```

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vfloat64m2_t __riscv_vfwmsac_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                          float vs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                          float vs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          float vs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             _Float16 vs1, vfloat16mf4_t vs2,
                                             size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                           _Float16 vs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs1, vfloat16m1_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                           _Float16 vs1, vfloat16m1_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs1, vfloat16m2_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                           _Float16 vs1, vfloat16m2_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs1, vfloat16m4_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                           _Float16 vs1, vfloat16m4_t vs2,
                                           size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                           float vs1, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat32m1_t vs1, vfloat32m1_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                           float vs1, vfloat32m1_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat32m2_t vs1, vfloat32m2_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                           float vs1, vfloat32m2_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
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                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        float vs1, vfloat32m4_t vs2,
                                        size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat16mf4_t vs1,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          _Float16 vs1, vfloat16mf4_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        _Float16 vs1, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat16m1_t vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        _Float16 vs1, vfloat16m1_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        _Float16 vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        _Float16 vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        float vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfwmacc_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        float vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfwmacc_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        float vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        float vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           _Float16 vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
```

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                                          vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          _Float16 vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          _Float16 vs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat16m2_t vs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          _Float16 vs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          _Float16 vs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          float vs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          float vs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          float vs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          float vs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           _Float16 vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfwmsac_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         _Float16 vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfwmsac_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         _Float16 vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
```

```
                                          size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          _Float16 vs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfwmsac_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfwmsac_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          _Float16 vs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          float vs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfwmsac_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          float vs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          float vs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          float vs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             _Float16 vs1, vfloat16mf4_t vs2,
                                             size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           _Float16 vs1, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs1, vfloat16m1_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           _Float16 vs1, vfloat16m1_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs1, vfloat16m2_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           _Float16 vs1, vfloat16m2_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs1, vfloat16m4_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           _Float16 vs1, vfloat16m4_t vs2,
                                           size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2, size_t vl);
```

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vfloat64m1_t __riscv_vfwnmsac_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            float vs1, vfloat32mf2_t vs2,
                                            size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs1, vfloat32m1_t vs2,
                                            size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            float vs1, vfloat32m1_t vs2,
                                            size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs1, vfloat32m2_t vs2,
                                            size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            float vs1, vfloat32m2_t vs2,
                                            size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs1, vfloat32m4_t vs2,
                                            size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            float vs1, vfloat32m4_t vs2,
                                            size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           _Float16 vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         _Float16 vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         _Float16 vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         _Float16 vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         _Float16 vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         float vs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfwmacc_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         float vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
```

```
vfloat64m4_t __riscv_vfwmacc_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         float vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         float vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            _Float16 vs1, vfloat16mf4_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                          _Float16 vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                          _Float16 vs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat16m2_t vs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                          _Float16 vs1, vfloat16m2_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                          _Float16 vs1, vfloat16m4_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                          float vs1, vfloat32mf2_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                          float vs1, vfloat32m1_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                          float vs1, vfloat32m2_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                          float vs1, vfloat32m4_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
```

```
                                        _Float16 vs1, vfloat16mf4_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfwmsac_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         _Float16 vs1, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat32m2_t __riscv_vfwmsac_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         _Float16 vs1, vfloat16m1_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         _Float16 vs1, vfloat16m2_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfwmsac_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat32m8_t __riscv_vfwmsac_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         _Float16 vs1, vfloat16m4_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         float vs1, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfwmsac_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         float vs1, vfloat32m1_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         float vs1, vfloat32m2_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat32m4_t vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         float vs1, vfloat32m4_t vs2,
                                         size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            _Float16 vs1, vfloat16mf4_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                          _Float16 vs1, vfloat16mf2_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                          _Float16 vs1, vfloat16m1_t vs2,
```

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                                        size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat16m2_t vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        _Float16 vs1, vfloat16m2_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat16m4_t vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        _Float16 vs1, vfloat16m4_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        float vs1, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat32m1_t vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        float vs1, vfloat32m1_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat32m2_t vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        float vs1, vfloat32m2_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat32m4_t vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        float vs1, vfloat32m4_t vs2,
                                        size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2_rm_tu(vfloat32mf2_t vd, _Float16 vs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1_rm_tu(vfloat32m1_t vd, _Float16 vs1,
                                          vfloat16mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                          vfloat16m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2_rm_tu(vfloat32m2_t vd, _Float16 vs1,
                                          vfloat16m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                          vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4_rm_tu(vfloat32m4_t vd, _Float16 vs1,
                                          vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                          vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8_rm_tu(vfloat32m8_t vd, _Float16 vs1,
                                          vfloat16m4_t vs2, unsigned int frm,
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                                          size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1_rm_tu(vfloat64m1_t vd, float vs1,
                                          vfloat32mf2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                          vfloat32m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfwmacc_vf_f64m2_rm_tu(vfloat64m2_t vd, float vs1,
                                          vfloat32m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                          vfloat32m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfwmacc_vf_f64m4_rm_tu(vfloat64m4_t vd, float vs1,
                                          vfloat32m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                          vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8_rm_tu(vfloat64m8_t vd, float vs1,
                                          vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2_rm_tu(vfloat32mf2_t vd, _Float16 vs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1_rm_tu(vfloat32m1_t vd, _Float16 vs1,
                                           vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                           vfloat16m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2_rm_tu(vfloat32m2_t vd, _Float16 vs1,
                                           vfloat16m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                           vfloat16m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4_rm_tu(vfloat32m4_t vd, _Float16 vs1,
                                           vfloat16m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                           vfloat16m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8_rm_tu(vfloat32m8_t vd, _Float16 vs1,
                                           vfloat16m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1_rm_tu(vfloat64m1_t vd, float vs1,
                                           vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                           vfloat32m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2_rm_tu(vfloat64m2_t vd, float vs1,
                                           vfloat32m1_t vs2, unsigned int frm,
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                                          size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                             vfloat32m2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4_rm_tu(vfloat64m4_t vd, float vs1,
                                             vfloat32m2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                             vfloat32m4_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8_rm_tu(vfloat64m8_t vd, float vs1,
                                             vfloat32m4_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                              vfloat16mf4_t vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2_rm_tu(vfloat32mf2_t vd, _Float16 vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1_rm_tu(vfloat32m1_t vd, _Float16 vs1,
                                            vfloat16mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                            vfloat16m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m2_t __riscv_vfwmsac_vf_f32m2_rm_tu(vfloat32m2_t vd, _Float16 vs1,
                                            vfloat16m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                            vfloat16m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4_rm_tu(vfloat32m4_t vd, _Float16 vs1,
                                            vfloat16m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m8_t __riscv_vfwmsac_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                            vfloat16m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m8_t __riscv_vfwmsac_vf_f32m8_rm_tu(vfloat32m8_t vd, _Float16 vs1,
                                            vfloat16m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1_rm_tu(vfloat64m1_t vd, float vs1,
                                            vfloat32mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m2_t __riscv_vfwmsac_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                            vfloat32m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2_rm_tu(vfloat64m2_t vd, float vs1,
                                            vfloat32m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                            vfloat32m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4_rm_tu(vfloat64m4_t vd, float vs1,
                                            vfloat32m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                            vfloat32m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8_rm_tu(vfloat64m8_t vd, float vs1,
                                            vfloat32m4_t vs2, unsigned int frm,
```

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                                          size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2_rm_tu(vfloat32mf2_t vd,
                                               vfloat16mf4_t vs1,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2_rm_tu(vfloat32mf2_t vd, _Float16 vs1,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1_rm_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1_rm_tu(vfloat32m1_t vd, _Float16 vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2_rm_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                             vfloat16m1_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2_rm_tu(vfloat32m2_t vd, _Float16 vs1,
                                             vfloat16m1_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4_rm_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                             vfloat16m2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4_rm_tu(vfloat32m4_t vd, _Float16 vs1,
                                             vfloat16m2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8_rm_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                             vfloat16m4_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8_rm_tu(vfloat32m8_t vd, _Float16 vs1,
                                             vfloat16m4_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1_rm_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                             vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vf_f64m1_rm_tu(vfloat64m1_t vd, float vs1,
                                             vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2_rm_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                             vfloat32m1_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2_rm_tu(vfloat64m2_t vd, float vs1,
                                             vfloat32m1_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4_rm_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                             vfloat32m2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4_rm_tu(vfloat64m4_t vd, float vs1,
                                             vfloat32m2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8_rm_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                             vfloat32m4_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8_rm_tu(vfloat64m8_t vd, float vs1,
                                             vfloat32m4_t vs2, unsigned int frm,
                                             size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat16mf4_t vs1,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               _Float16 vs1, vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
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                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                            _Float16 vs1, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat16m1_t vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            _Float16 vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat16m2_t vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            _Float16 vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat16m4_t vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            _Float16 vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            float vs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            float vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            float vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            float vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat16mf4_t vs1,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               _Float16 vs1, vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                             _Float16 vs1, vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat16m1_t vs1,
                                             vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                             _Float16 vs1, vfloat16m1_t vs2,
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                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat16m2_t vs1,
                                            vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            _Float16 vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat16m4_t vs1,
                                            vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            _Float16 vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            float vs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs1,
                                            vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            float vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs1,
                                            vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            float vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs1,
                                            vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            float vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             _Float16 vs1, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           _Float16 vs1, vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           _Float16 vs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
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                                          _Float16 vs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                          _Float16 vs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                          float vs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                          float vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                          float vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                          float vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             _Float16 vs1, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           _Float16 vs1, vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs1,
                                           vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           _Float16 vs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs1,
                                           vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           _Float16 vs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs1,
                                           vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                           _Float16 vs1, vfloat16m4_t vs2,
```

```
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vf_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                            float vs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs1,
                                            vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                            float vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs1,
                                            vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                            float vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs1,
                                            vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                            float vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat16mf4_t vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                              _Float16 vs1, vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                            _Float16 vs1, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat16m1_t vs1,
                                            vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                            _Float16 vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat16m2_t vs1,
                                            vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                            _Float16 vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat16m4_t vs1,
                                            vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            _Float16 vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs1,
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                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          float vs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs1,
                                          vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          float vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs1,
                                          vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          float vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs1,
                                          vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          float vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            _Float16 vs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           _Float16 vs1, vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs1,
                                           vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           _Float16 vs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs1,
                                           vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           _Float16 vs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs1,
                                           vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           _Float16 vs1, vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
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                                            float vs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs1,
                                            vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            float vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs1,
                                            vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            float vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs1,
                                            vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            float vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat16mf4_t vs1,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             _Float16 vs1, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat16mf2_t vs1,
                                           vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           _Float16 vs1, vfloat16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat16m1_t vs1,
                                           vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           _Float16 vs1, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat16m2_t vs1,
                                           vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           _Float16 vs1, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat16m4_t vs1,
                                           vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           _Float16 vs1, vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs1,
                                           vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           float vs1, vfloat32mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat32m1_t vs1,
```

```
                                            vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            float vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs1,
                                            vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            float vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs1,
                                            vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            float vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat16mf4_t vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                              _Float16 vs1,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             _Float16 vs1, vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat16m1_t vs1,
                                             vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             _Float16 vs1, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat16m2_t vs1,
                                             vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             _Float16 vs1, vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                             vfloat16m4_t vs1,
                                             vfloat16m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                             _Float16 vs1, vfloat16m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat32mf2_t vs1,
                                             vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vf_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             float vs1, vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat32m1_t vs1,
                                             vfloat32m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
```

```
                                            float vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs1,
                                            vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            float vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs1,
                                            vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            float vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            _Float16 vs1, vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs1,
                                         vfloat16mf2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat32m1_t __riscv_vfwmacc_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                         _Float16 vs1, vfloat16mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat16m1_t vs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                         _Float16 vs1, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat16m2_t vs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                         _Float16 vs1, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat16m4_t vs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                         _Float16 vs1, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs1,
                                         vfloat32mf2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat64m1_t __riscv_vfwmacc_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                         float vs1, vfloat32mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat32m1_t vs1, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                         float vs1, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat32m2_t vs1, vfloat32m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                         float vs1, vfloat32m2_t vs2,
```

```
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          float vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat16mf4_t vs1,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            _Float16 vs1, vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat16mf2_t vs1,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                          _Float16 vs1, vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          _Float16 vs1, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat16m2_t vs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          _Float16 vs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          _Float16 vs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          float vs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          float vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          float vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          float vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs1,
                                           vfloat16mf4_t vs2,
```

```
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                              _Float16 vs1, vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat16mf2_t vs1,
                                            vfloat16mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfwmsac_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                            _Float16 vs1, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat16m1_t vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                            _Float16 vs1, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat16m2_t vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                            _Float16 vs1, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat16m4_t vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                            _Float16 vs1, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs1,
                                            vfloat32mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfwmsac_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                            float vs1, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                            float vs1, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                            float vs1, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                            float vs1, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vv_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat16mf4_t vs1,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_vf_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                               _Float16 vs1, vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vv_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat16mf2_t vs1,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_vf_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                             _Float16 vs1, vfloat16mf2_t vs2,
```

```
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vv_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat16m1_t vs1, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_vf_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          _Float16 vs1, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vv_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat16m2_t vs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_vf_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          _Float16 vs1, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vv_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat16m4_t vs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_vf_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          _Float16 vs1, vfloat16m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vv_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs1,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_vf_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          float vs1, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vv_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat32m1_t vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_vf_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          float vs1, vfloat32m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vv_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat32m2_t vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_vf_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          float vs1, vfloat32m2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vv_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat32m4_t vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_vf_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          float vs1, vfloat32m4_t vs2,
                                          unsigned int frm, size_t vl);
```

B.5.7. Vector Floating-Point Square-Root Intrinsics

```
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       size_t vl);
vfloat16m4_t __riscv_vfsqrt_v_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       size_t vl);
```

```
vfloat32m4_t __riscv_vfsqrt_v_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       size_t vl);
vfloat64m2_t __riscv_vfsqrt_v_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfsqrt_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfsqrt_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfsqrt_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfsqrt_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfsqrt_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
```

```
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfsqrt_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfsqrt_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfsqrt_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfsqrt_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4_rm_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2_rm_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsqrt_v_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2_rm_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsqrt_v_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsqrt_v_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                         unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
```

```
                                          unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m4_t __riscv_vfsqrt_v_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfsqrt_v_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m2_t __riscv_vfsqrt_v_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, unsigned int frm,
                                           size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m4_t __riscv_vfsqrt_v_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                            vfloat16m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
```

```
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfsqrt_v_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfsqrt_v_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_v_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16mf2_t __riscv_vfsqrt_v_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m1_t __riscv_vfsqrt_v_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m2_t __riscv_vfsqrt_v_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m4_t __riscv_vfsqrt_v_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat16m8_t __riscv_vfsqrt_v_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32mf2_t __riscv_vfsqrt_v_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m1_t __riscv_vfsqrt_v_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m2_t __riscv_vfsqrt_v_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m4_t __riscv_vfsqrt_v_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, unsigned int frm,
                                      size_t vl);
vfloat32m8_t __riscv_vfsqrt_v_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m1_t __riscv_vfsqrt_v_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m2_t __riscv_vfsqrt_v_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, unsigned int frm,
                                      size_t vl);
vfloat64m4_t __riscv_vfsqrt_v_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
```

```
                                        vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfsqrt_v_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
```

B.5.8. Vector Floating-Point Reciprocal Square-Root Estimate Intrinsics

```
vfloat16mf4_t __riscv_vfrsqrt7_v_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7_v_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfrsqrt7_v_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       size_t vl);
vfloat16m2_t __riscv_vfrsqrt7_v_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       size_t vl);
vfloat16m4_t __riscv_vfrsqrt7_v_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       size_t vl);
vfloat16m8_t __riscv_vfrsqrt7_v_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7_v_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfrsqrt7_v_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       size_t vl);
vfloat32m2_t __riscv_vfrsqrt7_v_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       size_t vl);
vfloat32m4_t __riscv_vfrsqrt7_v_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       size_t vl);
vfloat32m8_t __riscv_vfrsqrt7_v_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       size_t vl);
vfloat64m1_t __riscv_vfrsqrt7_v_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       size_t vl);
vfloat64m2_t __riscv_vfrsqrt7_v_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       size_t vl);
vfloat64m4_t __riscv_vfrsqrt7_v_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       size_t vl);
vfloat64m8_t __riscv_vfrsqrt7_v_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrsqrt7_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrsqrt7_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrsqrt7_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrsqrt7_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrsqrt7_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrsqrt7_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrsqrt7_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrsqrt7_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrsqrt7_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrsqrt7_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrsqrt7_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, size_t vl);
```

```
vfloat64m4_t __riscv_vfrsqrt7_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrsqrt7_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrsqrt7_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrsqrt7_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrsqrt7_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrsqrt7_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrsqrt7_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrsqrt7_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrsqrt7_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrsqrt7_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrsqrt7_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrsqrt7_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrsqrt7_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrsqrt7_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrsqrt7_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrsqrt7_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrsqrt7_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrsqrt7_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrsqrt7_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrsqrt7_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrsqrt7_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrsqrt7_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrsqrt7_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrsqrt7_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrsqrt7_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrsqrt7_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrsqrt7_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrsqrt7_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, size_t vl);
```

[[policy-variant-#1410-vector-floating-point-reciprocal-estimate]] ==== Vector Floating-Point Reciprocal Estimate Intrinsics

```
vfloat16mf4_t __riscv_vfrec7_v_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       size_t vl);
vfloat32mf2_t __riscv_vfrec7_v_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrec7_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
```

```
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrec7_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrec7_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfrec7_v_f16mf4_rm_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2_rm_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1_rm_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2_rm_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
```

```
                                        unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4_rm_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8_rm_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrec7_v_f32mf2_rm_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1_rm_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2_rm_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4_rm_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8_rm_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1_rm_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2_rm_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4_rm_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8_rm_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                        unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_v_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32mf2_t __riscv_vfrec7_v_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, unsigned int frm,
                                        size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
```

```
                                        vfloat64m8_t vs2, unsigned int frm,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_v_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                            vfloat16m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32mf2_t __riscv_vfrec7_v_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs2, unsigned int frm,
                                            size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_v_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16mf2_t __riscv_vfrec7_v_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m1_t __riscv_vfrec7_v_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m2_t __riscv_vfrec7_v_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m4_t __riscv_vfrec7_v_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfrec7_v_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, unsigned int frm,
                                          size_t vl);
```

```
vfloat32mf2_t __riscv_vfrec7_v_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m1_t __riscv_vfrec7_v_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m2_t __riscv_vfrec7_v_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m4_t __riscv_vfrec7_v_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat32m8_t __riscv_vfrec7_v_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m1_t __riscv_vfrec7_v_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m2_t __riscv_vfrec7_v_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m4_t __riscv_vfrec7_v_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat64m8_t __riscv_vfrec7_v_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, unsigned int frm,
                                          size_t vl);
```

B.5.9. Vector Floating-Point MIN/MAX Intrinsics

```
vfloat16mf4_t __riscv_vfmin_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmin_vf_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmin_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmin_vf_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmin_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmin_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmin_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmin_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmin_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmin_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmin_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmin_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmin_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmin_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         float rs1, size_t vl);
vfloat32m1_t __riscv_vfmin_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmin_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vfloat32m2_t __riscv_vfmin_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmin_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
```

```
                                        float rs1, size_t vl);
vfloat32m4_t __riscv_vfmin_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmin_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       float rs1, size_t vl);
vfloat32m8_t __riscv_vfmin_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmin_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       float rs1, size_t vl);
vfloat64m1_t __riscv_vfmin_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmin_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vfloat64m2_t __riscv_vfmin_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmin_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vfloat64m4_t __riscv_vfmin_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmin_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vfloat64m8_t __riscv_vfmin_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmin_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       double rs1, size_t vl);
vfloat16mf4_t __riscv_vfmax_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmax_vf_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmax_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmax_vf_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmax_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmax_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmax_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmax_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmax_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmax_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmax_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmax_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                       _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmax_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmax_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                         float rs1, size_t vl);
vfloat32m1_t __riscv_vfmax_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmax_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                       float rs1, size_t vl);
vfloat32m2_t __riscv_vfmax_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmax_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                       float rs1, size_t vl);
vfloat32m4_t __riscv_vfmax_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmax_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                       float rs1, size_t vl);
vfloat32m8_t __riscv_vfmax_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       vfloat32m8_t vs1, size_t vl);
```

```
vfloat32m8_t __riscv_vfmax_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                       float rs1, size_t vl);
vfloat64m1_t __riscv_vfmax_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmax_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                       double rs1, size_t vl);
vfloat64m2_t __riscv_vfmax_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmax_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                       double rs1, size_t vl);
vfloat64m4_t __riscv_vfmax_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmax_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                       double rs1, size_t vl);
vfloat64m8_t __riscv_vfmax_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmax_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                       double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmin_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfmin_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmin_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmin_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfmin_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfmin_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfmin_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfmin_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfmin_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfmin_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfmin_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfmin_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmin_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfmin_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfmin_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfmin_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmin_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
```

```
                                      vfloat32m2_t vs2, vfloat32m2_t vs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfmin_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmin_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfmin_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmin_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, vfloat32m8_t vs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfmin_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmin_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, vfloat64m1_t vs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfmin_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, double rs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfmin_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, vfloat64m2_t vs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfmin_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, double rs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfmin_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, vfloat64m4_t vs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfmin_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, double rs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfmin_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, vfloat64m8_t vs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfmin_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, double rs1,
                                      size_t vl);
vfloat16mf4_t __riscv_vfmax_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfmax_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfmax_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfmax_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfmax_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, vfloat16m1_t vs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfmax_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfmax_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, vfloat16m2_t vs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfmax_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfmax_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, vfloat16m4_t vs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfmax_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, _Float16 rs1,
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                                        size_t vl);
vfloat16m8_t __riscv_vfmax_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfmax_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmax_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfmax_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfmax_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfmax_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmax_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfmax_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmax_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfmax_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmax_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfmax_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmax_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfmax_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfmax_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfmax_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfmax_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfmax_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfmax_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfmax_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmin_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                           size_t vl);
vfloat16mf4_t __riscv_vfmin_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfmin_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                           size_t vl);
```

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vfloat16mf2_t __riscv_vfmin_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m1_t __riscv_vfmin_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, vfloat16m1_t vs1,
                                         size_t vl);
vfloat16m1_t __riscv_vfmin_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m2_t __riscv_vfmin_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, vfloat16m2_t vs1,
                                         size_t vl);
vfloat16m2_t __riscv_vfmin_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m4_t __riscv_vfmin_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, vfloat16m4_t vs1,
                                         size_t vl);
vfloat16m4_t __riscv_vfmin_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat16m8_t __riscv_vfmin_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, vfloat16m8_t vs1,
                                         size_t vl);
vfloat16m8_t __riscv_vfmin_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfmin_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                           size_t vl);
vfloat32mf2_t __riscv_vfmin_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, float rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfmin_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, vfloat32m1_t vs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfmin_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfmin_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, vfloat32m2_t vs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfmin_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfmin_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, vfloat32m4_t vs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfmin_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfmin_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, vfloat32m8_t vs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfmin_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, float rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfmin_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, vfloat64m1_t vs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfmin_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, double rs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfmin_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, vfloat64m2_t vs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfmin_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
```

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                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfmin_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfmin_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfmin_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfmin_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfmax_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfmax_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmax_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfmax_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfmax_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfmax_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfmax_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfmax_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfmax_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfmax_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfmax_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfmax_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmax_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfmax_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfmax_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfmax_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, float rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfmax_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfmax_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, float rs1,
```

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                                        size_t vl);
vfloat32m4_t __riscv_vfmax_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfmax_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfmax_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfmax_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfmax_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfmax_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfmax_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfmax_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfmax_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfmax_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfmax_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfmax_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmin_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfmin_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfmin_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfmin_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfmin_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, vfloat16m1_t vs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfmin_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfmin_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, vfloat16m2_t vs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfmin_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfmin_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, vfloat16m4_t vs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfmin_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, _Float16 rs1,
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                                     size_t vl);
vfloat16m8_t __riscv_vfmin_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                     vfloat16m8_t vs2, vfloat16m8_t vs1,
                                     size_t vl);
vfloat16m8_t __riscv_vfmin_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                     vfloat16m8_t vs2, _Float16 rs1,
                                     size_t vl);
vfloat32mf2_t __riscv_vfmin_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                       vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfmin_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                       vfloat32mf2_t vs2, float rs1,
                                       size_t vl);
vfloat32m1_t __riscv_vfmin_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                     vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vfloat32m1_t __riscv_vfmin_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                     vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmin_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                     vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vfloat32m2_t __riscv_vfmin_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                     vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmin_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                     vfloat32m4_t vs2, vfloat32m4_t vs1,
                                     size_t vl);
vfloat32m4_t __riscv_vfmin_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                     vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmin_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                     vfloat32m8_t vs2, vfloat32m8_t vs1,
                                     size_t vl);
vfloat32m8_t __riscv_vfmin_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                     vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmin_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                     vfloat64m1_t vs2, vfloat64m1_t vs1,
                                     size_t vl);
vfloat64m1_t __riscv_vfmin_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                     vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfmin_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                     vfloat64m2_t vs2, vfloat64m2_t vs1,
                                     size_t vl);
vfloat64m2_t __riscv_vfmin_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                     vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfmin_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                     vfloat64m4_t vs2, vfloat64m4_t vs1,
                                     size_t vl);
vfloat64m4_t __riscv_vfmin_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                     vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfmin_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                     vfloat64m8_t vs2, vfloat64m8_t vs1,
                                     size_t vl);
vfloat64m8_t __riscv_vfmin_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                     vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfmax_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                       vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                       size_t vl);
vfloat16mf4_t __riscv_vfmax_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                       vfloat16mf4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16mf2_t __riscv_vfmax_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                       vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                       size_t vl);
vfloat16mf2_t __riscv_vfmax_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                       vfloat16mf2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m1_t __riscv_vfmax_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                     vfloat16m1_t vs2, vfloat16m1_t vs1,
```

```
                                      size_t vl);
vfloat16m1_t __riscv_vfmax_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfmax_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, vfloat16m2_t vs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfmax_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfmax_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, vfloat16m4_t vs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfmax_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfmax_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, vfloat16m8_t vs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfmax_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfmax_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfmax_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, float rs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfmax_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, vfloat32m1_t vs1,
                                       size_t vl);
vfloat32m1_t __riscv_vfmax_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmax_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, vfloat32m2_t vs1,
                                       size_t vl);
vfloat32m2_t __riscv_vfmax_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmax_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, vfloat32m4_t vs1,
                                       size_t vl);
vfloat32m4_t __riscv_vfmax_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmax_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, vfloat32m8_t vs1,
                                       size_t vl);
vfloat32m8_t __riscv_vfmax_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmax_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, vfloat64m1_t vs1,
                                       size_t vl);
vfloat64m1_t __riscv_vfmax_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfmax_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, vfloat64m2_t vs1,
                                       size_t vl);
vfloat64m2_t __riscv_vfmax_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfmax_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, vfloat64m4_t vs1,
                                       size_t vl);
vfloat64m4_t __riscv_vfmax_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfmax_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, vfloat64m8_t vs1,
                                       size_t vl);
vfloat64m8_t __riscv_vfmax_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
```

```
                                    vfloat64m8_t vs2, double rs1, size_t vl);
```

B.5.10. Vector Floating-Point Sign-Injection Intrinsics

```
vfloat16mf4_t __riscv_vfsgnj_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnj_vf_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vf_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                          _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                        vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                        vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                        vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                        vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                        _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                          float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                        float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                        float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                        float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                        float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                        double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                        double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                        double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                        vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                        double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
```

```
                                          vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vf_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                           _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                           vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vf_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                           _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                         vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                         vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                         vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                         vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                           vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                           float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                         vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                         float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                         vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                         float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                         vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                         float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                         vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                         float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                         vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                         double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                         vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                         double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                         vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                         double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                         vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                         double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                           vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vf_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                           _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                           vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vf_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                           _Float16 rs1, size_t vl);
```

```
vfloat16m1_t __riscv_vfsgnjx_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                         vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                         vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                         vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                         vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                         _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                           vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vf_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                           float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                         vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                         float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                         vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                         float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                         vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                         float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                         vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                         float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                         vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                         double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                         vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                         double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                         vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                         double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                         vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                         double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsgnj_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                           size_t vl);
vfloat16mf4_t __riscv_vfsgnj_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m1_t __riscv_vfsgnj_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, vfloat16m1_t vs1,
```

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                                        size_t vl);
vfloat16m1_t __riscv_vfsgnj_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsgnj_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsgnj_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsgnj_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsgnj_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfsgnj_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfsgnj_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, float rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfsgnj_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfsgnj_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, float rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfsgnj_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vfsgnj_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, float rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfsgnj_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfsgnj_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfsgnj_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfsgnj_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfsgnj_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfsgnj_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfsgnj_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfsgnj_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfsgnj_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
```

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vfloat64m4_t __riscv_vfsgnj_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, double rs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfsgnj_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, vfloat64m8_t vs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfsgnj_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, double rs1,
                                         size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, _Float16 rs1,
                                            size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2,
                                            vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, _Float16 rs1,
                                            size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vfloat16m1_t vs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vfloat16m2_t vs1,
                                          size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vfloat16m4_t vs1,
                                          size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, vfloat16m8_t vs1,
                                          size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, float rs1,
                                            size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, vfloat32m1_t vs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, float rs1,
                                          size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, vfloat32m2_t vs1,
                                          size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, float rs1,
                                          size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, vfloat32m4_t vs1,
                                          size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
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                                        vfloat32m4_t vs2, float rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfsgnjx_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfsgnjx_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfsgnjx_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfsgnjx_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, _Float16 rs1,
```

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                                        size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, float rs1,
                                            size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, vfloat32m1_t vs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, float rs1,
                                          size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, vfloat32m2_t vs1,
                                          size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, float rs1,
                                          size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, vfloat32m4_t vs1,
                                          size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, float rs1,
                                          size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, vfloat32m8_t vs1,
                                          size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, float rs1,
                                          size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, vfloat64m1_t vs1,
                                          size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, double rs1,
                                          size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, vfloat64m2_t vs1,
                                          size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, double rs1,
                                          size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, vfloat64m4_t vs1,
                                          size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, double rs1,
                                          size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, vfloat64m8_t vs1,
                                          size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, double rs1,
                                          size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsgnj_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2,
                                            vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnj_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, _Float16 rs1,
                                            size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2,
                                            vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, _Float16 rs1,
```

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                                          size_t vl);
vfloat16m1_t __riscv_vfsgnj_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vfloat16m1_t vs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfsgnj_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m2_t __riscv_vfsgnj_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vfloat16m2_t vs1,
                                          size_t vl);
vfloat16m2_t __riscv_vfsgnj_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m4_t __riscv_vfsgnj_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vfloat16m4_t vs1,
                                          size_t vl);
vfloat16m4_t __riscv_vfsgnj_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m8_t __riscv_vfsgnj_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, vfloat16m8_t vs1,
                                          size_t vl);
vfloat16m8_t __riscv_vfsgnj_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, float rs1,
                                            size_t vl);
vfloat32m1_t __riscv_vfsgnj_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, vfloat32m1_t vs1,
                                          size_t vl);
vfloat32m1_t __riscv_vfsgnj_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, float rs1,
                                          size_t vl);
vfloat32m2_t __riscv_vfsgnj_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, vfloat32m2_t vs1,
                                          size_t vl);
vfloat32m2_t __riscv_vfsgnj_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, float rs1,
                                          size_t vl);
vfloat32m4_t __riscv_vfsgnj_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, vfloat32m4_t vs1,
                                          size_t vl);
vfloat32m4_t __riscv_vfsgnj_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, float rs1,
                                          size_t vl);
vfloat32m8_t __riscv_vfsgnj_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, vfloat32m8_t vs1,
                                          size_t vl);
vfloat32m8_t __riscv_vfsgnj_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, float rs1,
                                          size_t vl);
vfloat64m1_t __riscv_vfsgnj_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, vfloat64m1_t vs1,
                                          size_t vl);
vfloat64m1_t __riscv_vfsgnj_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, double rs1,
                                          size_t vl);
vfloat64m2_t __riscv_vfsgnj_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, vfloat64m2_t vs1,
                                          size_t vl);
vfloat64m2_t __riscv_vfsgnj_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, double rs1,
                                          size_t vl);
```

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vfloat64m4_t __riscv_vfsgnj_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, vfloat64m4_t vs1,
                                          size_t vl);
vfloat64m4_t __riscv_vfsgnj_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, double rs1,
                                          size_t vl);
vfloat64m8_t __riscv_vfsgnj_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, vfloat64m8_t vs1,
                                          size_t vl);
vfloat64m8_t __riscv_vfsgnj_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, double rs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2,
                                             vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2, _Float16 rs1,
                                             size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs2,
                                             vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs2, _Float16 rs1,
                                             size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs2, vfloat16m1_t vs1,
                                           size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs2, vfloat16m2_t vs1,
                                           size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs2, vfloat16m4_t vs1,
                                           size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs2, vfloat16m8_t vs1,
                                           size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2,
                                             vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2, float rs1,
                                             size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, vfloat32m1_t vs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, float rs1,
                                           size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, vfloat32m2_t vs1,
                                           size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, float rs1,
                                           size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
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                                        vfloat32m4_t vs2, vfloat32m4_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2,
                                          vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2,
                                          vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfsgnjx_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfsgnjx_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfsgnjx_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
```

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                                          size_t vl);
vfloat16m8_t __riscv_vfsgnjx_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2,
                                             vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2, float rs1,
                                             size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, vfloat32m1_t vs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, float rs1,
                                           size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, vfloat32m2_t vs1,
                                           size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, float rs1,
                                           size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, vfloat32m4_t vs1,
                                           size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, float rs1,
                                           size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, vfloat32m8_t vs1,
                                           size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, float rs1,
                                           size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, vfloat64m1_t vs1,
                                           size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, double rs1,
                                           size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, vfloat64m2_t vs1,
                                           size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, double rs1,
                                           size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, vfloat64m4_t vs1,
                                           size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, double rs1,
                                           size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, vfloat64m8_t vs1,
                                           size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, double rs1,
                                           size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsgnj_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfsgnj_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, vfloat16mf2_t vs1,
```

```
                                        size_t vl);
vfloat16mf2_t __riscv_vfsgnj_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfsgnj_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, vfloat16m1_t vs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfsgnj_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfsgnj_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, vfloat16m2_t vs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfsgnj_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfsgnj_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, vfloat16m4_t vs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfsgnj_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m8_t __riscv_vfsgnj_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, vfloat16m8_t vs1,
                                      size_t vl);
vfloat16m8_t __riscv_vfsgnj_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfsgnj_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, float rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfsgnj_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, vfloat32m1_t vs1,
                                      size_t vl);
vfloat32m1_t __riscv_vfsgnj_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, vfloat32m2_t vs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfsgnj_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfsgnj_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, vfloat32m8_t vs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfsgnj_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, vfloat64m1_t vs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfsgnj_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, double rs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfsgnj_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, vfloat64m2_t vs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfsgnj_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, double rs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfsgnj_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
```

```
                                      vfloat64m4_t vs2, vfloat64m4_t vs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfsgnj_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, double rs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfsgnj_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, vfloat64m8_t vs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfsgnj_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, double rs1,
                                      size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, vfloat16m1_t vs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfsgnjn_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, vfloat16m2_t vs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfsgnjn_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, vfloat16m4_t vs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfsgnjn_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, vfloat16m8_t vs1,
                                      size_t vl);
vfloat16m8_t __riscv_vfsgnjn_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, float rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, vfloat32m1_t vs1,
                                      size_t vl);
vfloat32m1_t __riscv_vfsgnjn_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, float rs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, vfloat32m2_t vs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfsgnjn_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, float rs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, vfloat32m4_t vs1,
```

```
                                        size_t vl);
vfloat32m4_t __riscv_vfsgnjn_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, float rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vfloat32m8_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vfsgnjn_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, float rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vfsgnjn_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vfsgnjn_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vfsgnjn_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vfloat64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vfsgnjn_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, double rs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vfsgnjx_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfsgnjx_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, vfloat16m2_t vs1,
                                        size_t vl);
vfloat16m2_t __riscv_vfsgnjx_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, vfloat16m4_t vs1,
                                        size_t vl);
vfloat16m4_t __riscv_vfsgnjx_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m8_t __riscv_vfsgnjx_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, vfloat16m8_t vs1,
                                        size_t vl);
```

```
vfloat16m8_t __riscv_vfsgnjx_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, _Float16 rs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                           size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, float rs1,
                                           size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, vfloat32m1_t vs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfsgnjx_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat32m1_t vs2, float rs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, vfloat32m2_t vs1,
                                         size_t vl);
vfloat32m2_t __riscv_vfsgnjx_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vfloat32m2_t vs2, float rs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, vfloat32m4_t vs1,
                                         size_t vl);
vfloat32m4_t __riscv_vfsgnjx_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vfloat32m4_t vs2, float rs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, vfloat32m8_t vs1,
                                         size_t vl);
vfloat32m8_t __riscv_vfsgnjx_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vfloat32m8_t vs2, float rs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, vfloat64m1_t vs1,
                                         size_t vl);
vfloat64m1_t __riscv_vfsgnjx_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat64m1_t vs2, double rs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, vfloat64m2_t vs1,
                                         size_t vl);
vfloat64m2_t __riscv_vfsgnjx_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                         vfloat64m2_t vs2, double rs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, vfloat64m4_t vs1,
                                         size_t vl);
vfloat64m4_t __riscv_vfsgnjx_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                         vfloat64m4_t vs2, double rs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, vfloat64m8_t vs1,
                                         size_t vl);
vfloat64m8_t __riscv_vfsgnjx_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                         vfloat64m8_t vs2, double rs1,
                                         size_t vl);
```

B.5.11. Vector Floating-Point Absolute Value Intrinsics

```
vfloat16mf4_t __riscv_vfabs_v_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                        size_t vl);
vfloat16mf2_t __riscv_vfabs_v_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                        size_t vl);
vfloat16m1_t __riscv_vfabs_v_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
```

```
                                      size_t vl);
vfloat16m2_t __riscv_vfabs_v_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                      size_t vl);
vfloat16m4_t __riscv_vfabs_v_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                      size_t vl);
vfloat16m8_t __riscv_vfabs_v_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                      size_t vl);
vfloat32mf2_t __riscv_vfabs_v_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                        size_t vl);
vfloat32m1_t __riscv_vfabs_v_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                      size_t vl);
vfloat32m2_t __riscv_vfabs_v_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                      size_t vl);
vfloat32m4_t __riscv_vfabs_v_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                      size_t vl);
vfloat32m8_t __riscv_vfabs_v_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                      size_t vl);
vfloat64m1_t __riscv_vfabs_v_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                      size_t vl);
vfloat64m2_t __riscv_vfabs_v_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                      size_t vl);
vfloat64m4_t __riscv_vfabs_v_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                      size_t vl);
vfloat64m8_t __riscv_vfabs_v_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                      size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfabs_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                         vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfabs_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                         vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfabs_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfabs_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfabs_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfabs_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfabs_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                         vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfabs_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfabs_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfabs_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfabs_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfabs_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfabs_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfabs_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfabs_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfabs_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfabs_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfabs_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfabs_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                        vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfabs_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                        vfloat16m4_t vs2, size_t vl);
```

```
vfloat16m8_t __riscv_vfabs_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                        vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfabs_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfabs_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfabs_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfabs_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfabs_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfabs_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfabs_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfabs_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfabs_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfabs_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfabs_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfabs_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfabs_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfabs_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfabs_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfabs_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfabs_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfabs_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfabs_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfabs_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfabs_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfabs_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfabs_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfabs_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, size_t vl);
```

B.5.12. Vector Floating-Point Compare Intrinsics

```
// masked functions
vbool64_t __riscv_vmfeq_vv_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmfeq_vf_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vfloat16mf4_t vs2, _Float16 rs1,
                                         size_t vl);
vbool32_t __riscv_vmfeq_vv_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmfeq_vf_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
```

```
                                      vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vbool16_t __riscv_vmfeq_vv_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfeq_vf_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat16m1_t vs2, _Float16 rs1,
                                     size_t vl);
vbool8_t __riscv_vmfeq_vv_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmfeq_vf_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat16m2_t vs2, _Float16 rs1,
                                    size_t vl);
vbool4_t __riscv_vmfeq_vv_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmfeq_vf_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vfloat16m4_t vs2, _Float16 rs1,
                                    size_t vl);
vbool2_t __riscv_vmfeq_vv_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                    vfloat16m8_t vs2, vfloat16m8_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmfeq_vf_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                    vfloat16m8_t vs2, _Float16 rs1,
                                    size_t vl);
vbool64_t __riscv_vmfeq_vv_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfeq_vf_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vfloat32mf2_t vs2, float rs1,
                                      size_t vl);
vbool32_t __riscv_vmfeq_vv_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfeq_vf_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfeq_vv_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfeq_vf_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfeq_vv_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmfeq_vf_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfeq_vv_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vfloat32m8_t vs2, vfloat32m8_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmfeq_vf_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfeq_vv_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vfloat64m1_t vs2, vfloat64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmfeq_vf_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vfloat64m1_t vs2, double rs1,
                                     size_t vl);
vbool32_t __riscv_vmfeq_vv_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vfloat64m2_t vs2, vfloat64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfeq_vf_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vfloat64m2_t vs2, double rs1,
                                     size_t vl);
vbool16_t __riscv_vmfeq_vv_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat64m4_t vs2, vfloat64m4_t vs1,
                                     size_t vl);
```

```
vbool16_t __riscv_vmfeq_vf_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vbool8_t __riscv_vmfeq_vv_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat64m8_t vs2, vfloat64m8_t vs1,
                                      size_t vl);
vbool8_t __riscv_vmfeq_vf_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfne_vv_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmfne_vf_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vfloat16mf4_t vs2, _Float16 rs1,
                                         size_t vl);
vbool32_t __riscv_vmfne_vv_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmfne_vf_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vfloat16mf2_t vs2, _Float16 rs1,
                                         size_t vl);
vbool16_t __riscv_vmfne_vv_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmfne_vf_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vbool8_t __riscv_vmfne_vv_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat16m2_t vs2, vfloat16m2_t vs1,
                                      size_t vl);
vbool8_t __riscv_vmfne_vf_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat16m2_t vs2, _Float16 rs1,
                                      size_t vl);
vbool4_t __riscv_vmfne_vv_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                      vfloat16m4_t vs2, vfloat16m4_t vs1,
                                      size_t vl);
vbool4_t __riscv_vmfne_vf_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                      vfloat16m4_t vs2, _Float16 rs1,
                                      size_t vl);
vbool2_t __riscv_vmfne_vv_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                      vfloat16m8_t vs2, vfloat16m8_t vs1,
                                      size_t vl);
vbool2_t __riscv_vmfne_vf_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                      vfloat16m8_t vs2, _Float16 rs1,
                                      size_t vl);
vbool64_t __riscv_vmfne_vv_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmfne_vf_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vfloat32mf2_t vs2, float rs1,
                                         size_t vl);
vbool32_t __riscv_vmfne_vv_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmfne_vf_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfne_vv_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmfne_vf_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfne_vv_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat32m4_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vbool8_t __riscv_vmfne_vf_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfne_vv_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                      vfloat32m8_t vs2, vfloat32m8_t vs1,
```

```
                                    size_t vl);
vbool4_t __riscv_vmfne_vf_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfne_vv_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vfloat64m1_t vs2, vfloat64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmfne_vf_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vfloat64m1_t vs2, double rs1,
                                     size_t vl);
vbool32_t __riscv_vmfne_vv_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vfloat64m2_t vs2, vfloat64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfne_vf_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vfloat64m2_t vs2, double rs1,
                                     size_t vl);
vbool16_t __riscv_vmfne_vv_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat64m4_t vs2, vfloat64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfne_vf_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat64m4_t vs2, double rs1,
                                     size_t vl);
vbool8_t __riscv_vmfne_vv_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat64m8_t vs2, vfloat64m8_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmfne_vf_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmflt_vv_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmflt_vf_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vbool32_t __riscv_vmflt_vv_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmflt_vf_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vbool16_t __riscv_vmflt_vv_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat16m1_t vs2, vfloat16m1_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmflt_vf_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat16m1_t vs2, _Float16 rs1,
                                     size_t vl);
vbool8_t __riscv_vmflt_vv_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmflt_vf_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat16m2_t vs2, _Float16 rs1,
                                    size_t vl);
vbool4_t __riscv_vmflt_vv_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmflt_vf_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vfloat16m4_t vs2, _Float16 rs1,
                                    size_t vl);
vbool2_t __riscv_vmflt_vv_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                    vfloat16m8_t vs2, vfloat16m8_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmflt_vf_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                    vfloat16m8_t vs2, _Float16 rs1,
                                    size_t vl);
vbool64_t __riscv_vmflt_vv_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmflt_vf_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vfloat32mf2_t vs2, float rs1,
```

```
                                      size_t vl);
vbool32_t __riscv_vmflt_vv_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmflt_vf_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmflt_vv_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmflt_vf_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmflt_vv_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat32m4_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vbool8_t __riscv_vmflt_vf_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmflt_vv_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                      vfloat32m8_t vs2, vfloat32m8_t vs1,
                                      size_t vl);
vbool4_t __riscv_vmflt_vf_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                      vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmflt_vv_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmflt_vf_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vbool32_t __riscv_vmflt_vv_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmflt_vf_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vfloat64m2_t vs2, double rs1,
                                        size_t vl);
vbool16_t __riscv_vmflt_vv_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat64m4_t vs2, vfloat64m4_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmflt_vf_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat64m4_t vs2, double rs1,
                                        size_t vl);
vbool8_t __riscv_vmflt_vv_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat64m8_t vs2, vfloat64m8_t vs1,
                                      size_t vl);
vbool8_t __riscv_vmflt_vf_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfle_vv_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmfle_vf_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vfloat16mf4_t vs2, _Float16 rs1,
                                         size_t vl);
vbool32_t __riscv_vmfle_vv_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmfle_vf_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vfloat16mf2_t vs2, _Float16 rs1,
                                         size_t vl);
vbool16_t __riscv_vmfle_vv_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmfle_vf_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vbool8_t __riscv_vmfle_vv_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat16m2_t vs2, vfloat16m2_t vs1,
                                      size_t vl);
vbool8_t __riscv_vmfle_vf_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat16m2_t vs2, _Float16 rs1,
```

```
                                    size_t vl);
vbool4_t __riscv_vmfle_vv_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmfle_vf_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vfloat16m4_t vs2, _Float16 rs1,
                                    size_t vl);
vbool2_t __riscv_vmfle_vv_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                    vfloat16m8_t vs2, vfloat16m8_t vs1,
                                    size_t vl);
vbool2_t __riscv_vmfle_vf_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                    vfloat16m8_t vs2, _Float16 rs1,
                                    size_t vl);
vbool64_t __riscv_vmfle_vv_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfle_vf_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vfloat32mf2_t vs2, float rs1,
                                      size_t vl);
vbool32_t __riscv_vmfle_vv_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vfloat32m1_t vs2, vfloat32m1_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfle_vf_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfle_vv_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat32m2_t vs2, vfloat32m2_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfle_vf_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfle_vv_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmfle_vf_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfle_vv_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vfloat32m8_t vs2, vfloat32m8_t vs1,
                                    size_t vl);
vbool4_t __riscv_vmfle_vf_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                    vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfle_vv_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vfloat64m1_t vs2, vfloat64m1_t vs1,
                                     size_t vl);
vbool64_t __riscv_vmfle_vf_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                     vfloat64m1_t vs2, double rs1,
                                     size_t vl);
vbool32_t __riscv_vmfle_vv_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vfloat64m2_t vs2, vfloat64m2_t vs1,
                                     size_t vl);
vbool32_t __riscv_vmfle_vf_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                     vfloat64m2_t vs2, double rs1,
                                     size_t vl);
vbool16_t __riscv_vmfle_vv_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat64m4_t vs2, vfloat64m4_t vs1,
                                     size_t vl);
vbool16_t __riscv_vmfle_vf_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                     vfloat64m4_t vs2, double rs1,
                                     size_t vl);
vbool8_t __riscv_vmfle_vv_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat64m8_t vs2, vfloat64m8_t vs1,
                                    size_t vl);
vbool8_t __riscv_vmfle_vf_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                    vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfgt_vv_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                      size_t vl);
vbool64_t __riscv_vmfgt_vf_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                      vfloat16mf4_t vs2, _Float16 rs1,
```

```
                                        size_t vl);
vbool32_t __riscv_vmfgt_vv_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                         size_t vl);
vbool32_t __riscv_vmfgt_vf_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                         vfloat16mf2_t vs2, _Float16 rs1,
                                         size_t vl);
vbool16_t __riscv_vmfgt_vv_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmfgt_vf_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat16m1_t vs2, _Float16 rs1,
                                        size_t vl);
vbool8_t __riscv_vmfgt_vv_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat16m2_t vs2, vfloat16m2_t vs1,
                                      size_t vl);
vbool8_t __riscv_vmfgt_vf_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat16m2_t vs2, _Float16 rs1,
                                      size_t vl);
vbool4_t __riscv_vmfgt_vv_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                      vfloat16m4_t vs2, vfloat16m4_t vs1,
                                      size_t vl);
vbool4_t __riscv_vmfgt_vf_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                      vfloat16m4_t vs2, _Float16 rs1,
                                      size_t vl);
vbool2_t __riscv_vmfgt_vv_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                      vfloat16m8_t vs2, vfloat16m8_t vs1,
                                      size_t vl);
vbool2_t __riscv_vmfgt_vf_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                      vfloat16m8_t vs2, _Float16 rs1,
                                      size_t vl);
vbool64_t __riscv_vmfgt_vv_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                         size_t vl);
vbool64_t __riscv_vmfgt_vf_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                         vfloat32mf2_t vs2, float rs1,
                                         size_t vl);
vbool32_t __riscv_vmfgt_vv_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmfgt_vf_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfgt_vv_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat32m2_t vs2, vfloat32m2_t vs1,
                                        size_t vl);
vbool16_t __riscv_vmfgt_vf_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                        vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfgt_vv_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat32m4_t vs2, vfloat32m4_t vs1,
                                      size_t vl);
vbool8_t __riscv_vmfgt_vf_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                      vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfgt_vv_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                      vfloat32m8_t vs2, vfloat32m8_t vs1,
                                      size_t vl);
vbool4_t __riscv_vmfgt_vf_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                      vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfgt_vv_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        size_t vl);
vbool64_t __riscv_vmfgt_vf_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                        vfloat64m1_t vs2, double rs1,
                                        size_t vl);
vbool32_t __riscv_vmfgt_vv_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                        vfloat64m2_t vs2, vfloat64m2_t vs1,
                                        size_t vl);
vbool32_t __riscv_vmfgt_vf_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
```

```
                                      vfloat64m2_t vs2, double rs1,
                                      size_t vl);
vbool16_t __riscv_vmfgt_vv_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vfloat64m4_t vs2, vfloat64m4_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmfgt_vf_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vfloat64m4_t vs2, double rs1,
                                      size_t vl);
vbool8_t __riscv_vmfgt_vv_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vfloat64m8_t vs2, vfloat64m8_t vs1,
                                     size_t vl);
vbool8_t __riscv_vmfgt_vf_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfge_vv_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmfge_vf_f16mf4_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vfloat16mf4_t vs2, _Float16 rs1,
                                       size_t vl);
vbool32_t __riscv_vmfge_vv_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                       size_t vl);
vbool32_t __riscv_vmfge_vf_f16mf2_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vfloat16mf2_t vs2, _Float16 rs1,
                                       size_t vl);
vbool16_t __riscv_vmfge_vv_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vfloat16m1_t vs2, vfloat16m1_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmfge_vf_f16m1_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vfloat16m1_t vs2, _Float16 rs1,
                                      size_t vl);
vbool8_t __riscv_vmfge_vv_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vfloat16m2_t vs2, vfloat16m2_t vs1,
                                     size_t vl);
vbool8_t __riscv_vmfge_vf_f16m2_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vfloat16m2_t vs2, _Float16 rs1,
                                     size_t vl);
vbool4_t __riscv_vmfge_vv_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                     vfloat16m4_t vs2, vfloat16m4_t vs1,
                                     size_t vl);
vbool4_t __riscv_vmfge_vf_f16m4_b4_mu(vbool4_t vm, vbool4_t vd,
                                     vfloat16m4_t vs2, _Float16 rs1,
                                     size_t vl);
vbool2_t __riscv_vmfge_vv_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                     vfloat16m8_t vs2, vfloat16m8_t vs1,
                                     size_t vl);
vbool2_t __riscv_vmfge_vf_f16m8_b2_mu(vbool2_t vm, vbool2_t vd,
                                     vfloat16m8_t vs2, _Float16 rs1,
                                     size_t vl);
vbool64_t __riscv_vmfge_vv_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmfge_vf_f32mf2_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vfloat32mf2_t vs2, float rs1,
                                       size_t vl);
vbool32_t __riscv_vmfge_vv_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vfloat32m1_t vs2, vfloat32m1_t vs1,
                                      size_t vl);
vbool32_t __riscv_vmfge_vf_f32m1_b32_mu(vbool32_t vm, vbool32_t vd,
                                      vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfge_vv_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vfloat32m2_t vs2, vfloat32m2_t vs1,
                                      size_t vl);
vbool16_t __riscv_vmfge_vf_f32m2_b16_mu(vbool16_t vm, vbool16_t vd,
                                      vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfge_vv_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vfloat32m4_t vs2, vfloat32m4_t vs1,
```

```
                                     size_t vl);
vbool8_t __riscv_vmfge_vf_f32m4_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfge_vv_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                     vfloat32m8_t vs2, vfloat32m8_t vs1,
                                     size_t vl);
vbool4_t __riscv_vmfge_vf_f32m8_b4_mu(vbool4_t vm, vbool4_t vd,
                                     vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfge_vv_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vfloat64m1_t vs2, vfloat64m1_t vs1,
                                       size_t vl);
vbool64_t __riscv_vmfge_vf_f64m1_b64_mu(vbool64_t vm, vbool64_t vd,
                                       vfloat64m1_t vs2, double rs1,
                                       size_t vl);
vbool32_t __riscv_vmfge_vv_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vfloat64m2_t vs2, vfloat64m2_t vs1,
                                       size_t vl);
vbool32_t __riscv_vmfge_vf_f64m2_b32_mu(vbool32_t vm, vbool32_t vd,
                                       vfloat64m2_t vs2, double rs1,
                                       size_t vl);
vbool16_t __riscv_vmfge_vv_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                       vfloat64m4_t vs2, vfloat64m4_t vs1,
                                       size_t vl);
vbool16_t __riscv_vmfge_vf_f64m4_b16_mu(vbool16_t vm, vbool16_t vd,
                                       vfloat64m4_t vs2, double rs1,
                                       size_t vl);
vbool8_t __riscv_vmfge_vv_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vfloat64m8_t vs2, vfloat64m8_t vs1,
                                     size_t vl);
vbool8_t __riscv_vmfge_vf_f64m8_b8_mu(vbool8_t vm, vbool8_t vd,
                                     vfloat64m8_t vs2, double rs1, size_t vl);
```

B.5.13. Vector Floating-Point Classify Intrinsics

```
vuint16mf4_t __riscv_vfclass_v_u16mf4_tu(vuint16mf4_t vd, vfloat16mf4_t vs2,
                                        size_t vl);
vuint16mf2_t __riscv_vfclass_v_u16mf2_tu(vuint16mf2_t vd, vfloat16mf2_t vs2,
                                        size_t vl);
vuint16m1_t __riscv_vfclass_v_u16m1_tu(vuint16m1_t vd, vfloat16m1_t vs2,
                                      size_t vl);
vuint16m2_t __riscv_vfclass_v_u16m2_tu(vuint16m2_t vd, vfloat16m2_t vs2,
                                      size_t vl);
vuint16m4_t __riscv_vfclass_v_u16m4_tu(vuint16m4_t vd, vfloat16m4_t vs2,
                                      size_t vl);
vuint16m8_t __riscv_vfclass_v_u16m8_tu(vuint16m8_t vd, vfloat16m8_t vs2,
                                      size_t vl);
vuint32mf2_t __riscv_vfclass_v_u32mf2_tu(vuint32mf2_t vd, vfloat32mf2_t vs2,
                                        size_t vl);
vuint32m1_t __riscv_vfclass_v_u32m1_tu(vuint32m1_t vd, vfloat32m1_t vs2,
                                      size_t vl);
vuint32m2_t __riscv_vfclass_v_u32m2_tu(vuint32m2_t vd, vfloat32m2_t vs2,
                                      size_t vl);
vuint32m4_t __riscv_vfclass_v_u32m4_tu(vuint32m4_t vd, vfloat32m4_t vs2,
                                      size_t vl);
vuint32m8_t __riscv_vfclass_v_u32m8_tu(vuint32m8_t vd, vfloat32m8_t vs2,
                                      size_t vl);
vuint64m1_t __riscv_vfclass_v_u64m1_tu(vuint64m1_t vd, vfloat64m1_t vs2,
                                      size_t vl);
vuint64m2_t __riscv_vfclass_v_u64m2_tu(vuint64m2_t vd, vfloat64m2_t vs2,
                                      size_t vl);
vuint64m4_t __riscv_vfclass_v_u64m4_tu(vuint64m4_t vd, vfloat64m4_t vs2,
                                      size_t vl);
vuint64m8_t __riscv_vfclass_v_u64m8_tu(vuint64m8_t vd, vfloat64m8_t vs2,
                                      size_t vl);
// masked functions
```

```
vuint16mf4_t __riscv_vfclass_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                          vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfclass_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                          vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfclass_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                        vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfclass_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                        vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfclass_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                        vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfclass_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                        vfloat16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfclass_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                          vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfclass_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfclass_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfclass_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfclass_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vfloat32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfclass_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfclass_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfclass_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfclass_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vfloat64m8_t vs2, size_t vl);
// masked functions
vuint16mf4_t __riscv_vfclass_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                           vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfclass_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                           vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfclass_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfclass_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfclass_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfclass_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vfloat16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfclass_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                           vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfclass_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfclass_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfclass_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfclass_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vfloat32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfclass_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfclass_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfclass_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfclass_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                         vfloat64m8_t vs2, size_t vl);
// masked functions
vuint16mf4_t __riscv_vfclass_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfclass_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfclass_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
```

```
                                        vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfclass_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                        vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfclass_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                        vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfclass_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                        vfloat16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfclass_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                          vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfclass_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                        vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfclass_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                        vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfclass_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfclass_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                        vfloat32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfclass_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                        vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfclass_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                        vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfclass_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                        vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfclass_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                        vfloat64m8_t vs2, size_t vl);
```

B.5.14. Vector Floating-Point Merge Intrinsics

```
vfloat16mf4_t __riscv_vmerge_vvm_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                           vfloat16mf4_t vs1, vbool64_t v0,
                                           size_t vl);
vfloat16mf4_t __riscv_vfmerge_vfm_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                            _Float16 rs1, vbool64_t v0,
                                            size_t vl);
vfloat16mf2_t __riscv_vmerge_vvm_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                           vfloat16mf2_t vs1, vbool32_t v0,
                                           size_t vl);
vfloat16mf2_t __riscv_vfmerge_vfm_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                            _Float16 rs1, vbool32_t v0,
                                            size_t vl);
vfloat16m1_t __riscv_vmerge_vvm_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                         vfloat16m1_t vs1, vbool16_t v0,
                                         size_t vl);
vfloat16m1_t __riscv_vfmerge_vfm_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                          _Float16 rs1, vbool16_t v0,
                                          size_t vl);
vfloat16m2_t __riscv_vmerge_vvm_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                         vfloat16m2_t vs1, vbool8_t v0,
                                         size_t vl);
vfloat16m2_t __riscv_vfmerge_vfm_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                          _Float16 rs1, vbool8_t v0, size_t vl);
vfloat16m4_t __riscv_vmerge_vvm_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                         vfloat16m4_t vs1, vbool4_t v0,
                                         size_t vl);
vfloat16m4_t __riscv_vfmerge_vfm_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                          _Float16 rs1, vbool4_t v0, size_t vl);
vfloat16m8_t __riscv_vmerge_vvm_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                         vfloat16m8_t vs1, vbool2_t v0,
                                         size_t vl);
vfloat16m8_t __riscv_vfmerge_vfm_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                          _Float16 rs1, vbool2_t v0, size_t vl);
vfloat32mf2_t __riscv_vmerge_vvm_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                           vfloat32mf2_t vs1, vbool64_t v0,
                                           size_t vl);
vfloat32mf2_t __riscv_vfmerge_vfm_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
```

```
                                          float rs1, vbool64_t v0, size_t vl);
vfloat32m1_t __riscv_vmerge_vvm_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                         vfloat32m1_t vs1, vbool32_t v0,
                                         size_t vl);
vfloat32m1_t __riscv_vfmerge_vfm_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                          float rs1, vbool32_t v0, size_t vl);
vfloat32m2_t __riscv_vmerge_vvm_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                         vfloat32m2_t vs1, vbool16_t v0,
                                         size_t vl);
vfloat32m2_t __riscv_vfmerge_vfm_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                          float rs1, vbool16_t v0, size_t vl);
vfloat32m4_t __riscv_vmerge_vvm_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                         vfloat32m4_t vs1, vbool8_t v0,
                                         size_t vl);
vfloat32m4_t __riscv_vfmerge_vfm_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                          float rs1, vbool8_t v0, size_t vl);
vfloat32m8_t __riscv_vmerge_vvm_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                         vfloat32m8_t vs1, vbool4_t v0,
                                         size_t vl);
vfloat32m8_t __riscv_vfmerge_vfm_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          float rs1, vbool4_t v0, size_t vl);
vfloat64m1_t __riscv_vmerge_vvm_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                         vfloat64m1_t vs1, vbool64_t v0,
                                         size_t vl);
vfloat64m1_t __riscv_vfmerge_vfm_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          double rs1, vbool64_t v0, size_t vl);
vfloat64m2_t __riscv_vmerge_vvm_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                         vfloat64m2_t vs1, vbool32_t v0,
                                         size_t vl);
vfloat64m2_t __riscv_vfmerge_vfm_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          double rs1, vbool32_t v0, size_t vl);
vfloat64m4_t __riscv_vmerge_vvm_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                         vfloat64m4_t vs1, vbool16_t v0,
                                         size_t vl);
vfloat64m4_t __riscv_vfmerge_vfm_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          double rs1, vbool16_t v0, size_t vl);
vfloat64m8_t __riscv_vmerge_vvm_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                         vfloat64m8_t vs1, vbool8_t v0,
                                         size_t vl);
vfloat64m8_t __riscv_vfmerge_vfm_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                          double rs1, vbool8_t v0, size_t vl);
```

B.5.15. Vector Floating-Point Move Intrinsics

```
vfloat16mf4_t __riscv_vmv_v_v_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vfmv_v_f_f16mf4_tu(vfloat16mf4_t vd, _Float16 rs1,
                                         size_t vl);
vfloat16mf2_t __riscv_vmv_v_v_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfmv_v_f_f16mf2_tu(vfloat16mf2_t vd, _Float16 rs1,
                                         size_t vl);
vfloat16m1_t __riscv_vmv_v_v_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfmv_v_f_f16m1_tu(vfloat16m1_t vd, _Float16 rs1,
                                       size_t vl);
vfloat16m2_t __riscv_vmv_v_v_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfmv_v_f_f16m2_tu(vfloat16m2_t vd, _Float16 rs1,
                                       size_t vl);
vfloat16m4_t __riscv_vmv_v_v_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfmv_v_f_f16m4_tu(vfloat16m4_t vd, _Float16 rs1,
                                       size_t vl);
vfloat16m8_t __riscv_vmv_v_v_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
```

```
                                      size_t vl);
vfloat16m8_t __riscv_vfmv_v_f_f16m8_tu(vfloat16m8_t vd, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vmv_v_v_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                        size_t vl);
vfloat32mf2_t __riscv_vfmv_v_f_f32mf2_tu(vfloat32mf2_t vd, float rs1,
                                         size_t vl);
vfloat32m1_t __riscv_vmv_v_v_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                      size_t vl);
vfloat32m1_t __riscv_vfmv_v_f_f32m1_tu(vfloat32m1_t vd, float rs1, size_t vl);
vfloat32m2_t __riscv_vmv_v_v_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                      size_t vl);
vfloat32m2_t __riscv_vfmv_v_f_f32m2_tu(vfloat32m2_t vd, float rs1, size_t vl);
vfloat32m4_t __riscv_vmv_v_v_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                      size_t vl);
vfloat32m4_t __riscv_vfmv_v_f_f32m4_tu(vfloat32m4_t vd, float rs1, size_t vl);
vfloat32m8_t __riscv_vmv_v_v_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                      size_t vl);
vfloat32m8_t __riscv_vfmv_v_f_f32m8_tu(vfloat32m8_t vd, float rs1, size_t vl);
vfloat64m1_t __riscv_vmv_v_v_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                      size_t vl);
vfloat64m1_t __riscv_vfmv_v_f_f64m1_tu(vfloat64m1_t vd, double rs1, size_t vl);
vfloat64m2_t __riscv_vmv_v_v_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                      size_t vl);
vfloat64m2_t __riscv_vfmv_v_f_f64m2_tu(vfloat64m2_t vd, double rs1, size_t vl);
vfloat64m4_t __riscv_vmv_v_v_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                      size_t vl);
vfloat64m4_t __riscv_vfmv_v_f_f64m4_tu(vfloat64m4_t vd, double rs1, size_t vl);
vfloat64m8_t __riscv_vmv_v_v_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                      size_t vl);
vfloat64m8_t __riscv_vfmv_v_f_f64m8_tu(vfloat64m8_t vd, double rs1, size_t vl);
```

B.5.16. Single-Width Floating-Point/Integer Type-Convert Intrinsics

```
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4_tu(vint16mf4_t vd, vfloat16mf4_t vs2,
                                          size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x_f_v_i16mf4_tu(vint16mf4_t vd, vfloat16mf4_t vs2,
                                              size_t vl);
vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2_tu(vint16mf2_t vd, vfloat16mf2_t vs2,
                                          size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x_f_v_i16mf2_tu(vint16mf2_t vd, vfloat16mf2_t vs2,
                                              size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1_tu(vint16m1_t vd, vfloat16m1_t vs2,
                                        size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x_f_v_i16m1_tu(vint16m1_t vd, vfloat16m1_t vs2,
                                            size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2_tu(vint16m2_t vd, vfloat16m2_t vs2,
                                        size_t vl);
vint16m2_t __riscv_vfcvt_rtz_x_f_v_i16m2_tu(vint16m2_t vd, vfloat16m2_t vs2,
                                            size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4_tu(vint16m4_t vd, vfloat16m4_t vs2,
                                        size_t vl);
vint16m4_t __riscv_vfcvt_rtz_x_f_v_i16m4_tu(vint16m4_t vd, vfloat16m4_t vs2,
                                            size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8_tu(vint16m8_t vd, vfloat16m8_t vs2,
                                        size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x_f_v_i16m8_tu(vint16m8_t vd, vfloat16m8_t vs2,
                                            size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4_tu(vuint16mf4_t vd, vfloat16mf4_t vs2,
                                            size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu_f_v_u16mf4_tu(vuint16mf4_t vd,
                                                vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2_tu(vuint16mf2_t vd, vfloat16mf2_t vs2,
                                            size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu_f_v_u16mf2_tu(vuint16mf2_t vd,
```

```
                                                vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1_tu(vuint16m1_t vd, vfloat16m1_t vs2,
                                          size_t vl);
vuint16m1_t __riscv_vfcvt_rtz_xu_f_v_u16m1_tu(vuint16m1_t vd, vfloat16m1_t vs2,
                                              size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2_tu(vuint16m2_t vd, vfloat16m2_t vs2,
                                          size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu_f_v_u16m2_tu(vuint16m2_t vd, vfloat16m2_t vs2,
                                              size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4_tu(vuint16m4_t vd, vfloat16m4_t vs2,
                                          size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu_f_v_u16m4_tu(vuint16m4_t vd, vfloat16m4_t vs2,
                                              size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8_tu(vuint16m8_t vd, vfloat16m8_t vs2,
                                          size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu_f_v_u16m8_tu(vuint16m8_t vd, vfloat16m8_t vs2,
                                              size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4_tu(vfloat16mf4_t vd, vint16mf4_t vs2,
                                            size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2_tu(vfloat16mf2_t vd, vint16mf2_t vs2,
                                            size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1_tu(vfloat16m1_t vd, vint16m1_t vs2,
                                          size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2_tu(vfloat16m2_t vd, vint16m2_t vs2,
                                          size_t vl);
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4_tu(vfloat16m4_t vd, vint16m4_t vs2,
                                          size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8_tu(vfloat16m8_t vd, vint16m8_t vs2,
                                          size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4_tu(vfloat16mf4_t vd, vuint16mf4_t vs2,
                                             size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2_tu(vfloat16mf2_t vd, vuint16mf2_t vs2,
                                             size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1_tu(vfloat16m1_t vd, vuint16m1_t vs2,
                                           size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2_tu(vfloat16m2_t vd, vuint16m2_t vs2,
                                           size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4_tu(vfloat16m4_t vd, vuint16m4_t vs2,
                                           size_t vl);
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8_tu(vfloat16m8_t vd, vuint16m8_t vs2,
                                           size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2_tu(vint32mf2_t vd, vfloat32mf2_t vs2,
                                          size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x_f_v_i32mf2_tu(vint32mf2_t vd, vfloat32mf2_t vs2,
                                              size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1_tu(vint32m1_t vd, vfloat32m1_t vs2,
                                        size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x_f_v_i32m1_tu(vint32m1_t vd, vfloat32m1_t vs2,
                                            size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2_tu(vint32m2_t vd, vfloat32m2_t vs2,
                                        size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x_f_v_i32m2_tu(vint32m2_t vd, vfloat32m2_t vs2,
                                            size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4_tu(vint32m4_t vd, vfloat32m4_t vs2,
                                        size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x_f_v_i32m4_tu(vint32m4_t vd, vfloat32m4_t vs2,
                                            size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8_tu(vint32m8_t vd, vfloat32m8_t vs2,
                                        size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x_f_v_i32m8_tu(vint32m8_t vd, vfloat32m8_t vs2,
                                            size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2_tu(vuint32mf2_t vd, vfloat32mf2_t vs2,
                                            size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu_f_v_u32mf2_tu(vuint32mf2_t vd,
                                                vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1_tu(vuint32m1_t vd, vfloat32m1_t vs2,
                                          size_t vl);
```

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vuint32m1_t __riscv_vfcvt_rtz_xu_f_v_u32m1_tu(vuint32m1_t vd, vfloat32m1_t vs2,
                                              size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2_tu(vuint32m2_t vd, vfloat32m2_t vs2,
                                          size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu_f_v_u32m2_tu(vuint32m2_t vd, vfloat32m2_t vs2,
                                              size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4_tu(vuint32m4_t vd, vfloat32m4_t vs2,
                                          size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu_f_v_u32m4_tu(vuint32m4_t vd, vfloat32m4_t vs2,
                                              size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8_tu(vuint32m8_t vd, vfloat32m8_t vs2,
                                          size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu_f_v_u32m8_tu(vuint32m8_t vd, vfloat32m8_t vs2,
                                              size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2_tu(vfloat32mf2_t vd, vint32mf2_t vs2,
                                            size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1_tu(vfloat32m1_t vd, vint32m1_t vs2,
                                          size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2_tu(vfloat32m2_t vd, vint32m2_t vs2,
                                          size_t vl);
vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4_tu(vfloat32m4_t vd, vint32m4_t vs2,
                                          size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8_tu(vfloat32m8_t vd, vint32m8_t vs2,
                                          size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2_tu(vfloat32mf2_t vd, vuint32mf2_t vs2,
                                             size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1_tu(vfloat32m1_t vd, vuint32m1_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2_tu(vfloat32m2_t vd, vuint32m2_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4_tu(vfloat32m4_t vd, vuint32m4_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8_tu(vfloat32m8_t vd, vuint32m8_t vs2,
                                           size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1_tu(vint64m1_t vd, vfloat64m1_t vs2,
                                        size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x_f_v_i64m1_tu(vint64m1_t vd, vfloat64m1_t vs2,
                                            size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2_tu(vint64m2_t vd, vfloat64m2_t vs2,
                                        size_t vl);
vint64m2_t __riscv_vfcvt_rtz_x_f_v_i64m2_tu(vint64m2_t vd, vfloat64m2_t vs2,
                                            size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4_tu(vint64m4_t vd, vfloat64m4_t vs2,
                                        size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x_f_v_i64m4_tu(vint64m4_t vd, vfloat64m4_t vs2,
                                            size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8_tu(vint64m8_t vd, vfloat64m8_t vs2,
                                        size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x_f_v_i64m8_tu(vint64m8_t vd, vfloat64m8_t vs2,
                                            size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1_tu(vuint64m1_t vd, vfloat64m1_t vs2,
                                          size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu_f_v_u64m1_tu(vuint64m1_t vd, vfloat64m1_t vs2,
                                              size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2_tu(vuint64m2_t vd, vfloat64m2_t vs2,
                                          size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu_f_v_u64m2_tu(vuint64m2_t vd, vfloat64m2_t vs2,
                                              size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4_tu(vuint64m4_t vd, vfloat64m4_t vs2,
                                          size_t vl);
vuint64m4_t __riscv_vfcvt_rtz_xu_f_v_u64m4_tu(vuint64m4_t vd, vfloat64m4_t vs2,
                                              size_t vl);
vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8_tu(vuint64m8_t vd, vfloat64m8_t vs2,
                                          size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu_f_v_u64m8_tu(vuint64m8_t vd, vfloat64m8_t vs2,
                                              size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1_tu(vfloat64m1_t vd, vint64m1_t vs2,
```

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                                          size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2_tu(vfloat64m2_t vd, vint64m2_t vs2,
                                          size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4_tu(vfloat64m4_t vd, vint64m4_t vs2,
                                          size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8_tu(vfloat64m8_t vd, vint64m8_t vs2,
                                          size_t vl);
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1_tu(vfloat64m1_t vd, vuint64m1_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2_tu(vfloat64m2_t vd, vuint64m2_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4_tu(vfloat64m4_t vd, vuint64m4_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8_tu(vfloat64m8_t vd, vuint64m8_t vs2,
                                           size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                           vfloat16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x_f_v_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                               vfloat16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                           vfloat16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x_f_v_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                               vfloat16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                         vfloat16m1_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x_f_v_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                             vfloat16m1_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                         vfloat16m2_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_rtz_x_f_v_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                             vfloat16m2_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                         vfloat16m4_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_rtz_x_f_v_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                             vfloat16m4_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                         vfloat16m8_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x_f_v_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                             vfloat16m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                             vfloat16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu_f_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                                 vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                             vfloat16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu_f_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                                 vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                           vfloat16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_rtz_xu_f_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                               vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                           vfloat16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu_f_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                               vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                           vfloat16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu_f_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                               vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                           vfloat16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu_f_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                               vfloat16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             vint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
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                                          vint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                           vint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                           vint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                           vint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                           vint16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                              vuint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                              vuint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                            vuint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                            vuint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                            vuint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                            vuint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                           vfloat32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x_f_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                               vfloat32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                         vfloat32m1_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x_f_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                             vfloat32m1_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                         vfloat32m2_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x_f_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                             vfloat32m2_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                         vfloat32m4_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x_f_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                             vfloat32m4_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                         vfloat32m8_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x_f_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                             vfloat32m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                             vfloat32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu_f_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                                 vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                           vfloat32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu_f_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                               vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                           vfloat32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu_f_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                               vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                           vfloat32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu_f_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                               vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                           vfloat32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu_f_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                               vfloat32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vint32m2_t vs2, size_t vl);
```

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vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vint32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                              vuint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vuint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vuint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vuint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vuint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                         vfloat64m1_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x_f_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                             vfloat64m1_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                         vfloat64m2_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_rtz_x_f_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                             vfloat64m2_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                         vfloat64m4_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x_f_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                             vfloat64m4_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                         vfloat64m8_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x_f_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                             vfloat64m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                           vfloat64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu_f_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                               vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                           vfloat64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu_f_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                               vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                           vfloat64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_rtz_xu_f_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                               vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                           vfloat64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu_f_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                               vfloat64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                           vint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                           vint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                           vint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                           vint64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vuint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vuint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vuint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vuint64m8_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                            vfloat16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x_f_v_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                                vfloat16mf4_t vs2, size_t vl);
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vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                            vfloat16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x_f_v_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                                vfloat16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                          vfloat16m1_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x_f_v_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                              vfloat16m1_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                          vfloat16m2_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_rtz_x_f_v_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                              vfloat16m2_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                          vfloat16m4_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_rtz_x_f_v_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                              vfloat16m4_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                          vfloat16m8_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x_f_v_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                              vfloat16m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                              vfloat16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu_f_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                                  vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                              vfloat16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu_f_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                                  vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                            vfloat16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_rtz_xu_f_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                                vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                            vfloat16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu_f_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                                vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                            vfloat16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu_f_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                                vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                            vfloat16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu_f_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                                vfloat16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                              vint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                              vint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                            vint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                            vint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                            vint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                            vint16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                               vuint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                               vuint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                             vuint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                             vuint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                             vuint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
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                                            vuint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                            vfloat32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x_f_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                                vfloat32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                          vfloat32m1_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x_f_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                              vfloat32m1_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                          vfloat32m2_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x_f_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                              vfloat32m2_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                          vfloat32m4_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x_f_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                              vfloat32m4_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                          vfloat32m8_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x_f_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                              vfloat32m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                              vfloat32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu_f_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                                  vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                            vfloat32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu_f_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                                vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                            vfloat32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu_f_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                                vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                            vfloat32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu_f_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                                vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                            vfloat32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu_f_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                                vfloat32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                              vint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                            vint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                            vint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                            vint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                            vint32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                               vuint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vuint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vuint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vuint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                             vuint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                          vfloat64m1_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x_f_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                              vfloat64m1_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                          vfloat64m2_t vs2, size_t vl);
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vint64m2_t __riscv_vfcvt_rtz_x_f_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                              vfloat64m2_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                          vfloat64m4_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x_f_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                              vfloat64m4_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                          vfloat64m8_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x_f_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                              vfloat64m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                            vfloat64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu_f_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                                vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                            vfloat64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu_f_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                                vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                            vfloat64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_rtz_xu_f_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                                vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                            vfloat64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu_f_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                                vfloat64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vint64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vuint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vuint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vuint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                             vuint64m8_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                          vfloat16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x_f_v_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                              vfloat16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                          vfloat16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x_f_v_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                              vfloat16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                        vfloat16m1_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x_f_v_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                            vfloat16m1_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                        vfloat16m2_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_rtz_x_f_v_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                            vfloat16m2_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                        vfloat16m4_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_rtz_x_f_v_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                            vfloat16m4_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                        vfloat16m8_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x_f_v_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                            vfloat16m8_t vs2, size_t vl);
```

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vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                            vfloat16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu_f_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                               vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                            vfloat16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu_f_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                               vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                          vfloat16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_rtz_xu_f_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                             vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                          vfloat16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu_f_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                             vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                          vfloat16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu_f_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                             vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                          vfloat16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu_f_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                             vfloat16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                            vint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                            vint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vint16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                             vuint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                             vuint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                           vuint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                           vuint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                           vuint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                           vuint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                          vfloat32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x_f_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                              vfloat32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                        vfloat32m1_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x_f_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                            vfloat32m1_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                        vfloat32m2_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x_f_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                            vfloat32m2_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                        vfloat32m4_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x_f_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                            vfloat32m4_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                        vfloat32m8_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x_f_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
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                                          vfloat32m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                          vfloat32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu_f_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                             vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                        vfloat32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu_f_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                           vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                        vfloat32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu_f_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                           vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        vfloat32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu_f_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                           vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                        vfloat32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu_f_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                           vfloat32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vint32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vuint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                         vuint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                         vuint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                         vuint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                         vuint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      vfloat64m1_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x_f_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                         vfloat64m1_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      vfloat64m2_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_rtz_x_f_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                         vfloat64m2_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                      vfloat64m4_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x_f_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                         vfloat64m4_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      vfloat64m8_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x_f_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                         vfloat64m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                        vfloat64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu_f_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                           vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                        vfloat64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu_f_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                           vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                        vfloat64m4_t vs2, size_t vl);
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vuint64m4_t __riscv_vfcvt_rtz_xu_f_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                              vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                          vfloat64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu_f_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                              vfloat64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vint64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vuint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vuint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vuint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                           vuint64m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4_rm_tu(vint16mf4_t vd, vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2_rm_tu(vint16mf2_t vd, vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1_rm_tu(vint16m1_t vd, vfloat16m1_t vs2,
                                           unsigned int frm, size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2_rm_tu(vint16m2_t vd, vfloat16m2_t vs2,
                                           unsigned int frm, size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4_rm_tu(vint16m4_t vd, vfloat16m4_t vs2,
                                           unsigned int frm, size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8_rm_tu(vint16m8_t vd, vfloat16m8_t vs2,
                                           unsigned int frm, size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4_rm_tu(vuint16mf4_t vd,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2_rm_tu(vuint16mf2_t vd,
                                               vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1_rm_tu(vuint16m1_t vd, vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2_rm_tu(vuint16m2_t vd, vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4_rm_tu(vuint16m4_t vd, vfloat16m4_t vs2,
                                             unsigned int frm, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8_rm_tu(vuint16m8_t vd, vfloat16m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4_rm_tu(vfloat16mf4_t vd,
                                               vint16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2_rm_tu(vfloat16mf2_t vd,
                                               vint16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1_rm_tu(vfloat16m1_t vd, vint16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2_rm_tu(vfloat16m2_t vd, vint16m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4_rm_tu(vfloat16m4_t vd, vint16m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8_rm_tu(vfloat16m8_t vd, vint16m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4_rm_tu(vfloat16mf4_t vd,
                                                vuint16mf4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2_rm_tu(vfloat16mf2_t vd,
                                                vuint16mf2_t vs2,
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                                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1_rm_tu(vfloat16m1_t vd, vuint16m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2_rm_tu(vfloat16m2_t vd, vuint16m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4_rm_tu(vfloat16m4_t vd, vuint16m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8_rm_tu(vfloat16m8_t vd, vuint16m8_t vs2,
                                              unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2_rm_tu(vint32mf2_t vd, vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1_rm_tu(vint32m1_t vd, vfloat32m1_t vs2,
                                           unsigned int frm, size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2_rm_tu(vint32m2_t vd, vfloat32m2_t vs2,
                                           unsigned int frm, size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4_rm_tu(vint32m4_t vd, vfloat32m4_t vs2,
                                           unsigned int frm, size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8_rm_tu(vint32m8_t vd, vfloat32m8_t vs2,
                                           unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2_rm_tu(vuint32mf2_t vd,
                                               vfloat32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1_rm_tu(vuint32m1_t vd, vfloat32m1_t vs2,
                                             unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2_rm_tu(vuint32m2_t vd, vfloat32m2_t vs2,
                                             unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4_rm_tu(vuint32m4_t vd, vfloat32m4_t vs2,
                                             unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8_rm_tu(vuint32m8_t vd, vfloat32m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2_rm_tu(vfloat32mf2_t vd,
                                               vint32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1_rm_tu(vfloat32m1_t vd, vint32m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2_rm_tu(vfloat32m2_t vd, vint32m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4_rm_tu(vfloat32m4_t vd, vint32m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8_rm_tu(vfloat32m8_t vd, vint32m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2_rm_tu(vfloat32mf2_t vd,
                                                vuint32mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1_rm_tu(vfloat32m1_t vd, vuint32m1_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2_rm_tu(vfloat32m2_t vd, vuint32m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4_rm_tu(vfloat32m4_t vd, vuint32m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8_rm_tu(vfloat32m8_t vd, vuint32m8_t vs2,
                                              unsigned int frm, size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1_rm_tu(vint64m1_t vd, vfloat64m1_t vs2,
                                           unsigned int frm, size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2_rm_tu(vint64m2_t vd, vfloat64m2_t vs2,
                                           unsigned int frm, size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4_rm_tu(vint64m4_t vd, vfloat64m4_t vs2,
                                           unsigned int frm, size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8_rm_tu(vint64m8_t vd, vfloat64m8_t vs2,
                                           unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1_rm_tu(vuint64m1_t vd, vfloat64m1_t vs2,
                                             unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2_rm_tu(vuint64m2_t vd, vfloat64m2_t vs2,
                                             unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4_rm_tu(vuint64m4_t vd, vfloat64m4_t vs2,
                                             unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8_rm_tu(vuint64m8_t vd, vfloat64m8_t vs2,
```

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                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1_rm_tu(vfloat64m1_t vd, vint64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2_rm_tu(vfloat64m2_t vd, vint64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4_rm_tu(vfloat64m4_t vd, vint64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8_rm_tu(vfloat64m8_t vd, vint64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1_rm_tu(vfloat64m1_t vd, vuint64m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2_rm_tu(vfloat64m2_t vd, vuint64m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4_rm_tu(vfloat64m4_t vd, vuint64m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8_rm_tu(vfloat64m8_t vd, vuint64m8_t vs2,
                                             unsigned int frm, size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4_rm_tum(vbool64_t vm, vint16mf4_t vd,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2_rm_tum(vbool32_t vm, vint16mf2_t vd,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1_rm_tum(vbool16_t vm, vint16m1_t vd,
                                            vfloat16m1_t vs2, unsigned int frm,
                                            size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2_rm_tum(vbool8_t vm, vint16m2_t vd,
                                            vfloat16m2_t vs2, unsigned int frm,
                                            size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4_rm_tum(vbool4_t vm, vint16m4_t vd,
                                            vfloat16m4_t vs2, unsigned int frm,
                                            size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8_rm_tum(vbool2_t vm, vint16m8_t vd,
                                            vfloat16m8_t vs2, unsigned int frm,
                                            size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4_rm_tum(vbool64_t vm, vuint16mf4_t vd,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2_rm_tum(vbool32_t vm, vuint16mf2_t vd,
                                               vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1_rm_tum(vbool16_t vm, vuint16m1_t vd,
                                             vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2_rm_tum(vbool8_t vm, vuint16m2_t vd,
                                             vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4_rm_tum(vbool4_t vm, vuint16m4_t vd,
                                             vfloat16m4_t vs2,
                                             unsigned int frm, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8_rm_tum(vbool2_t vm, vuint16m8_t vd,
                                             vfloat16m8_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                               vint16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               vint16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                             vint16m1_t vs2, unsigned int frm,
                                             size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                             vint16m2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
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                                            vint16m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                            vint16m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                              vuint16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                              vuint16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                             vuint16m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                             vuint16m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                             vuint16m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8_rm_tum(vbool2_t vm, vfloat16m8_t vd,
                                             vuint16m8_t vs2,
                                             unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2_rm_tum(vbool64_t vm, vint32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1_rm_tum(vbool32_t vm, vint32m1_t vd,
                                           vfloat32m1_t vs2, unsigned int frm,
                                           size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2_rm_tum(vbool16_t vm, vint32m2_t vd,
                                           vfloat32m2_t vs2, unsigned int frm,
                                           size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4_rm_tum(vbool8_t vm, vint32m4_t vd,
                                           vfloat32m4_t vs2, unsigned int frm,
                                           size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8_rm_tum(vbool4_t vm, vint32m8_t vd,
                                           vfloat32m8_t vs2, unsigned int frm,
                                           size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2_rm_tum(vbool64_t vm, vuint32mf2_t vd,
                                              vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1_rm_tum(vbool32_t vm, vuint32m1_t vd,
                                            vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2_rm_tum(vbool16_t vm, vuint32m2_t vd,
                                            vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4_rm_tum(vbool8_t vm, vuint32m4_t vd,
                                            vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8_rm_tum(vbool4_t vm, vuint32m8_t vd,
                                            vfloat32m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                              vint32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vint32m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vint32m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vint32m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vint32m8_t vs2, unsigned int frm,
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                                                size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                                 vuint32mf2_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                               vuint32m1_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                               vuint32m2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                               vuint32m4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8_rm_tum(vbool4_t vm, vfloat32m8_t vd,
                                               vuint32m8_t vs2,
                                               unsigned int frm, size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1_rm_tum(vbool64_t vm, vint64m1_t vd,
                                            vfloat64m1_t vs2, unsigned int frm,
                                            size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2_rm_tum(vbool32_t vm, vint64m2_t vd,
                                            vfloat64m2_t vs2, unsigned int frm,
                                            size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4_rm_tum(vbool16_t vm, vint64m4_t vd,
                                            vfloat64m4_t vs2, unsigned int frm,
                                            size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8_rm_tum(vbool8_t vm, vint64m8_t vd,
                                            vfloat64m8_t vs2, unsigned int frm,
                                            size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1_rm_tum(vbool64_t vm, vuint64m1_t vd,
                                              vfloat64m1_t vs2,
                                              unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2_rm_tum(vbool32_t vm, vuint64m2_t vd,
                                              vfloat64m2_t vs2,
                                              unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4_rm_tum(vbool16_t vm, vuint64m4_t vd,
                                              vfloat64m4_t vs2,
                                              unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8_rm_tum(vbool8_t vm, vuint64m8_t vd,
                                              vfloat64m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                              vint64m1_t vs2, unsigned int frm,
                                              size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                              vint64m2_t vs2, unsigned int frm,
                                              size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                              vint64m4_t vs2, unsigned int frm,
                                              size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                              vint64m8_t vs2, unsigned int frm,
                                              size_t vl);
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                               vuint64m1_t vs2,
                                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2_rm_tum(vbool32_t vm, vfloat64m2_t vd,
                                               vuint64m2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4_rm_tum(vbool16_t vm, vfloat64m4_t vd,
                                               vuint64m4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8_rm_tum(vbool8_t vm, vfloat64m8_t vd,
                                               vuint64m8_t vs2,
                                               unsigned int frm, size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4_rm_tumu(vbool64_t vm, vint16mf4_t vd,
                                               vfloat16mf4_t vs2,
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                                                unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2_rm_tumu(vbool32_t vm, vint16mf2_t vd,
                                               vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1_rm_tumu(vbool16_t vm, vint16m1_t vd,
                                             vfloat16m1_t vs2, unsigned int frm,
                                             size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2_rm_tumu(vbool8_t vm, vint16m2_t vd,
                                             vfloat16m2_t vs2, unsigned int frm,
                                             size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4_rm_tumu(vbool4_t vm, vint16m4_t vd,
                                             vfloat16m4_t vs2, unsigned int frm,
                                             size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8_rm_tumu(vbool2_t vm, vint16m8_t vd,
                                             vfloat16m8_t vs2, unsigned int frm,
                                             size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4_rm_tumu(vbool64_t vm, vuint16mf4_t vd,
                                                 vfloat16mf4_t vs2,
                                                 unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2_rm_tumu(vbool32_t vm, vuint16mf2_t vd,
                                                 vfloat16mf2_t vs2,
                                                 unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1_rm_tumu(vbool16_t vm, vuint16m1_t vd,
                                               vfloat16m1_t vs2,
                                               unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2_rm_tumu(vbool8_t vm, vuint16m2_t vd,
                                               vfloat16m2_t vs2,
                                               unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4_rm_tumu(vbool4_t vm, vuint16m4_t vd,
                                               vfloat16m4_t vs2,
                                               unsigned int frm, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8_rm_tumu(vbool2_t vm, vuint16m8_t vd,
                                               vfloat16m8_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4_rm_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                                 vint16mf4_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2_rm_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                                 vint16mf2_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                               vint16m1_t vs2, unsigned int frm,
                                               size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                               vint16m2_t vs2, unsigned int frm,
                                               size_t vl);
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                               vint16m4_t vs2, unsigned int frm,
                                               size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                               vint16m8_t vs2, unsigned int frm,
                                               size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4_rm_tumu(vbool64_t vm,
                                                  vfloat16mf4_t vd,
                                                  vuint16mf4_t vs2,
                                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2_rm_tumu(vbool32_t vm,
                                                  vfloat16mf2_t vd,
                                                  vuint16mf2_t vs2,
                                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                                vuint16m1_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                                vuint16m2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
```

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                                                vuint16m4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8_rm_tumu(vbool2_t vm, vfloat16m8_t vd,
                                                vuint16m8_t vs2,
                                                unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2_rm_tumu(vbool64_t vm, vint32mf2_t vd,
                                               vfloat32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1_rm_tumu(vbool32_t vm, vint32m1_t vd,
                                             vfloat32m1_t vs2, unsigned int frm,
                                             size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2_rm_tumu(vbool16_t vm, vint32m2_t vd,
                                             vfloat32m2_t vs2, unsigned int frm,
                                             size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4_rm_tumu(vbool8_t vm, vint32m4_t vd,
                                             vfloat32m4_t vs2, unsigned int frm,
                                             size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8_rm_tumu(vbool4_t vm, vint32m8_t vd,
                                             vfloat32m8_t vs2, unsigned int frm,
                                             size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2_rm_tumu(vbool64_t vm, vuint32mf2_t vd,
                                                 vfloat32mf2_t vs2,
                                                 unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1_rm_tumu(vbool32_t vm, vuint32m1_t vd,
                                               vfloat32m1_t vs2,
                                               unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2_rm_tumu(vbool16_t vm, vuint32m2_t vd,
                                               vfloat32m2_t vs2,
                                               unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4_rm_tumu(vbool8_t vm, vuint32m4_t vd,
                                               vfloat32m4_t vs2,
                                               unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8_rm_tumu(vbool4_t vm, vuint32m8_t vd,
                                               vfloat32m8_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2_rm_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                                 vint32mf2_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                               vint32m1_t vs2, unsigned int frm,
                                               size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                               vint32m2_t vs2, unsigned int frm,
                                               size_t vl);
vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                               vint32m4_t vs2, unsigned int frm,
                                               size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                               vint32m8_t vs2, unsigned int frm,
                                               size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2_rm_tumu(vbool64_t vm,
                                                  vfloat32mf2_t vd,
                                                  vuint32mf2_t vs2,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                                vuint32m1_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                                vuint32m2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                                vuint32m4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8_rm_tumu(vbool4_t vm, vfloat32m8_t vd,
                                                vuint32m8_t vs2,
                                                unsigned int frm, size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1_rm_tumu(vbool64_t vm, vint64m1_t vd,
```

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                                          vfloat64m1_t vs2, unsigned int frm,
                                          size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2_rm_tumu(vbool32_t vm, vint64m2_t vd,
                                          vfloat64m2_t vs2, unsigned int frm,
                                          size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4_rm_tumu(vbool16_t vm, vint64m4_t vd,
                                          vfloat64m4_t vs2, unsigned int frm,
                                          size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8_rm_tumu(vbool8_t vm, vint64m8_t vd,
                                          vfloat64m8_t vs2, unsigned int frm,
                                          size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1_rm_tumu(vbool64_t vm, vuint64m1_t vd,
                                            vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2_rm_tumu(vbool32_t vm, vuint64m2_t vd,
                                            vfloat64m2_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4_rm_tumu(vbool16_t vm, vuint64m4_t vd,
                                            vfloat64m4_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8_rm_tumu(vbool8_t vm, vuint64m8_t vd,
                                            vfloat64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                            vint64m1_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                            vint64m2_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                            vint64m4_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                            vint64m8_t vs2, unsigned int frm,
                                            size_t vl);
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1_rm_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vuint64m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2_rm_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vuint64m2_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4_rm_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vuint64m4_t vs2,
                                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8_rm_tumu(vbool8_t vm, vfloat64m8_t vd,
                                             vuint64m8_t vs2,
                                             unsigned int frm, size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_f_v_i16mf4_rm_mu(vbool64_t vm, vint16mf4_t vd,
                                          vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfcvt_x_f_v_i16mf2_rm_mu(vbool32_t vm, vint16mf2_t vd,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vint16m1_t __riscv_vfcvt_x_f_v_i16m1_rm_mu(vbool16_t vm, vint16m1_t vd,
                                        vfloat16m1_t vs2, unsigned int frm,
                                        size_t vl);
vint16m2_t __riscv_vfcvt_x_f_v_i16m2_rm_mu(vbool8_t vm, vint16m2_t vd,
                                        vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vint16m4_t __riscv_vfcvt_x_f_v_i16m4_rm_mu(vbool4_t vm, vint16m4_t vd,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
vint16m8_t __riscv_vfcvt_x_f_v_i16m8_rm_mu(vbool2_t vm, vint16m8_t vd,
                                        vfloat16m8_t vs2, unsigned int frm,
                                        size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_f_v_u16mf4_rm_mu(vbool64_t vm, vuint16mf4_t vd,
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                                          vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_f_v_u16mf2_rm_mu(vbool32_t vm, vuint16mf2_t vd,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_f_v_u16m1_rm_mu(vbool16_t vm, vuint16m1_t vd,
                                         vfloat16m1_t vs2, unsigned int frm,
                                         size_t vl);
vuint16m2_t __riscv_vfcvt_xu_f_v_u16m2_rm_mu(vbool8_t vm, vuint16m2_t vd,
                                         vfloat16m2_t vs2, unsigned int frm,
                                         size_t vl);
vuint16m4_t __riscv_vfcvt_xu_f_v_u16m4_rm_mu(vbool4_t vm, vuint16m4_t vd,
                                         vfloat16m4_t vs2, unsigned int frm,
                                         size_t vl);
vuint16m8_t __riscv_vfcvt_xu_f_v_u16m8_rm_mu(vbool2_t vm, vuint16m8_t vd,
                                         vfloat16m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_x_v_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vint16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_x_v_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          vint16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_x_v_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                         vint16m1_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m2_t __riscv_vfcvt_f_x_v_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                         vint16m2_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m4_t __riscv_vfcvt_f_x_v_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                         vint16m4_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16m8_t __riscv_vfcvt_f_x_v_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                         vint16m8_t vs2, unsigned int frm,
                                         size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_xu_v_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vuint16mf4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_xu_v_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           vuint16mf2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_xu_v_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vuint16m1_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m2_t __riscv_vfcvt_f_xu_v_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vuint16m2_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m4_t __riscv_vfcvt_f_xu_v_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vuint16m4_t vs2, unsigned int frm,
                                          size_t vl);
vfloat16m8_t __riscv_vfcvt_f_xu_v_f16m8_rm_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vuint16m8_t vs2, unsigned int frm,
                                          size_t vl);
vint32mf2_t __riscv_vfcvt_x_f_v_i32mf2_rm_mu(vbool64_t vm, vint32mf2_t vd,
                                         vfloat32mf2_t vs2,
                                         unsigned int frm, size_t vl);
vint32m1_t __riscv_vfcvt_x_f_v_i32m1_rm_mu(vbool32_t vm, vint32m1_t vd,
                                       vfloat32m1_t vs2, unsigned int frm,
                                       size_t vl);
vint32m2_t __riscv_vfcvt_x_f_v_i32m2_rm_mu(vbool16_t vm, vint32m2_t vd,
                                       vfloat32m2_t vs2, unsigned int frm,
                                       size_t vl);
vint32m4_t __riscv_vfcvt_x_f_v_i32m4_rm_mu(vbool8_t vm, vint32m4_t vd,
                                       vfloat32m4_t vs2, unsigned int frm,
                                       size_t vl);
vint32m8_t __riscv_vfcvt_x_f_v_i32m8_rm_mu(vbool4_t vm, vint32m8_t vd,
                                       vfloat32m8_t vs2, unsigned int frm,
```

```
                                          size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_f_v_u32mf2_rm_mu(vbool64_t vm, vuint32mf2_t vd,
                                               vfloat32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_f_v_u32m1_rm_mu(vbool32_t vm, vuint32m1_t vd,
                                             vfloat32m1_t vs2, unsigned int frm,
                                             size_t vl);
vuint32m2_t __riscv_vfcvt_xu_f_v_u32m2_rm_mu(vbool16_t vm, vuint32m2_t vd,
                                             vfloat32m2_t vs2, unsigned int frm,
                                             size_t vl);
vuint32m4_t __riscv_vfcvt_xu_f_v_u32m4_rm_mu(vbool8_t vm, vuint32m4_t vd,
                                             vfloat32m4_t vs2, unsigned int frm,
                                             size_t vl);
vuint32m8_t __riscv_vfcvt_xu_f_v_u32m8_rm_mu(vbool4_t vm, vuint32m8_t vd,
                                             vfloat32m8_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_x_v_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                               vint32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_x_v_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                             vint32m1_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32m2_t __riscv_vfcvt_f_x_v_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                             vint32m2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32m4_t __riscv_vfcvt_f_x_v_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                             vint32m4_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32m8_t __riscv_vfcvt_f_x_v_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                             vint32m8_t vs2, unsigned int frm,
                                             size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_xu_v_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                                vuint32mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_xu_v_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                              vuint32m1_t vs2, unsigned int frm,
                                              size_t vl);
vfloat32m2_t __riscv_vfcvt_f_xu_v_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                              vuint32m2_t vs2, unsigned int frm,
                                              size_t vl);
vfloat32m4_t __riscv_vfcvt_f_xu_v_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                              vuint32m4_t vs2, unsigned int frm,
                                              size_t vl);
vfloat32m8_t __riscv_vfcvt_f_xu_v_f32m8_rm_mu(vbool4_t vm, vfloat32m8_t vd,
                                              vuint32m8_t vs2, unsigned int frm,
                                              size_t vl);
vint64m1_t __riscv_vfcvt_x_f_v_i64m1_rm_mu(vbool64_t vm, vint64m1_t vd,
                                           vfloat64m1_t vs2, unsigned int frm,
                                           size_t vl);
vint64m2_t __riscv_vfcvt_x_f_v_i64m2_rm_mu(vbool32_t vm, vint64m2_t vd,
                                           vfloat64m2_t vs2, unsigned int frm,
                                           size_t vl);
vint64m4_t __riscv_vfcvt_x_f_v_i64m4_rm_mu(vbool16_t vm, vint64m4_t vd,
                                           vfloat64m4_t vs2, unsigned int frm,
                                           size_t vl);
vint64m8_t __riscv_vfcvt_x_f_v_i64m8_rm_mu(vbool8_t vm, vint64m8_t vd,
                                           vfloat64m8_t vs2, unsigned int frm,
                                           size_t vl);
vuint64m1_t __riscv_vfcvt_xu_f_v_u64m1_rm_mu(vbool64_t vm, vuint64m1_t vd,
                                             vfloat64m1_t vs2, unsigned int frm,
                                             size_t vl);
vuint64m2_t __riscv_vfcvt_xu_f_v_u64m2_rm_mu(vbool32_t vm, vuint64m2_t vd,
                                             vfloat64m2_t vs2, unsigned int frm,
                                             size_t vl);
vuint64m4_t __riscv_vfcvt_xu_f_v_u64m4_rm_mu(vbool16_t vm, vuint64m4_t vd,
                                             vfloat64m4_t vs2, unsigned int frm,
                                             size_t vl);
```

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vuint64m8_t __riscv_vfcvt_xu_f_v_u64m8_rm_mu(vbool8_t vm, vuint64m8_t vd,
                                             vfloat64m8_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m1_t __riscv_vfcvt_f_x_v_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                             vint64m1_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m2_t __riscv_vfcvt_f_x_v_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                             vint64m2_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m4_t __riscv_vfcvt_f_x_v_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                             vint64m4_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m8_t __riscv_vfcvt_f_x_v_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                             vint64m8_t vs2, unsigned int frm,
                                             size_t vl);
vfloat64m1_t __riscv_vfcvt_f_xu_v_f64m1_rm_mu(vbool64_t vm, vfloat64m1_t vd,
                                              vuint64m1_t vs2, unsigned int frm,
                                              size_t vl);
vfloat64m2_t __riscv_vfcvt_f_xu_v_f64m2_rm_mu(vbool32_t vm, vfloat64m2_t vd,
                                              vuint64m2_t vs2, unsigned int frm,
                                              size_t vl);
vfloat64m4_t __riscv_vfcvt_f_xu_v_f64m4_rm_mu(vbool16_t vm, vfloat64m4_t vd,
                                              vuint64m4_t vs2, unsigned int frm,
                                              size_t vl);
vfloat64m8_t __riscv_vfcvt_f_xu_v_f64m8_rm_mu(vbool8_t vm, vfloat64m8_t vd,
                                              vuint64m8_t vs2, unsigned int frm,
                                              size_t vl);
```

B.5.17. Widening Floating-Point/Integer Type-Convert Intrinsics

```
vfloat16mf4_t __riscv_vfwcvt_f_x_v_f16mf4_tu(vfloat16mf4_t vd, vint8mf8_t vs2,
                                             size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_x_v_f16mf2_tu(vfloat16mf2_t vd, vint8mf4_t vs2,
                                             size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_x_v_f16m1_tu(vfloat16m1_t vd, vint8mf2_t vs2,
                                           size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_x_v_f16m2_tu(vfloat16m2_t vd, vint8m1_t vs2,
                                           size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_x_v_f16m4_tu(vfloat16m4_t vd, vint8m2_t vs2,
                                           size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_x_v_f16m8_tu(vfloat16m8_t vd, vint8m4_t vs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f_xu_v_f16mf4_tu(vfloat16mf4_t vd, vuint8mf8_t vs2,
                                              size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_xu_v_f16mf2_tu(vfloat16mf2_t vd, vuint8mf4_t vs2,
                                              size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_xu_v_f16m1_tu(vfloat16m1_t vd, vuint8mf2_t vs2,
                                            size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_xu_v_f16m2_tu(vfloat16m2_t vd, vuint8m1_t vs2,
                                            size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_xu_v_f16m4_tu(vfloat16m4_t vd, vuint8m2_t vs2,
                                            size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_xu_v_f16m8_tu(vfloat16m8_t vd, vuint8m4_t vs2,
                                            size_t vl);
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2_tu(vint32mf2_t vd, vfloat16mf4_t vs2,
                                           size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x_f_v_i32mf2_tu(vint32mf2_t vd,
                                               vfloat16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1_tu(vint32m1_t vd, vfloat16mf2_t vs2,
                                         size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x_f_v_i32m1_tu(vint32m1_t vd, vfloat16mf2_t vs2,
                                             size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2_tu(vint32m2_t vd, vfloat16m1_t vs2,
                                         size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x_f_v_i32m2_tu(vint32m2_t vd, vfloat16m1_t vs2,
```

```
                                          size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4_tu(vint32m4_t vd, vfloat16m2_t vs2,
                                         size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x_f_v_i32m4_tu(vint32m4_t vd, vfloat16m2_t vs2,
                                          size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8_tu(vint32m8_t vd, vfloat16m4_t vs2,
                                         size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x_f_v_i32m8_tu(vint32m8_t vd, vfloat16m4_t vs2,
                                          size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2_tu(vuint32mf2_t vd, vfloat16mf4_t vs2,
                                          size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu_f_v_u32mf2_tu(vuint32mf2_t vd,
                                             vfloat16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1_tu(vuint32m1_t vd, vfloat16mf2_t vs2,
                                           size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu_f_v_u32m1_tu(vuint32m1_t vd,
                                               vfloat16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2_tu(vuint32m2_t vd, vfloat16m1_t vs2,
                                           size_t vl);
vuint32m2_t __riscv_vfwcvt_rtz_xu_f_v_u32m2_tu(vuint32m2_t vd, vfloat16m1_t vs2,
                                            size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4_tu(vuint32m4_t vd, vfloat16m2_t vs2,
                                           size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu_f_v_u32m4_tu(vuint32m4_t vd, vfloat16m2_t vs2,
                                            size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8_tu(vuint32m8_t vd, vfloat16m4_t vs2,
                                           size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu_f_v_u32m8_tu(vuint32m8_t vd, vfloat16m4_t vs2,
                                            size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_x_v_f32mf2_tu(vfloat32mf2_t vd, vint16mf4_t vs2,
                                             size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_x_v_f32m1_tu(vfloat32m1_t vd, vint16mf2_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_x_v_f32m2_tu(vfloat32m2_t vd, vint16m1_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_x_v_f32m4_tu(vfloat32m4_t vd, vint16m2_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_x_v_f32m8_tu(vfloat32m8_t vd, vint16m4_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_xu_v_f32mf2_tu(vfloat32mf2_t vd,
                                              vuint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_xu_v_f32m1_tu(vfloat32m1_t vd, vuint16mf2_t vs2,
                                            size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_xu_v_f32m2_tu(vfloat32m2_t vd, vuint16m1_t vs2,
                                            size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_xu_v_f32m4_tu(vfloat32m4_t vd, vuint16m2_t vs2,
                                            size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_xu_v_f32m8_tu(vfloat32m8_t vd, vuint16m4_t vs2,
                                            size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_f_v_f32mf2_tu(vfloat32mf2_t vd,
                                             vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_f_v_f32m1_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_f_v_f32m2_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_f_v_f32m4_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                           size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_f_v_f32m8_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                           size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1_tu(vint64m1_t vd, vfloat32mf2_t vs2,
                                         size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x_f_v_i64m1_tu(vint64m1_t vd, vfloat32mf2_t vs2,
                                          size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2_tu(vint64m2_t vd, vfloat32m1_t vs2,
                                         size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x_f_v_i64m2_tu(vint64m2_t vd, vfloat32m1_t vs2,
                                          size_t vl);
```

```
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4_tu(vint64m4_t vd, vfloat32m2_t vs2,
                                         size_t vl);
vint64m4_t __riscv_vfwcvt_rtz_x_f_v_i64m4_tu(vint64m4_t vd, vfloat32m2_t vs2,
                                             size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8_tu(vint64m8_t vd, vfloat32m4_t vs2,
                                         size_t vl);
vint64m8_t __riscv_vfwcvt_rtz_x_f_v_i64m8_tu(vint64m8_t vd, vfloat32m4_t vs2,
                                             size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1_tu(vuint64m1_t vd, vfloat32mf2_t vs2,
                                           size_t vl);
vuint64m1_t __riscv_vfwcvt_rtz_xu_f_v_u64m1_tu(vuint64m1_t vd,
                                               vfloat32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2_tu(vuint64m2_t vd, vfloat32m1_t vs2,
                                           size_t vl);
vuint64m2_t __riscv_vfwcvt_rtz_xu_f_v_u64m2_tu(vuint64m2_t vd, vfloat32m1_t vs2,
                                               size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4_tu(vuint64m4_t vd, vfloat32m2_t vs2,
                                           size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu_f_v_u64m4_tu(vuint64m4_t vd, vfloat32m2_t vs2,
                                               size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8_tu(vuint64m8_t vd, vfloat32m4_t vs2,
                                           size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu_f_v_u64m8_tu(vuint64m8_t vd, vfloat32m4_t vs2,
                                               size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_x_v_f64m1_tu(vfloat64m1_t vd, vint32mf2_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_x_v_f64m2_tu(vfloat64m2_t vd, vint32m1_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_x_v_f64m4_tu(vfloat64m4_t vd, vint32m2_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_x_v_f64m8_tu(vfloat64m8_t vd, vint32m4_t vs2,
                                           size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_xu_v_f64m1_tu(vfloat64m1_t vd, vuint32mf2_t vs2,
                                            size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_xu_v_f64m2_tu(vfloat64m2_t vd, vuint32m1_t vs2,
                                            size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_xu_v_f64m4_tu(vfloat64m4_t vd, vuint32m2_t vs2,
                                            size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_xu_v_f64m8_tu(vfloat64m8_t vd, vuint32m4_t vs2,
                                            size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_f_v_f64m1_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                           size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_f_v_f64m2_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                           size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_f_v_f64m4_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                           size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_f_v_f64m8_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                           size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfwcvt_f_x_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                              vint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_x_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                              vint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_x_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                            vint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_x_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                            vint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_x_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                            vint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_x_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                            vint8m4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f_xu_v_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                               vuint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_xu_v_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               vuint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_xu_v_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                             vuint8mf2_t vs2, size_t vl);
```

```
vfloat16m2_t __riscv_vfwcvt_f_xu_v_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                             vuint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_xu_v_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                             vuint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_xu_v_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                             vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                            vfloat16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x_f_v_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                                vfloat16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                          vfloat16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x_f_v_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                              vfloat16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                          vfloat16m1_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x_f_v_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                              vfloat16m1_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                          vfloat16m2_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x_f_v_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                              vfloat16m2_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                          vfloat16m4_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x_f_v_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                              vfloat16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                              vfloat16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu_f_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                                  vfloat16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                            vfloat16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu_f_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                                vfloat16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                            vfloat16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_rtz_xu_f_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                                vfloat16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                            vfloat16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu_f_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                                vfloat16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                            vfloat16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu_f_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                                vfloat16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_x_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                              vint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_x_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_x_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_x_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_x_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_xu_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               vuint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_xu_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                             vuint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_xu_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                             vuint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_xu_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                             vuint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_xu_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                             vuint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_f_v_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
```

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                                                vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_f_v_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_f_v_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_f_v_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_f_v_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat16m4_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                          vfloat32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x_f_v_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                              vfloat32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                          vfloat32m1_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x_f_v_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                              vfloat32m1_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                          vfloat32m2_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_rtz_x_f_v_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                              vfloat32m2_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                          vfloat32m4_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_rtz_x_f_v_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                              vfloat32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                            vfloat32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_rtz_xu_f_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                                vfloat32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                            vfloat32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_rtz_xu_f_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                                vfloat32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                            vfloat32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu_f_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                                vfloat32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                            vfloat32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu_f_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                                vfloat32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_x_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_x_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_x_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_x_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_xu_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                             vuint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_xu_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                             vuint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_xu_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                             vuint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_xu_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                             vuint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_f_v_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_f_v_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_f_v_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_f_v_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat32m4_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfwcvt_f_x_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
```

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                                                vint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_x_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                                vint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_x_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                              vint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_x_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                              vint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_x_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                              vint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_x_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                              vint8m4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f_xu_v_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                                 vuint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_xu_v_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                                 vuint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_xu_v_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                               vuint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_xu_v_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                               vuint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_xu_v_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                               vuint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_xu_v_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                               vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                              vfloat16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x_f_v_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                                  vfloat16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                            vfloat16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x_f_v_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                                vfloat16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                            vfloat16m1_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x_f_v_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                                vfloat16m1_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                            vfloat16m2_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x_f_v_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                                vfloat16m2_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                            vfloat16m4_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x_f_v_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                                vfloat16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                                vfloat16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu_f_v_u32mf2_tumu(vbool64_t vm,
                                                    vuint32mf2_t vd,
                                                    vfloat16mf4_t vs2,
                                                    size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                              vfloat16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu_f_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                                  vfloat16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                              vfloat16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_rtz_xu_f_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                                  vfloat16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                              vfloat16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu_f_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                                  vfloat16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                              vfloat16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu_f_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                                  vfloat16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_x_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                                vint16mf4_t vs2, size_t vl);
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vfloat32m1_t __riscv_vfwcvt_f_x_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_x_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_x_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_x_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                             vint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_xu_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                                vuint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_xu_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                              vuint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_xu_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                              vuint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_xu_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                              vuint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_xu_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                              vuint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_f_v_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_f_v_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_f_v_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_f_v_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_f_v_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                             vfloat16m4_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                           vfloat32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x_f_v_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                               vfloat32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                           vfloat32m1_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x_f_v_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                               vfloat32m1_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                           vfloat32m2_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_rtz_x_f_v_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                               vfloat32m2_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                           vfloat32m4_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_rtz_x_f_v_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                               vfloat32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                             vfloat32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_rtz_xu_f_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                                 vfloat32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                             vfloat32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_rtz_xu_f_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                                 vfloat32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                             vfloat32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu_f_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                                 vfloat32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                             vfloat32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu_f_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                                 vfloat32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_x_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_x_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_x_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_x_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
```

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                                            vint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_xu_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                              vuint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_xu_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                              vuint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_xu_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                              vuint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_xu_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                              vuint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_f_v_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_f_v_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_f_v_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                             vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_f_v_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                             vfloat32m4_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfwcvt_f_x_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                             vint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_x_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                             vint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_x_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                           vint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_x_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                           vint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_x_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                           vint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_x_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                           vint8m4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f_xu_v_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                              vuint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_xu_v_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                              vuint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_xu_v_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                            vuint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_xu_v_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                            vuint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_xu_v_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                            vuint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_xu_v_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                            vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                           vfloat16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x_f_v_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                               vfloat16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                         vfloat16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x_f_v_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                             vfloat16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                         vfloat16m1_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x_f_v_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                             vfloat16m1_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                         vfloat16m2_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x_f_v_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                             vfloat16m2_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                         vfloat16m4_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x_f_v_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                             vfloat16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                             vfloat16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu_f_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                                 vfloat16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
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                                          vfloat16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu_f_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                            vfloat16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                          vfloat16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_rtz_xu_f_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                            vfloat16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                          vfloat16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu_f_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                            vfloat16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                          vfloat16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu_f_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                            vfloat16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_x_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_x_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_x_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_x_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_x_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_xu_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vuint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_xu_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                           vuint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_xu_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                           vuint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_xu_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                           vuint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_xu_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                           vuint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_f_v_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                           vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_f_v_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_f_v_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_f_v_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_f_v_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat16m4_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                         vfloat32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x_f_v_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                           vfloat32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                         vfloat32m1_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x_f_v_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                           vfloat32m1_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                         vfloat32m2_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_rtz_x_f_v_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                           vfloat32m2_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                         vfloat32m4_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_rtz_x_f_v_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                           vfloat32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                          vfloat32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_rtz_xu_f_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                            vfloat32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                          vfloat32m1_t vs2, size_t vl);
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vuint64m2_t __riscv_vfwcvt_rtz_xu_f_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                               vfloat32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                           vfloat32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu_f_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                               vfloat32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                           vfloat32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu_f_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                               vfloat32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_x_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_x_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_x_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_x_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                           vint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_xu_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                            vuint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_xu_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                            vuint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_xu_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                            vuint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_xu_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                            vuint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_f_v_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_f_v_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_f_v_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_f_v_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat32m4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2_rm_tu(vint32mf2_t vd, vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1_rm_tu(vint32m1_t vd, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2_rm_tu(vint32m2_t vd, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4_rm_tu(vint32m4_t vd, vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8_rm_tu(vint32m8_t vd, vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2_rm_tu(vuint32mf2_t vd,
                                                vfloat16mf4_t vs2,
                                                unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1_rm_tu(vuint32m1_t vd, vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2_rm_tu(vuint32m2_t vd, vfloat16m1_t vs2,
                                              unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4_rm_tu(vuint32m4_t vd, vfloat16m2_t vs2,
                                              unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8_rm_tu(vuint32m8_t vd, vfloat16m4_t vs2,
                                              unsigned int frm, size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1_rm_tu(vint64m1_t vd, vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2_rm_tu(vint64m2_t vd, vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4_rm_tu(vint64m4_t vd, vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8_rm_tu(vint64m8_t vd, vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1_rm_tu(vuint64m1_t vd, vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2_rm_tu(vuint64m2_t vd, vfloat32m1_t vs2,
                                              unsigned int frm, size_t vl);
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vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4_rm_tu(vuint64m4_t vd, vfloat32m2_t vs2,
                                              unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8_rm_tu(vuint64m8_t vd, vfloat32m4_t vs2,
                                              unsigned int frm, size_t vl);
// masked functions
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2_rm_tum(vbool64_t vm, vint32mf2_t vd,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1_rm_tum(vbool32_t vm, vint32m1_t vd,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2_rm_tum(vbool16_t vm, vint32m2_t vd,
                                             vfloat16m1_t vs2, unsigned int frm,
                                             size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4_rm_tum(vbool8_t vm, vint32m4_t vd,
                                             vfloat16m2_t vs2, unsigned int frm,
                                             size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8_rm_tum(vbool4_t vm, vint32m8_t vd,
                                             vfloat16m4_t vs2, unsigned int frm,
                                             size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2_rm_tum(vbool64_t vm, vuint32mf2_t vd,
                                                 vfloat16mf4_t vs2,
                                                 unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1_rm_tum(vbool32_t vm, vuint32m1_t vd,
                                               vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2_rm_tum(vbool16_t vm, vuint32m2_t vd,
                                               vfloat16m1_t vs2,
                                               unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4_rm_tum(vbool8_t vm, vuint32m4_t vd,
                                               vfloat16m2_t vs2,
                                               unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8_rm_tum(vbool4_t vm, vuint32m8_t vd,
                                               vfloat16m4_t vs2,
                                               unsigned int frm, size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1_rm_tum(vbool64_t vm, vint64m1_t vd,
                                             vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2_rm_tum(vbool32_t vm, vint64m2_t vd,
                                             vfloat32m1_t vs2, unsigned int frm,
                                             size_t vl);
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4_rm_tum(vbool16_t vm, vint64m4_t vd,
                                             vfloat32m2_t vs2, unsigned int frm,
                                             size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8_rm_tum(vbool8_t vm, vint64m8_t vd,
                                             vfloat32m4_t vs2, unsigned int frm,
                                             size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1_rm_tum(vbool64_t vm, vuint64m1_t vd,
                                               vfloat32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2_rm_tum(vbool32_t vm, vuint64m2_t vd,
                                               vfloat32m1_t vs2,
                                               unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4_rm_tum(vbool16_t vm, vuint64m4_t vd,
                                               vfloat32m2_t vs2,
                                               unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8_rm_tum(vbool8_t vm, vuint64m8_t vd,
                                               vfloat32m4_t vs2,
                                               unsigned int frm, size_t vl);
// masked functions
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2_rm_tumu(vbool64_t vm, vint32mf2_t vd,
                                                vfloat16mf4_t vs2,
                                                unsigned int frm, size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1_rm_tumu(vbool32_t vm, vint32m1_t vd,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2_rm_tumu(vbool16_t vm, vint32m2_t vd,
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                                            vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4_rm_tumu(vbool8_t vm, vint32m4_t vd,
                                            vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8_rm_tumu(vbool4_t vm, vint32m8_t vd,
                                            vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2_rm_tumu(vbool64_t vm, vuint32mf2_t vd,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1_rm_tumu(vbool32_t vm, vuint32m1_t vd,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2_rm_tumu(vbool16_t vm, vuint32m2_t vd,
                                             vfloat16m1_t vs2,
                                             unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4_rm_tumu(vbool8_t vm, vuint32m4_t vd,
                                             vfloat16m2_t vs2,
                                             unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8_rm_tumu(vbool4_t vm, vuint32m8_t vd,
                                             vfloat16m4_t vs2,
                                             unsigned int frm, size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1_rm_tumu(vbool64_t vm, vint64m1_t vd,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2_rm_tumu(vbool32_t vm, vint64m2_t vd,
                                            vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4_rm_tumu(vbool16_t vm, vint64m4_t vd,
                                            vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8_rm_tumu(vbool8_t vm, vint64m8_t vd,
                                            vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1_rm_tumu(vbool64_t vm, vuint64m1_t vd,
                                             vfloat32mf2_t vs2,
                                             unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2_rm_tumu(vbool32_t vm, vuint64m2_t vd,
                                             vfloat32m1_t vs2,
                                             unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4_rm_tumu(vbool16_t vm, vuint64m4_t vd,
                                             vfloat32m2_t vs2,
                                             unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8_rm_tumu(vbool8_t vm, vuint64m8_t vd,
                                             vfloat32m4_t vs2,
                                             unsigned int frm, size_t vl);
// masked functions
vint32mf2_t __riscv_vfwcvt_x_f_v_i32mf2_rm_mu(vbool64_t vm, vint32mf2_t vd,
                                            vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vint32m1_t __riscv_vfwcvt_x_f_v_i32m1_rm_mu(vbool32_t vm, vint32m1_t vd,
                                          vfloat16mf2_t vs2, unsigned int frm,
                                          size_t vl);
vint32m2_t __riscv_vfwcvt_x_f_v_i32m2_rm_mu(vbool16_t vm, vint32m2_t vd,
                                          vfloat16m1_t vs2, unsigned int frm,
                                          size_t vl);
vint32m4_t __riscv_vfwcvt_x_f_v_i32m4_rm_mu(vbool8_t vm, vint32m4_t vd,
                                          vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vint32m8_t __riscv_vfwcvt_x_f_v_i32m8_rm_mu(vbool4_t vm, vint32m8_t vd,
                                          vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_f_v_u32mf2_rm_mu(vbool64_t vm, vuint32mf2_t vd,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_f_v_u32m1_rm_mu(vbool32_t vm, vuint32m1_t vd,
```

```
                                            vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_f_v_u32m2_rm_mu(vbool16_t vm, vuint32m2_t vd,
                                            vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_f_v_u32m4_rm_mu(vbool8_t vm, vuint32m4_t vd,
                                            vfloat16m2_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_f_v_u32m8_rm_mu(vbool4_t vm, vuint32m8_t vd,
                                            vfloat16m4_t vs2,
                                            unsigned int frm, size_t vl);
vint64m1_t __riscv_vfwcvt_x_f_v_i64m1_rm_mu(vbool64_t vm, vint64m1_t vd,
                                          vfloat32mf2_t vs2, unsigned int frm,
                                          size_t vl);
vint64m2_t __riscv_vfwcvt_x_f_v_i64m2_rm_mu(vbool32_t vm, vint64m2_t vd,
                                          vfloat32m1_t vs2, unsigned int frm,
                                          size_t vl);
vint64m4_t __riscv_vfwcvt_x_f_v_i64m4_rm_mu(vbool16_t vm, vint64m4_t vd,
                                          vfloat32m2_t vs2, unsigned int frm,
                                          size_t vl);
vint64m8_t __riscv_vfwcvt_x_f_v_i64m8_rm_mu(vbool8_t vm, vint64m8_t vd,
                                          vfloat32m4_t vs2, unsigned int frm,
                                          size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_f_v_u64m1_rm_mu(vbool64_t vm, vuint64m1_t vd,
                                            vfloat32mf2_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_f_v_u64m2_rm_mu(vbool32_t vm, vuint64m2_t vd,
                                            vfloat32m1_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_f_v_u64m4_rm_mu(vbool16_t vm, vuint64m4_t vd,
                                            vfloat32m2_t vs2,
                                            unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_f_v_u64m8_rm_mu(vbool8_t vm, vuint64m8_t vd,
                                            vfloat32m4_t vs2,
                                            unsigned int frm, size_t vl);
```

B.5.18. Narrowing Floating-Point/Integer Type-Convert Intrinsics

```
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8_tu(vint8mf8_t vd, vfloat16mf4_t vs2,
                                         size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x_f_w_i8mf8_tu(vint8mf8_t vd, vfloat16mf4_t vs2,
                                            size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4_tu(vint8mf4_t vd, vfloat16mf2_t vs2,
                                         size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x_f_w_i8mf4_tu(vint8mf4_t vd, vfloat16mf2_t vs2,
                                            size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2_tu(vint8mf2_t vd, vfloat16m1_t vs2,
                                         size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x_f_w_i8mf2_tu(vint8mf2_t vd, vfloat16m1_t vs2,
                                            size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1_tu(vint8m1_t vd, vfloat16m2_t vs2,
                                       size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x_f_w_i8m1_tu(vint8m1_t vd, vfloat16m2_t vs2,
                                          size_t vl);
vint8m2_t __riscv_vfncvt_x_f_w_i8m2_tu(vint8m2_t vd, vfloat16m4_t vs2,
                                       size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x_f_w_i8m2_tu(vint8m2_t vd, vfloat16m4_t vs2,
                                          size_t vl);
vint8m4_t __riscv_vfncvt_x_f_w_i8m4_tu(vint8m4_t vd, vfloat16m8_t vs2,
                                       size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x_f_w_i8m4_tu(vint8m4_t vd, vfloat16m8_t vs2,
                                          size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8_tu(vuint8mf8_t vd, vfloat16mf4_t vs2,
                                          size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu_f_w_u8mf8_tu(vuint8mf8_t vd,
```

```
                                            vfloat16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_f_w_u8mf4_tu(vuint8mf4_t vd, vfloat16mf2_t vs2,
                                           size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu_f_w_u8mf4_tu(vuint8mf4_t vd,
                                            vfloat16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_f_w_u8mf2_tu(vuint8mf2_t vd, vfloat16m1_t vs2,
                                           size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu_f_w_u8mf2_tu(vuint8mf2_t vd, vfloat16m1_t vs2,
                                            size_t vl);
vuint8m1_t __riscv_vfncvt_xu_f_w_u8m1_tu(vuint8m1_t vd, vfloat16m2_t vs2,
                                         size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu_f_w_u8m1_tu(vuint8m1_t vd, vfloat16m2_t vs2,
                                          size_t vl);
vuint8m2_t __riscv_vfncvt_xu_f_w_u8m2_tu(vuint8m2_t vd, vfloat16m4_t vs2,
                                         size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu_f_w_u8m2_tu(vuint8m2_t vd, vfloat16m4_t vs2,
                                          size_t vl);
vuint8m4_t __riscv_vfncvt_xu_f_w_u8m4_tu(vuint8m4_t vd, vfloat16m8_t vs2,
                                         size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu_f_w_u8m4_tu(vuint8m4_t vd, vfloat16m8_t vs2,
                                          size_t vl);
vint16mf4_t __riscv_vfncvt_x_f_w_i16mf4_tu(vint16mf4_t vd, vfloat32mf2_t vs2,
                                           size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x_f_w_i16mf4_tu(vint16mf4_t vd,
                                            vfloat32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_x_f_w_i16mf2_tu(vint16mf2_t vd, vfloat32m1_t vs2,
                                           size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x_f_w_i16mf2_tu(vint16mf2_t vd, vfloat32m1_t vs2,
                                            size_t vl);
vint16m1_t __riscv_vfncvt_x_f_w_i16m1_tu(vint16m1_t vd, vfloat32m2_t vs2,
                                         size_t vl);
vint16m1_t __riscv_vfncvt_rtz_x_f_w_i16m1_tu(vint16m1_t vd, vfloat32m2_t vs2,
                                          size_t vl);
vint16m2_t __riscv_vfncvt_x_f_w_i16m2_tu(vint16m2_t vd, vfloat32m4_t vs2,
                                         size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x_f_w_i16m2_tu(vint16m2_t vd, vfloat32m4_t vs2,
                                          size_t vl);
vint16m4_t __riscv_vfncvt_x_f_w_i16m4_tu(vint16m4_t vd, vfloat32m8_t vs2,
                                         size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x_f_w_i16m4_tu(vint16m4_t vd, vfloat32m8_t vs2,
                                          size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_f_w_u16mf4_tu(vuint16mf4_t vd, vfloat32mf2_t vs2,
                                          size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu_f_w_u16mf4_tu(vuint16mf4_t vd,
                                             vfloat32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_f_w_u16mf2_tu(vuint16mf2_t vd, vfloat32m1_t vs2,
                                          size_t vl);
vuint16mf2_t __riscv_vfncvt_rtz_xu_f_w_u16mf2_tu(vuint16mf2_t vd,
                                             vfloat32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_f_w_u16m1_tu(vuint16m1_t vd, vfloat32m2_t vs2,
                                           size_t vl);
vuint16m1_t __riscv_vfncvt_rtz_xu_f_w_u16m1_tu(vuint16m1_t vd, vfloat32m2_t vs2,
                                            size_t vl);
vuint16m2_t __riscv_vfncvt_xu_f_w_u16m2_tu(vuint16m2_t vd, vfloat32m4_t vs2,
                                           size_t vl);
vuint16m2_t __riscv_vfncvt_rtz_xu_f_w_u16m2_tu(vuint16m2_t vd, vfloat32m4_t vs2,
                                            size_t vl);
vuint16m4_t __riscv_vfncvt_xu_f_w_u16m4_tu(vuint16m4_t vd, vfloat32m8_t vs2,
                                           size_t vl);
vuint16m4_t __riscv_vfncvt_rtz_xu_f_w_u16m4_tu(vuint16m4_t vd, vfloat32m8_t vs2,
                                            size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_x_w_f16mf4_tu(vfloat16mf4_t vd, vint32mf2_t vs2,
                                           size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_x_w_f16mf2_tu(vfloat16mf2_t vd, vint32m1_t vs2,
                                           size_t vl);
vfloat16m1_t __riscv_vfncvt_f_x_w_f16m1_tu(vfloat16m1_t vd, vint32m2_t vs2,
                                           size_t vl);
```

```
vfloat16m2_t __riscv_vfncvt_f_x_w_f16m2_tu(vfloat16m2_t vd, vint32m4_t vs2,
                                           size_t vl);
vfloat16m4_t __riscv_vfncvt_f_x_w_f16m4_tu(vfloat16m4_t vd, vint32m8_t vs2,
                                           size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_xu_w_f16mf4_tu(vfloat16mf4_t vd,
                                              vuint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_xu_w_f16mf2_tu(vfloat16mf2_t vd, vuint32m1_t vs2,
                                              size_t vl);
vfloat16m1_t __riscv_vfncvt_f_xu_w_f16m1_tu(vfloat16m1_t vd, vuint32m2_t vs2,
                                            size_t vl);
vfloat16m2_t __riscv_vfncvt_f_xu_w_f16m2_tu(vfloat16m2_t vd, vuint32m4_t vs2,
                                            size_t vl);
vfloat16m4_t __riscv_vfncvt_f_xu_w_f16m4_tu(vfloat16m4_t vd, vuint32m8_t vs2,
                                            size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_f_w_f16mf4_tu(vfloat16mf4_t vd,
                                             vfloat32mf2_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_rod_f_f_w_f16mf4_tu(vfloat16mf4_t vd,
                                                 vfloat32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_f_w_f16mf2_tu(vfloat16mf2_t vd, vfloat32m1_t vs2,
                                             size_t vl);
vfloat16mf2_t __riscv_vfncvt_rod_f_f_w_f16mf2_tu(vfloat16mf2_t vd,
                                                 vfloat32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_f_w_f16m1_tu(vfloat16m1_t vd, vfloat32m2_t vs2,
                                           size_t vl);
vfloat16m1_t __riscv_vfncvt_rod_f_f_w_f16m1_tu(vfloat16m1_t vd,
                                               vfloat32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_f_w_f16m2_tu(vfloat16m2_t vd, vfloat32m4_t vs2,
                                           size_t vl);
vfloat16m2_t __riscv_vfncvt_rod_f_f_w_f16m2_tu(vfloat16m2_t vd,
                                               vfloat32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_f_w_f16m4_tu(vfloat16m4_t vd, vfloat32m8_t vs2,
                                           size_t vl);
vfloat16m4_t __riscv_vfncvt_rod_f_f_w_f16m4_tu(vfloat16m4_t vd,
                                               vfloat32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_x_f_w_i32mf2_tu(vint32mf2_t vd, vfloat64m1_t vs2,
                                           size_t vl);
vint32mf2_t __riscv_vfncvt_rtz_x_f_w_i32mf2_tu(vint32mf2_t vd, vfloat64m1_t vs2,
                                               size_t vl);
vint32m1_t __riscv_vfncvt_x_f_w_i32m1_tu(vint32m1_t vd, vfloat64m2_t vs2,
                                         size_t vl);
vint32m1_t __riscv_vfncvt_rtz_x_f_w_i32m1_tu(vint32m1_t vd, vfloat64m2_t vs2,
                                             size_t vl);
vint32m2_t __riscv_vfncvt_x_f_w_i32m2_tu(vint32m2_t vd, vfloat64m4_t vs2,
                                         size_t vl);
vint32m2_t __riscv_vfncvt_rtz_x_f_w_i32m2_tu(vint32m2_t vd, vfloat64m4_t vs2,
                                             size_t vl);
vint32m4_t __riscv_vfncvt_x_f_w_i32m4_tu(vint32m4_t vd, vfloat64m8_t vs2,
                                         size_t vl);
vint32m4_t __riscv_vfncvt_rtz_x_f_w_i32m4_tu(vint32m4_t vd, vfloat64m8_t vs2,
                                             size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_f_w_u32mf2_tu(vuint32mf2_t vd, vfloat64m1_t vs2,
                                             size_t vl);
vuint32mf2_t __riscv_vfncvt_rtz_xu_f_w_u32mf2_tu(vuint32mf2_t vd,
                                                 vfloat64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_f_w_u32m1_tu(vuint32m1_t vd, vfloat64m2_t vs2,
                                           size_t vl);
vuint32m1_t __riscv_vfncvt_rtz_xu_f_w_u32m1_tu(vuint32m1_t vd, vfloat64m2_t vs2,
                                               size_t vl);
vuint32m2_t __riscv_vfncvt_xu_f_w_u32m2_tu(vuint32m2_t vd, vfloat64m4_t vs2,
                                           size_t vl);
vuint32m2_t __riscv_vfncvt_rtz_xu_f_w_u32m2_tu(vuint32m2_t vd, vfloat64m4_t vs2,
                                               size_t vl);
vuint32m4_t __riscv_vfncvt_xu_f_w_u32m4_tu(vuint32m4_t vd, vfloat64m8_t vs2,
                                           size_t vl);
vuint32m4_t __riscv_vfncvt_rtz_xu_f_w_u32m4_tu(vuint32m4_t vd, vfloat64m8_t vs2,
                                               size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_x_w_f32mf2_tu(vfloat32mf2_t vd, vint64m1_t vs2,
```

```
                                          size_t vl);
vfloat32m1_t __riscv_vfncvt_f_x_w_f32m1_tu(vfloat32m1_t vd, vint64m2_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfncvt_f_x_w_f32m2_tu(vfloat32m2_t vd, vint64m4_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfncvt_f_x_w_f32m4_tu(vfloat32m4_t vd, vint64m8_t vs2,
                                           size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_xu_w_f32mf2_tu(vfloat32mf2_t vd, vuint64m1_t vs2,
                                              size_t vl);
vfloat32m1_t __riscv_vfncvt_f_xu_w_f32m1_tu(vfloat32m1_t vd, vuint64m2_t vs2,
                                            size_t vl);
vfloat32m2_t __riscv_vfncvt_f_xu_w_f32m2_tu(vfloat32m2_t vd, vuint64m4_t vs2,
                                            size_t vl);
vfloat32m4_t __riscv_vfncvt_f_xu_w_f32m4_tu(vfloat32m4_t vd, vuint64m8_t vs2,
                                            size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_f_w_f32mf2_tu(vfloat32mf2_t vd, vfloat64m1_t vs2,
                                             size_t vl);
vfloat32mf2_t __riscv_vfncvt_rod_f_f_w_f32mf2_tu(vfloat32mf2_t vd,
                                                 vfloat64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_f_w_f32m1_tu(vfloat32m1_t vd, vfloat64m2_t vs2,
                                           size_t vl);
vfloat32m1_t __riscv_vfncvt_rod_f_f_w_f32m1_tu(vfloat32m1_t vd,
                                               vfloat64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_f_w_f32m2_tu(vfloat32m2_t vd, vfloat64m4_t vs2,
                                           size_t vl);
vfloat32m2_t __riscv_vfncvt_rod_f_f_w_f32m2_tu(vfloat32m2_t vd,
                                               vfloat64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_f_w_f32m4_tu(vfloat32m4_t vd, vfloat64m8_t vs2,
                                           size_t vl);
vfloat32m4_t __riscv_vfncvt_rod_f_f_w_f32m4_tu(vfloat32m4_t vd,
                                               vfloat64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                          vfloat16mf4_t vs2, size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x_f_w_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                              vfloat16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                          vfloat16mf2_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x_f_w_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                              vfloat16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                          vfloat16m1_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x_f_w_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                              vfloat16m1_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                        vfloat16m2_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x_f_w_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                            vfloat16m2_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_x_f_w_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                        vfloat16m4_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x_f_w_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                            vfloat16m4_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_x_f_w_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                        vfloat16m8_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x_f_w_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                            vfloat16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                            vfloat16mf4_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu_f_w_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                                vfloat16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_f_w_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                            vfloat16mf2_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu_f_w_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                                vfloat16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_f_w_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                            vfloat16m1_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu_f_w_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
```

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                                                vfloat16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_f_w_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                          vfloat16m2_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu_f_w_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                              vfloat16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_f_w_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                          vfloat16m4_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu_f_w_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                              vfloat16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_f_w_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                          vfloat16m8_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu_f_w_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                              vfloat16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_x_f_w_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                            vfloat32mf2_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x_f_w_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                                vfloat32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_x_f_w_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                            vfloat32m1_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x_f_w_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                                vfloat32m1_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_x_f_w_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                          vfloat32m2_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_rtz_x_f_w_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                              vfloat32m2_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_x_f_w_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                          vfloat32m4_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x_f_w_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                              vfloat32m4_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_x_f_w_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                          vfloat32m8_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x_f_w_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                              vfloat32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_f_w_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                              vfloat32mf2_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu_f_w_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                                  vfloat32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_f_w_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                              vfloat32m1_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_rtz_xu_f_w_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                                  vfloat32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_f_w_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                            vfloat32m2_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_rtz_xu_f_w_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                                vfloat32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_f_w_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                            vfloat32m4_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_rtz_xu_f_w_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                                vfloat32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_f_w_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                            vfloat32m8_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_rtz_xu_f_w_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                                vfloat32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_x_w_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                              vint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_x_w_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                              vint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_x_w_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                            vint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_x_w_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                            vint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_x_w_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                            vint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_xu_w_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                               vuint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_xu_w_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               vuint32m1_t vs2, size_t vl);
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vfloat16m1_t __riscv_vfncvt_f_xu_w_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                             vuint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_xu_w_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                             vuint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_xu_w_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                             vuint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_f_w_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat32mf2_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_rod_f_f_w_f16mf4_tum(vbool64_t vm,
                                                  vfloat16mf4_t vd,
                                                  vfloat32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_f_w_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat32m1_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_rod_f_f_w_f16mf2_tum(vbool32_t vm,
                                                  vfloat16mf2_t vd,
                                                  vfloat32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_f_w_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat32m2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_rod_f_f_w_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                                vfloat32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_f_w_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat32m4_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_rod_f_f_w_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                                vfloat32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_f_w_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat32m8_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_rod_f_f_w_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                                vfloat32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_x_f_w_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                            vfloat64m1_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_rtz_x_f_w_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                                vfloat64m1_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_x_f_w_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                          vfloat64m2_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_rtz_x_f_w_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                              vfloat64m2_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_x_f_w_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                          vfloat64m4_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_rtz_x_f_w_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                              vfloat64m4_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_x_f_w_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                          vfloat64m8_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_rtz_x_f_w_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                              vfloat64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_f_w_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                              vfloat64m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_rtz_xu_f_w_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                                  vfloat64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_f_w_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                            vfloat64m2_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_rtz_xu_f_w_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                                vfloat64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_xu_f_w_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                            vfloat64m4_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_rtz_xu_f_w_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                                vfloat64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_f_w_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                            vfloat64m8_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_rtz_xu_f_w_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                                vfloat64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_x_w_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                              vint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_x_w_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_x_w_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_x_w_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
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                                            vint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_xu_w_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               vuint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_xu_w_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                             vuint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_xu_w_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                             vuint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_xu_w_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                             vuint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_f_w_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat64m1_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_rod_f_f_w_f32mf2_tum(vbool64_t vm,
                                                  vfloat32mf2_t vd,
                                                  vfloat64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_f_w_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat64m2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_rod_f_f_w_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                                vfloat64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_f_w_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat64m4_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_rod_f_f_w_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                                vfloat64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_f_w_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat64m8_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_rod_f_f_w_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                                vfloat64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                           vfloat16mf4_t vs2, size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x_f_w_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                               vfloat16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                           vfloat16mf2_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x_f_w_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                               vfloat16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                           vfloat16m1_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x_f_w_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                               vfloat16m1_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                         vfloat16m2_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x_f_w_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                             vfloat16m2_t vs2, size_t vl);
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                                         vfloat16m4_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x_f_w_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                             vfloat16m4_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_x_f_w_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                         vfloat16m8_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x_f_w_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                             vfloat16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                             vfloat16mf4_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu_f_w_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                                 vfloat16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_f_w_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                             vfloat16mf2_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu_f_w_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                                 vfloat16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_f_w_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                             vfloat16m1_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu_f_w_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                                 vfloat16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_f_w_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                           vfloat16m2_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu_f_w_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                               vfloat16m2_t vs2, size_t vl);
```

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vuint8m2_t __riscv_vfncvt_xu_f_w_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                           vfloat16m4_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu_f_w_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                               vfloat16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_f_w_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                           vfloat16m8_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu_f_w_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                               vfloat16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_x_f_w_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                             vfloat32mf2_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x_f_w_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                                 vfloat32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_x_f_w_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                             vfloat32m1_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x_f_w_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                                 vfloat32m1_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_x_f_w_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                           vfloat32m2_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_rtz_x_f_w_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                               vfloat32m2_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_x_f_w_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                           vfloat32m4_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x_f_w_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                               vfloat32m4_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_x_f_w_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                           vfloat32m8_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x_f_w_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                               vfloat32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_f_w_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                               vfloat32mf2_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu_f_w_u16mf4_tumu(vbool64_t vm,
                                                   vuint16mf4_t vd,
                                                   vfloat32mf2_t vs2,
                                                   size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_f_w_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                               vfloat32m1_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_rtz_xu_f_w_u16mf2_tumu(vbool32_t vm,
                                                   vuint16mf2_t vd,
                                                   vfloat32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_f_w_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                             vfloat32m2_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_rtz_xu_f_w_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                                 vfloat32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_f_w_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                             vfloat32m4_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_rtz_xu_f_w_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                                 vfloat32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_f_w_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                             vfloat32m8_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_rtz_xu_f_w_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                                 vfloat32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_x_w_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                               vint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_x_w_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                               vint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_x_w_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                             vint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_x_w_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                             vint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_x_w_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                             vint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_xu_w_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                                vuint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_xu_w_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                                vuint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_xu_w_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                              vuint32m2_t vs2, size_t vl);
```

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vfloat16m2_t __riscv_vfncvt_f_xu_w_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                              vuint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_xu_w_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                              vuint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_f_w_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                               vfloat32mf2_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_rod_f_f_w_f16mf4_tumu(vbool64_t vm,
                                                   vfloat16mf4_t vd,
                                                   vfloat32mf2_t vs2,
                                                   size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_f_w_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                               vfloat32m1_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_rod_f_f_w_f16mf2_tumu(vbool32_t vm,
                                                   vfloat16mf2_t vd,
                                                   vfloat32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_f_w_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                             vfloat32m2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_rod_f_f_w_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                                 vfloat32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_f_w_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                             vfloat32m4_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_rod_f_f_w_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                                 vfloat32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_f_w_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                             vfloat32m8_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_rod_f_f_w_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                                 vfloat32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_x_f_w_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                             vfloat64m1_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_rtz_x_f_w_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                                 vfloat64m1_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_x_f_w_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                           vfloat64m2_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_rtz_x_f_w_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                               vfloat64m2_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_x_f_w_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                           vfloat64m4_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_rtz_x_f_w_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                               vfloat64m4_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_x_f_w_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                           vfloat64m8_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_rtz_x_f_w_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                               vfloat64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_f_w_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                               vfloat64m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_rtz_xu_f_w_u32mf2_tumu(vbool64_t vm,
                                                   vuint32mf2_t vd,
                                                   vfloat64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_f_w_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                             vfloat64m2_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_rtz_xu_f_w_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                                 vfloat64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_xu_f_w_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                             vfloat64m4_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_rtz_xu_f_w_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                                 vfloat64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_f_w_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                             vfloat64m8_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_rtz_xu_f_w_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                                 vfloat64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_x_w_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                               vint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_x_w_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                             vint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_x_w_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                             vint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_x_w_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
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                                                vint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_xu_w_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                                  vuint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_xu_w_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                                vuint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_xu_w_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                                vuint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_xu_w_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                                vuint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_f_w_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                                 vfloat64m1_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_rod_f_f_w_f32mf2_tumu(vbool64_t vm,
                                                     vfloat32mf2_t vd,
                                                     vfloat64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_f_w_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                               vfloat64m2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_rod_f_f_w_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                                   vfloat64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_f_w_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                               vfloat64m4_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_rod_f_f_w_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                                   vfloat64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_f_w_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                               vfloat64m8_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_rod_f_f_w_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                                   vfloat64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                         vfloat16mf4_t vs2, size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x_f_w_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                             vfloat16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                         vfloat16mf2_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x_f_w_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                             vfloat16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                         vfloat16m1_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x_f_w_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                             vfloat16m1_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                       vfloat16m2_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x_f_w_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                           vfloat16m2_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_x_f_w_i8m2_mu(vbool4_t vm, vint8m2_t vd,
                                       vfloat16m4_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x_f_w_i8m2_mu(vbool4_t vm, vint8m2_t vd,
                                           vfloat16m4_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_x_f_w_i8m4_mu(vbool2_t vm, vint8m4_t vd,
                                       vfloat16m8_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x_f_w_i8m4_mu(vbool2_t vm, vint8m4_t vd,
                                           vfloat16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                           vfloat16mf4_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu_f_w_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                               vfloat16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_f_w_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                           vfloat16mf2_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu_f_w_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                               vfloat16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_f_w_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                           vfloat16m1_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu_f_w_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                               vfloat16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_f_w_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                         vfloat16m2_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu_f_w_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                             vfloat16m2_t vs2, size_t vl);
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vuint8m2_t __riscv_vfncvt_xu_f_w_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                         vfloat16m4_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu_f_w_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                             vfloat16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_f_w_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                         vfloat16m8_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu_f_w_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                             vfloat16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_x_f_w_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                           vfloat32mf2_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x_f_w_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                               vfloat32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_x_f_w_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                           vfloat32m1_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x_f_w_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                               vfloat32m1_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_x_f_w_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                         vfloat32m2_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_rtz_x_f_w_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                             vfloat32m2_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_x_f_w_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                         vfloat32m4_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x_f_w_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                             vfloat32m4_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_x_f_w_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                         vfloat32m8_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x_f_w_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                             vfloat32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_f_w_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                             vfloat32mf2_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu_f_w_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                                 vfloat32mf2_t vs2, size_t vl);
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                                             vfloat32m1_t vs2, size_t vl);
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                                            vuint32m4_t vs2, size_t vl);
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                                            vuint32m8_t vs2, size_t vl);
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                                             vfloat32mf2_t vs2, size_t vl);
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                                            vuint64m2_t vs2, size_t vl);
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                                            vuint64m4_t vs2, size_t vl);
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                                               vfloat64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8_rm_tu(vint8mf8_t vd, vfloat16mf4_t vs2,
                                            unsigned int frm, size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4_rm_tu(vint8mf4_t vd, vfloat16mf2_t vs2,
                                            unsigned int frm, size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2_rm_tu(vint8mf2_t vd, vfloat16m1_t vs2,
                                            unsigned int frm, size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1_rm_tu(vint8m1_t vd, vfloat16m2_t vs2,
                                          unsigned int frm, size_t vl);
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vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8_rm_tu(vuint8mf8_t vd, vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
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                                                unsigned int frm, size_t vl);
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                                                vint32m1_t vs2,
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vfloat32mf2_t __riscv_vfncvt_f_xu_w_f32mf2_rm_tu(vfloat32mf2_t vd,
                                                 vuint64m1_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_xu_w_f32m1_rm_tu(vfloat32m1_t vd, vuint64m2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_xu_w_f32m2_rm_tu(vfloat32m2_t vd, vuint64m4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_xu_w_f32m4_rm_tu(vfloat32m4_t vd, vuint64m8_t vs2,
```

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                                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_f_w_f32mf2_rm_tu(vfloat32mf2_t vd,
                                                 vfloat64m1_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_f_w_f32m1_rm_tu(vfloat32m1_t vd, vfloat64m2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_f_w_f32m2_rm_tu(vfloat32m2_t vd, vfloat64m4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_f_w_f32m4_rm_tu(vfloat32m4_t vd, vfloat64m8_t vs2,
                                               unsigned int frm, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8_rm_tum(vbool64_t vm, vint8mf8_t vd,
                                             vfloat16mf4_t vs2,
                                             unsigned int frm, size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4_rm_tum(vbool32_t vm, vint8mf4_t vd,
                                             vfloat16mf2_t vs2,
                                             unsigned int frm, size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2_rm_tum(vbool16_t vm, vint8mf2_t vd,
                                             vfloat16m1_t vs2, unsigned int frm,
                                             size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1_rm_tum(vbool8_t vm, vint8m1_t vd,
                                           vfloat16m2_t vs2, unsigned int frm,
                                           size_t vl);
vint8m2_t __riscv_vfncvt_x_f_w_i8m2_rm_tum(vbool4_t vm, vint8m2_t vd,
                                           vfloat16m4_t vs2, unsigned int frm,
                                           size_t vl);
vint8m4_t __riscv_vfncvt_x_f_w_i8m4_rm_tum(vbool2_t vm, vint8m4_t vd,
                                           vfloat16m8_t vs2, unsigned int frm,
                                           size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8_rm_tum(vbool64_t vm, vuint8mf8_t vd,
                                               vfloat16mf4_t vs2,
                                               unsigned int frm, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_f_w_u8mf4_rm_tum(vbool32_t vm, vuint8mf4_t vd,
                                               vfloat16mf2_t vs2,
                                               unsigned int frm, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_f_w_u8mf2_rm_tum(vbool16_t vm, vuint8mf2_t vd,
                                               vfloat16m1_t vs2,
                                               unsigned int frm, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_f_w_u8m1_rm_tum(vbool8_t vm, vuint8m1_t vd,
                                             vfloat16m2_t vs2, unsigned int frm,
                                             size_t vl);
vuint8m2_t __riscv_vfncvt_xu_f_w_u8m2_rm_tum(vbool4_t vm, vuint8m2_t vd,
                                             vfloat16m4_t vs2, unsigned int frm,
                                             size_t vl);
vuint8m4_t __riscv_vfncvt_xu_f_w_u8m4_rm_tum(vbool2_t vm, vuint8m4_t vd,
                                             vfloat16m8_t vs2, unsigned int frm,
                                             size_t vl);
vint16mf4_t __riscv_vfncvt_x_f_w_i16mf4_rm_tum(vbool64_t vm, vint16mf4_t vd,
                                               vfloat32mf2_t vs2,
                                               unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfncvt_x_f_w_i16mf2_rm_tum(vbool32_t vm, vint16mf2_t vd,
                                               vfloat32m1_t vs2,
                                               unsigned int frm, size_t vl);
vint16m1_t __riscv_vfncvt_x_f_w_i16m1_rm_tum(vbool16_t vm, vint16m1_t vd,
                                             vfloat32m2_t vs2, unsigned int frm,
                                             size_t vl);
vint16m2_t __riscv_vfncvt_x_f_w_i16m2_rm_tum(vbool8_t vm, vint16m2_t vd,
                                             vfloat32m4_t vs2, unsigned int frm,
                                             size_t vl);
vint16m4_t __riscv_vfncvt_x_f_w_i16m4_rm_tum(vbool4_t vm, vint16m4_t vd,
                                             vfloat32m8_t vs2, unsigned int frm,
                                             size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_f_w_u16mf4_rm_tum(vbool64_t vm, vuint16mf4_t vd,
                                                 vfloat32mf2_t vs2,
                                                 unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_f_w_u16mf2_rm_tum(vbool32_t vm, vuint16mf2_t vd,
                                                 vfloat32m1_t vs2,
```

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                                                unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_f_w_u16m1_rm_tum(vbool16_t vm, vuint16m1_t vd,
                                               vfloat32m2_t vs2,
                                               unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_f_w_u16m2_rm_tum(vbool8_t vm, vuint16m2_t vd,
                                               vfloat32m4_t vs2,
                                               unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_f_w_u16m4_rm_tum(vbool4_t vm, vuint16m4_t vd,
                                               vfloat32m8_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_x_w_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                                 vint32mf2_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_x_w_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                                 vint32m1_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_x_w_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                               vint32m2_t vs2, unsigned int frm,
                                               size_t vl);
vfloat16m2_t __riscv_vfncvt_f_x_w_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                               vint32m4_t vs2, unsigned int frm,
                                               size_t vl);
vfloat16m4_t __riscv_vfncvt_f_x_w_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                               vint32m8_t vs2, unsigned int frm,
                                               size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_xu_w_f16mf4_rm_tum(vbool64_t vm,
                                                  vfloat16mf4_t vd,
                                                  vuint32mf2_t vs2,
                                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_xu_w_f16mf2_rm_tum(vbool32_t vm,
                                                  vfloat16mf2_t vd,
                                                  vuint32m1_t vs2,
                                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_xu_w_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                                vuint32m2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_xu_w_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                                vuint32m4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_xu_w_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                                vuint32m8_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_f_w_f16mf4_rm_tum(vbool64_t vm, vfloat16mf4_t vd,
                                                 vfloat32mf2_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_f_w_f16mf2_rm_tum(vbool32_t vm, vfloat16mf2_t vd,
                                                 vfloat32m1_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_f_w_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                               vfloat32m2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_f_w_f16m2_rm_tum(vbool8_t vm, vfloat16m2_t vd,
                                               vfloat32m4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_f_w_f16m4_rm_tum(vbool4_t vm, vfloat16m4_t vd,
                                               vfloat32m8_t vs2,
                                               unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfncvt_x_f_w_i32mf2_rm_tum(vbool64_t vm, vint32mf2_t vd,
                                               vfloat64m1_t vs2,
                                               unsigned int frm, size_t vl);
vint32m1_t __riscv_vfncvt_x_f_w_i32m1_rm_tum(vbool32_t vm, vint32m1_t vd,
                                             vfloat64m2_t vs2, unsigned int frm,
                                             size_t vl);
vint32m2_t __riscv_vfncvt_x_f_w_i32m2_rm_tum(vbool16_t vm, vint32m2_t vd,
                                             vfloat64m4_t vs2, unsigned int frm,
                                             size_t vl);
vint32m4_t __riscv_vfncvt_x_f_w_i32m4_rm_tum(vbool8_t vm, vint32m4_t vd,
```

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                                          vfloat64m8_t vs2, unsigned int frm,
                                          size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_f_w_u32mf2_rm_tum(vbool64_t vm, vuint32mf2_t vd,
                                            vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_f_w_u32m1_rm_tum(vbool32_t vm, vuint32m1_t vd,
                                           vfloat64m2_t vs2,
                                           unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfncvt_xu_f_w_u32m2_rm_tum(vbool16_t vm, vuint32m2_t vd,
                                           vfloat64m4_t vs2,
                                           unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_f_w_u32m4_rm_tum(vbool8_t vm, vuint32m4_t vd,
                                           vfloat64m8_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_x_w_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vint64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_x_w_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vint64m2_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m2_t __riscv_vfncvt_f_x_w_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vint64m4_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32m4_t __riscv_vfncvt_f_x_w_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vint64m8_t vs2, unsigned int frm,
                                           size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_xu_w_f32mf2_rm_tum(vbool64_t vm,
                                             vfloat32mf2_t vd,
                                             vuint64m1_t vs2,
                                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_xu_w_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                            vuint64m2_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_xu_w_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                            vuint64m4_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_xu_w_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                            vuint64m8_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_f_w_f32mf2_rm_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat64m1_t vs2,
                                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_f_w_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat64m2_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_f_w_f32m2_rm_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat64m4_t vs2,
                                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_f_w_f32m4_rm_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat64m8_t vs2,
                                           unsigned int frm, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8_rm_tumu(vbool64_t vm, vint8mf8_t vd,
                                          vfloat16mf4_t vs2,
                                          unsigned int frm, size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4_rm_tumu(vbool32_t vm, vint8mf4_t vd,
                                          vfloat16mf2_t vs2,
                                          unsigned int frm, size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2_rm_tumu(vbool16_t vm, vint8mf2_t vd,
                                          vfloat16m1_t vs2,
                                          unsigned int frm, size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1_rm_tumu(vbool8_t vm, vint8m1_t vd,
                                        vfloat16m2_t vs2, unsigned int frm,
                                        size_t vl);
vint8m2_t __riscv_vfncvt_x_f_w_i8m2_rm_tumu(vbool4_t vm, vint8m2_t vd,
                                        vfloat16m4_t vs2, unsigned int frm,
                                        size_t vl);
```

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vint8m4_t __riscv_vfncvt_x_f_w_i8m4_rm_tumu(vbool2_t vm, vint8m4_t vd,
                                            vfloat16m8_t vs2, unsigned int frm,
                                            size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8_rm_tumu(vbool64_t vm, vuint8mf8_t vd,
                                                vfloat16mf4_t vs2,
                                                unsigned int frm, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_f_w_u8mf4_rm_tumu(vbool32_t vm, vuint8mf4_t vd,
                                                vfloat16mf2_t vs2,
                                                unsigned int frm, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_f_w_u8mf2_rm_tumu(vbool16_t vm, vuint8mf2_t vd,
                                                vfloat16m1_t vs2,
                                                unsigned int frm, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_f_w_u8m1_rm_tumu(vbool8_t vm, vuint8m1_t vd,
                                              vfloat16m2_t vs2,
                                              unsigned int frm, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_f_w_u8m2_rm_tumu(vbool4_t vm, vuint8m2_t vd,
                                              vfloat16m4_t vs2,
                                              unsigned int frm, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_f_w_u8m4_rm_tumu(vbool2_t vm, vuint8m4_t vd,
                                              vfloat16m8_t vs2,
                                              unsigned int frm, size_t vl);
vint16mf4_t __riscv_vfncvt_x_f_w_i16mf4_rm_tumu(vbool64_t vm, vint16mf4_t vd,
                                                vfloat32mf2_t vs2,
                                                unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfncvt_x_f_w_i16mf2_rm_tumu(vbool32_t vm, vint16mf2_t vd,
                                                vfloat32m1_t vs2,
                                                unsigned int frm, size_t vl);
vint16m1_t __riscv_vfncvt_x_f_w_i16m1_rm_tumu(vbool16_t vm, vint16m1_t vd,
                                              vfloat32m2_t vs2,
                                              unsigned int frm, size_t vl);
vint16m2_t __riscv_vfncvt_x_f_w_i16m2_rm_tumu(vbool8_t vm, vint16m2_t vd,
                                              vfloat32m4_t vs2,
                                              unsigned int frm, size_t vl);
vint16m4_t __riscv_vfncvt_x_f_w_i16m4_rm_tumu(vbool4_t vm, vint16m4_t vd,
                                              vfloat32m8_t vs2,
                                              unsigned int frm, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_f_w_u16mf4_rm_tumu(vbool64_t vm, vuint16mf4_t vd,
                                                  vfloat32mf2_t vs2,
                                                  unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_f_w_u16mf2_rm_tumu(vbool32_t vm, vuint16mf2_t vd,
                                                  vfloat32m1_t vs2,
                                                  unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_f_w_u16m1_rm_tumu(vbool16_t vm, vuint16m1_t vd,
                                                vfloat32m2_t vs2,
                                                unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_f_w_u16m2_rm_tumu(vbool8_t vm, vuint16m2_t vd,
                                                vfloat32m4_t vs2,
                                                unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_f_w_u16m4_rm_tumu(vbool4_t vm, vuint16m4_t vd,
                                                vfloat32m8_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_x_w_f16mf4_rm_tumu(vbool64_t vm,
                                                  vfloat16mf4_t vd,
                                                  vint32mf2_t vs2,
                                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_x_w_f16mf2_rm_tumu(vbool32_t vm,
                                                  vfloat16mf2_t vd,
                                                  vint32m1_t vs2,
                                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_x_w_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                                vint32m2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_x_w_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                                vint32m4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_x_w_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                                vint32m8_t vs2,
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                                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_xu_w_f16mf4_rm_tumu(vbool64_t vm,
                                                   vfloat16mf4_t vd,
                                                   vuint32mf2_t vs2,
                                                   unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_xu_w_f16mf2_rm_tumu(vbool32_t vm,
                                                   vfloat16mf2_t vd,
                                                   vuint32m1_t vs2,
                                                   unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_xu_w_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                                 vuint32m2_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_xu_w_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                                 vuint32m4_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_xu_w_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                                 vuint32m8_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_f_w_f16mf4_rm_tumu(vbool64_t vm,
                                                  vfloat16mf4_t vd,
                                                  vfloat32mf2_t vs2,
                                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_f_w_f16mf2_rm_tumu(vbool32_t vm,
                                                  vfloat16mf2_t vd,
                                                  vfloat32m1_t vs2,
                                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_f_w_f16m1_rm_tumu(vbool16_t vm, vfloat16m1_t vd,
                                                vfloat32m2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_f_w_f16m2_rm_tumu(vbool8_t vm, vfloat16m2_t vd,
                                                vfloat32m4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_f_w_f16m4_rm_tumu(vbool4_t vm, vfloat16m4_t vd,
                                                vfloat32m8_t vs2,
                                                unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfncvt_x_f_w_i32mf2_rm_tumu(vbool64_t vm, vint32mf2_t vd,
                                                vfloat64m1_t vs2,
                                                unsigned int frm, size_t vl);
vint32m1_t __riscv_vfncvt_x_f_w_i32m1_rm_tumu(vbool32_t vm, vint32m1_t vd,
                                              vfloat64m2_t vs2,
                                              unsigned int frm, size_t vl);
vint32m2_t __riscv_vfncvt_x_f_w_i32m2_rm_tumu(vbool16_t vm, vint32m2_t vd,
                                              vfloat64m4_t vs2,
                                              unsigned int frm, size_t vl);
vint32m4_t __riscv_vfncvt_x_f_w_i32m4_rm_tumu(vbool8_t vm, vint32m4_t vd,
                                              vfloat64m8_t vs2,
                                              unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_f_w_u32mf2_rm_tumu(vbool64_t vm, vuint32mf2_t vd,
                                                  vfloat64m1_t vs2,
                                                  unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_f_w_u32m1_rm_tumu(vbool32_t vm, vuint32m1_t vd,
                                                vfloat64m2_t vs2,
                                                unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfncvt_xu_f_w_u32m2_rm_tumu(vbool16_t vm, vuint32m2_t vd,
                                                vfloat64m4_t vs2,
                                                unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_f_w_u32m4_rm_tumu(vbool8_t vm, vuint32m4_t vd,
                                                vfloat64m8_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_x_w_f32mf2_rm_tumu(vbool64_t vm,
                                                  vfloat32mf2_t vd,
                                                  vint64m1_t vs2,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_x_w_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                                vint64m2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_x_w_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
```

```
                                                vint64m4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_x_w_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                                vint64m8_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_xu_w_f32mf2_rm_tumu(vbool64_t vm,
                                                   vfloat32mf2_t vd,
                                                   vuint64m1_t vs2,
                                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_xu_w_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                                 vuint64m2_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_xu_w_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                                 vuint64m4_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_xu_w_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                                 vuint64m8_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_f_w_f32mf2_rm_tumu(vbool64_t vm,
                                                  vfloat32mf2_t vd,
                                                  vfloat64m1_t vs2,
                                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_f_w_f32m1_rm_tumu(vbool32_t vm, vfloat32m1_t vd,
                                                vfloat64m2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_f_w_f32m2_rm_tumu(vbool16_t vm, vfloat32m2_t vd,
                                                vfloat64m4_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_f_w_f32m4_rm_tumu(vbool8_t vm, vfloat32m4_t vd,
                                                vfloat64m8_t vs2,
                                                unsigned int frm, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_f_w_i8mf8_rm_mu(vbool64_t vm, vint8mf8_t vd,
                                            vfloat16mf4_t vs2, unsigned int frm,
                                            size_t vl);
vint8mf4_t __riscv_vfncvt_x_f_w_i8mf4_rm_mu(vbool32_t vm, vint8mf4_t vd,
                                            vfloat16mf2_t vs2, unsigned int frm,
                                            size_t vl);
vint8mf2_t __riscv_vfncvt_x_f_w_i8mf2_rm_mu(vbool16_t vm, vint8mf2_t vd,
                                            vfloat16m1_t vs2, unsigned int frm,
                                            size_t vl);
vint8m1_t __riscv_vfncvt_x_f_w_i8m1_rm_mu(vbool8_t vm, vint8m1_t vd,
                                          vfloat16m2_t vs2, unsigned int frm,
                                          size_t vl);
vint8m2_t __riscv_vfncvt_x_f_w_i8m2_rm_mu(vbool4_t vm, vint8m2_t vd,
                                          vfloat16m4_t vs2, unsigned int frm,
                                          size_t vl);
vint8m4_t __riscv_vfncvt_x_f_w_i8m4_rm_mu(vbool2_t vm, vint8m4_t vd,
                                          vfloat16m8_t vs2, unsigned int frm,
                                          size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_f_w_u8mf8_rm_mu(vbool64_t vm, vuint8mf8_t vd,
                                              vfloat16mf4_t vs2,
                                              unsigned int frm, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_f_w_u8mf4_rm_mu(vbool32_t vm, vuint8mf4_t vd,
                                              vfloat16mf2_t vs2,
                                              unsigned int frm, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_f_w_u8mf2_rm_mu(vbool16_t vm, vuint8mf2_t vd,
                                              vfloat16m1_t vs2,
                                              unsigned int frm, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_f_w_u8m1_rm_mu(vbool8_t vm, vuint8m1_t vd,
                                            vfloat16m2_t vs2, unsigned int frm,
                                            size_t vl);
vuint8m2_t __riscv_vfncvt_xu_f_w_u8m2_rm_mu(vbool4_t vm, vuint8m2_t vd,
                                            vfloat16m4_t vs2, unsigned int frm,
                                            size_t vl);
vuint8m4_t __riscv_vfncvt_xu_f_w_u8m4_rm_mu(vbool2_t vm, vuint8m4_t vd,
                                            vfloat16m8_t vs2, unsigned int frm,
```

```
                                            size_t vl);
vint16mf4_t __riscv_vfncvt_x_f_w_i16mf4_rm_mu(vbool64_t vm, vint16mf4_t vd,
                                              vfloat32mf2_t vs2,
                                              unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfncvt_x_f_w_i16mf2_rm_mu(vbool32_t vm, vint16mf2_t vd,
                                              vfloat32m1_t vs2,
                                              unsigned int frm, size_t vl);
vint16m1_t __riscv_vfncvt_x_f_w_i16m1_rm_mu(vbool16_t vm, vint16m1_t vd,
                                            vfloat32m2_t vs2, unsigned int frm,
                                            size_t vl);
vint16m2_t __riscv_vfncvt_x_f_w_i16m2_rm_mu(vbool8_t vm, vint16m2_t vd,
                                            vfloat32m4_t vs2, unsigned int frm,
                                            size_t vl);
vint16m4_t __riscv_vfncvt_x_f_w_i16m4_rm_mu(vbool4_t vm, vint16m4_t vd,
                                            vfloat32m8_t vs2, unsigned int frm,
                                            size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_f_w_u16mf4_rm_mu(vbool64_t vm, vuint16mf4_t vd,
                                                vfloat32mf2_t vs2,
                                                unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_f_w_u16mf2_rm_mu(vbool32_t vm, vuint16mf2_t vd,
                                                vfloat32m1_t vs2,
                                                unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_f_w_u16m1_rm_mu(vbool16_t vm, vuint16m1_t vd,
                                              vfloat32m2_t vs2,
                                              unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_f_w_u16m2_rm_mu(vbool8_t vm, vuint16m2_t vd,
                                              vfloat32m4_t vs2,
                                              unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_f_w_u16m4_rm_mu(vbool4_t vm, vuint16m4_t vd,
                                              vfloat32m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_x_w_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                                vint32mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_x_w_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                                vint32m1_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_x_w_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                              vint32m2_t vs2, unsigned int frm,
                                              size_t vl);
vfloat16m2_t __riscv_vfncvt_f_x_w_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                              vint32m4_t vs2, unsigned int frm,
                                              size_t vl);
vfloat16m4_t __riscv_vfncvt_f_x_w_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                              vint32m8_t vs2, unsigned int frm,
                                              size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_xu_w_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                                 vuint32mf2_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_xu_w_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                                 vuint32m1_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_xu_w_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                               vuint32m2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_xu_w_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                               vuint32m4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_xu_w_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                               vuint32m8_t vs2,
                                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_f_w_f16mf4_rm_mu(vbool64_t vm, vfloat16mf4_t vd,
                                                vfloat32mf2_t vs2,
                                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_f_w_f16mf2_rm_mu(vbool32_t vm, vfloat16mf2_t vd,
                                                vfloat32m1_t vs2,
                                                unsigned int frm, size_t vl);
```

```
vfloat16m1_t __riscv_vfncvt_f_f_w_f16m1_rm_mu(vbool16_t vm, vfloat16m1_t vd,
                                              vfloat32m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_f_w_f16m2_rm_mu(vbool8_t vm, vfloat16m2_t vd,
                                              vfloat32m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_f_w_f16m4_rm_mu(vbool4_t vm, vfloat16m4_t vd,
                                              vfloat32m8_t vs2,
                                              unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfncvt_x_f_w_i32mf2_rm_mu(vbool64_t vm, vint32mf2_t vd,
                                              vfloat64m1_t vs2,
                                              unsigned int frm, size_t vl);
vint32m1_t __riscv_vfncvt_x_f_w_i32m1_rm_mu(vbool32_t vm, vint32m1_t vd,
                                            vfloat64m2_t vs2, unsigned int frm,
                                            size_t vl);
vint32m2_t __riscv_vfncvt_x_f_w_i32m2_rm_mu(vbool16_t vm, vint32m2_t vd,
                                            vfloat64m4_t vs2, unsigned int frm,
                                            size_t vl);
vint32m4_t __riscv_vfncvt_x_f_w_i32m4_rm_mu(vbool8_t vm, vint32m4_t vd,
                                            vfloat64m8_t vs2, unsigned int frm,
                                            size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_f_w_u32mf2_rm_mu(vbool64_t vm, vuint32mf2_t vd,
                                                vfloat64m1_t vs2,
                                                unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_f_w_u32m1_rm_mu(vbool32_t vm, vuint32m1_t vd,
                                              vfloat64m2_t vs2,
                                              unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfncvt_xu_f_w_u32m2_rm_mu(vbool16_t vm, vuint32m2_t vd,
                                              vfloat64m4_t vs2,
                                              unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_f_w_u32m4_rm_mu(vbool8_t vm, vuint32m4_t vd,
                                              vfloat64m8_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_x_w_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                                vint64m1_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_x_w_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                              vint64m2_t vs2, unsigned int frm,
                                              size_t vl);
vfloat32m2_t __riscv_vfncvt_f_x_w_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                              vint64m4_t vs2, unsigned int frm,
                                              size_t vl);
vfloat32m4_t __riscv_vfncvt_f_x_w_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                              vint64m8_t vs2, unsigned int frm,
                                              size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_xu_w_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                                 vuint64m1_t vs2,
                                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_xu_w_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                               vuint64m2_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_xu_w_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                               vuint64m4_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_xu_w_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
                                               vuint64m8_t vs2,
                                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_f_w_f32mf2_rm_mu(vbool64_t vm, vfloat32mf2_t vd,
                                                vfloat64m1_t vs2,
                                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_f_w_f32m1_rm_mu(vbool32_t vm, vfloat32m1_t vd,
                                              vfloat64m2_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_f_w_f32m2_rm_mu(vbool16_t vm, vfloat32m2_t vd,
                                              vfloat64m4_t vs2,
                                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_f_w_f32m4_rm_mu(vbool8_t vm, vfloat32m4_t vd,
```

```
                                        vfloat64m8_t vs2,
                                        unsigned int frm, size_t vl);
```

B.6. Vector Reduction Operations

B.6.1. Vector Single-Width Integer Reduction Intrinsics

```
vint8m1_t __riscv_vredsum_vs_i8mf8_i8m1_tu(vint8m1_t vd, vint8mf8_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8mf4_i8m1_tu(vint8m1_t vd, vint8mf4_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8mf2_i8m1_tu(vint8m1_t vd, vint8mf2_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m1_i8m1_tu(vint8m1_t vd, vint8m1_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m2_i8m1_tu(vint8m1_t vd, vint8m2_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m4_i8m1_tu(vint8m1_t vd, vint8m4_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m8_i8m1_tu(vint8m1_t vd, vint8m8_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16mf4_i16m1_tu(vint16m1_t vd, vint16mf4_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16mf2_i16m1_tu(vint16m1_t vd, vint16mf2_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m1_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m2_i16m1_tu(vint16m1_t vd, vint16m2_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m4_i16m1_tu(vint16m1_t vd, vint16m4_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m8_i16m1_tu(vint16m1_t vd, vint16m8_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_vs_i32mf2_i32m1_tu(vint32m1_t vd, vint32mf2_t vs2,
                                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m1_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m2_i32m1_tu(vint32m1_t vd, vint32m2_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m4_i32m1_tu(vint32m1_t vd, vint32m4_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m8_i32m1_tu(vint32m1_t vd, vint32m8_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m1_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m2_i64m1_tu(vint64m1_t vd, vint64m2_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m4_i64m1_tu(vint64m1_t vd, vint64m4_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m8_i64m1_tu(vint64m1_t vd, vint64m8_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf8_i8m1_tu(vint8m1_t vd, vint8mf8_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf4_i8m1_tu(vint8m1_t vd, vint8mf4_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf2_i8m1_tu(vint8m1_t vd, vint8mf2_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m1_i8m1_tu(vint8m1_t vd, vint8m1_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m2_i8m1_tu(vint8m1_t vd, vint8m2_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m4_i8m1_tu(vint8m1_t vd, vint8m4_t vs2,
                                          vint8m1_t vs1, size_t vl);
```

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vint8m1_t __riscv_vredmax_vs_i8m8_i8m1_tu(vint8m1_t vd, vint8m8_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16mf4_i16m1_tu(vint16m1_t vd, vint16mf4_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16mf2_i16m1_tu(vint16m1_t vd, vint16mf2_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m1_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m2_i16m1_tu(vint16m1_t vd, vint16m2_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m4_i16m1_tu(vint16m1_t vd, vint16m4_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m8_i16m1_tu(vint16m1_t vd, vint16m8_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_vs_i32mf2_i32m1_tu(vint32m1_t vd, vint32mf2_t vs2,
                                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m1_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m2_i32m1_tu(vint32m1_t vd, vint32m2_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m4_i32m1_tu(vint32m1_t vd, vint32m4_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m8_i32m1_tu(vint32m1_t vd, vint32m8_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m1_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m2_i64m1_tu(vint64m1_t vd, vint64m2_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m4_i64m1_tu(vint64m1_t vd, vint64m4_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m8_i64m1_tu(vint64m1_t vd, vint64m8_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf8_i8m1_tu(vint8m1_t vd, vint8mf8_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf4_i8m1_tu(vint8m1_t vd, vint8mf4_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf2_i8m1_tu(vint8m1_t vd, vint8mf2_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m1_i8m1_tu(vint8m1_t vd, vint8m1_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m2_i8m1_tu(vint8m1_t vd, vint8m2_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m4_i8m1_tu(vint8m1_t vd, vint8m4_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m8_i8m1_tu(vint8m1_t vd, vint8m8_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16mf4_i16m1_tu(vint16m1_t vd, vint16mf4_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16mf2_i16m1_tu(vint16m1_t vd, vint16mf2_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m1_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m2_i16m1_tu(vint16m1_t vd, vint16m2_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m4_i16m1_tu(vint16m1_t vd, vint16m4_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m8_i16m1_tu(vint16m1_t vd, vint16m8_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_vs_i32mf2_i32m1_tu(vint32m1_t vd, vint32mf2_t vs2,
                                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m1_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m2_i32m1_tu(vint32m1_t vd, vint32m2_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m4_i32m1_tu(vint32m1_t vd, vint32m4_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m8_i32m1_tu(vint32m1_t vd, vint32m8_t vs2,
```

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                                            vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m1_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m2_i64m1_tu(vint64m1_t vd, vint64m2_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m4_i64m1_tu(vint64m1_t vd, vint64m4_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m8_i64m1_tu(vint64m1_t vd, vint64m8_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf8_i8m1_tu(vint8m1_t vd, vint8mf8_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf4_i8m1_tu(vint8m1_t vd, vint8mf4_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf2_i8m1_tu(vint8m1_t vd, vint8mf2_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8m1_i8m1_tu(vint8m1_t vd, vint8m1_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8m2_i8m1_tu(vint8m1_t vd, vint8m2_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8m4_i8m1_tu(vint8m1_t vd, vint8m4_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_vs_i8m8_i8m1_tu(vint8m1_t vd, vint8m8_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16mf4_i16m1_tu(vint16m1_t vd, vint16mf4_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16mf2_i16m1_tu(vint16m1_t vd, vint16mf2_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16m1_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16m2_i16m1_tu(vint16m1_t vd, vint16m2_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16m4_i16m1_tu(vint16m1_t vd, vint16m4_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_vs_i16m8_i16m1_tu(vint16m1_t vd, vint16m8_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_vs_i32mf2_i32m1_tu(vint32m1_t vd, vint32mf2_t vs2,
                                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_vs_i32m1_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_vs_i32m2_i32m1_tu(vint32m1_t vd, vint32m2_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_vs_i32m4_i32m1_tu(vint32m1_t vd, vint32m4_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_vs_i32m8_i32m1_tu(vint32m1_t vd, vint32m8_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_vs_i64m1_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_vs_i64m2_i64m1_tu(vint64m1_t vd, vint64m2_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_vs_i64m4_i64m1_tu(vint64m1_t vd, vint64m4_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_vs_i64m8_i64m1_tu(vint64m1_t vd, vint64m8_t vs2,
                                             vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8mf8_i8m1_tu(vint8m1_t vd, vint8mf8_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8mf4_i8m1_tu(vint8m1_t vd, vint8mf4_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8mf2_i8m1_tu(vint8m1_t vd, vint8mf2_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8m1_i8m1_tu(vint8m1_t vd, vint8m1_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8m2_i8m1_tu(vint8m1_t vd, vint8m2_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8m4_i8m1_tu(vint8m1_t vd, vint8m4_t vs2,
                                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_vs_i8m8_i8m1_tu(vint8m1_t vd, vint8m8_t vs2,
                                         vint8m1_t vs1, size_t vl);
```

```
vint16m1_t __riscv_vredor_vs_i16mf4_i16m1_tu(vint16m1_t vd, vint16mf4_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16mf2_i16m1_tu(vint16m1_t vd, vint16mf2_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16m1_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16m2_i16m1_tu(vint16m1_t vd, vint16m2_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16m4_i16m1_tu(vint16m1_t vd, vint16m4_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_vs_i16m8_i16m1_tu(vint16m1_t vd, vint16m8_t vs2,
                                            vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_vs_i32mf2_i32m1_tu(vint32m1_t vd, vint32mf2_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_vs_i32m1_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_vs_i32m2_i32m1_tu(vint32m1_t vd, vint32m2_t vs2,
                                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_vs_i32m4_i32m1_tu(vint32m1_t vd, vint32m4_t vs2,
                                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_vs_i32m8_i32m1_tu(vint32m1_t vd, vint32m8_t vs2,
                                            vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_vs_i64m1_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_vs_i64m2_i64m1_tu(vint64m1_t vd, vint64m2_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_vs_i64m4_i64m1_tu(vint64m1_t vd, vint64m4_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_vs_i64m8_i64m1_tu(vint64m1_t vd, vint64m8_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf8_i8m1_tu(vint8m1_t vd, vint8mf8_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf4_i8m1_tu(vint8m1_t vd, vint8mf4_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf2_i8m1_tu(vint8m1_t vd, vint8mf2_t vs2,
                                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m1_i8m1_tu(vint8m1_t vd, vint8m1_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m2_i8m1_tu(vint8m1_t vd, vint8m2_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m4_i8m1_tu(vint8m1_t vd, vint8m4_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m8_i8m1_tu(vint8m1_t vd, vint8m8_t vs2,
                                          vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_vs_i16mf4_i16m1_tu(vint16m1_t vd, vint16mf4_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_vs_i16mf2_i16m1_tu(vint16m1_t vd, vint16mf2_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m1_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m2_i16m1_tu(vint16m1_t vd, vint16m2_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m4_i16m1_tu(vint16m1_t vd, vint16m4_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m8_i16m1_tu(vint16m1_t vd, vint16m8_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_vs_i32mf2_i32m1_tu(vint32m1_t vd, vint32mf2_t vs2,
                                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m1_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m2_i32m1_tu(vint32m1_t vd, vint32m2_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m4_i32m1_tu(vint32m1_t vd, vint32m4_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m8_i32m1_tu(vint32m1_t vd, vint32m8_t vs2,
                                             vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m1_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
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```
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m2_i64m1_tu(vint64m1_t vd, vint64m2_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m4_i64m1_tu(vint64m1_t vd, vint64m4_t vs2,
                                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m8_i64m1_tu(vint64m1_t vd, vint64m8_t vs2,
                                            vint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf8_u8m1_tu(vuint8m1_t vd, vuint8mf8_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf4_u8m1_tu(vuint8m1_t vd, vuint8mf4_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf2_u8m1_tu(vuint8m1_t vd, vuint8mf2_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m1_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m2_u8m1_tu(vuint8m1_t vd, vuint8m2_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m4_u8m1_tu(vuint8m1_t vd, vuint8m4_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m8_u8m1_tu(vuint8m1_t vd, vuint8m8_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16mf4_u16m1_tu(vuint16m1_t vd, vuint16mf4_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16mf2_u16m1_tu(vuint16m1_t vd, vuint16mf2_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m1_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m2_u16m1_tu(vuint16m1_t vd, vuint16m2_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m4_u16m1_tu(vuint16m1_t vd, vuint16m4_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m8_u16m1_tu(vuint16m1_t vd, vuint16m8_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32mf2_u32m1_tu(vuint32m1_t vd, vuint32mf2_t vs2,
                                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m1_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m2_u32m1_tu(vuint32m1_t vd, vuint32m2_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m4_u32m1_tu(vuint32m1_t vd, vuint32m4_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m8_u32m1_tu(vuint32m1_t vd, vuint32m8_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m1_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m2_u64m1_tu(vuint64m1_t vd, vuint64m2_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m4_u64m1_tu(vuint64m1_t vd, vuint64m4_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m8_u64m1_tu(vuint64m1_t vd, vuint64m8_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf8_u8m1_tu(vuint8m1_t vd, vuint8mf8_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf4_u8m1_tu(vuint8m1_t vd, vuint8mf4_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf2_u8m1_tu(vuint8m1_t vd, vuint8mf2_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m1_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m2_u8m1_tu(vuint8m1_t vd, vuint8m2_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m4_u8m1_tu(vuint8m1_t vd, vuint8m4_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m8_u8m1_tu(vuint8m1_t vd, vuint8m8_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16mf4_u16m1_tu(vuint16m1_t vd,
                                               vuint16mf4_t vs2,
```

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                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16mf2_u16m1_tu(vuint16m1_t vd,
                                                vuint16mf2_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m1_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m2_u16m1_tu(vuint16m1_t vd, vuint16m2_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m4_u16m1_tu(vuint16m1_t vd, vuint16m4_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m8_u16m1_tu(vuint16m1_t vd, vuint16m8_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32mf2_u32m1_tu(vuint32m1_t vd,
                                                vuint32mf2_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m1_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m2_u32m1_tu(vuint32m1_t vd, vuint32m2_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m4_u32m1_tu(vuint32m1_t vd, vuint32m4_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m8_u32m1_tu(vuint32m1_t vd, vuint32m8_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m1_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                               vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m2_u64m1_tu(vuint64m1_t vd, vuint64m2_t vs2,
                                               vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m4_u64m1_tu(vuint64m1_t vd, vuint64m4_t vs2,
                                               vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m8_u64m1_tu(vuint64m1_t vd, vuint64m8_t vs2,
                                               vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8mf8_u8m1_tu(vuint8m1_t vd, vuint8mf8_t vs2,
                                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8mf4_u8m1_tu(vuint8m1_t vd, vuint8mf4_t vs2,
                                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8mf2_u8m1_tu(vuint8m1_t vd, vuint8mf2_t vs2,
                                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m1_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m2_u8m1_tu(vuint8m1_t vd, vuint8m2_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m4_u8m1_tu(vuint8m1_t vd, vuint8m4_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m8_u8m1_tu(vuint8m1_t vd, vuint8m8_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16mf4_u16m1_tu(vuint16m1_t vd,
                                                vuint16mf4_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16mf2_u16m1_tu(vuint16m1_t vd,
                                                vuint16mf2_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m1_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m2_u16m1_tu(vuint16m1_t vd, vuint16m2_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m4_u16m1_tu(vuint16m1_t vd, vuint16m4_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m8_u16m1_tu(vuint16m1_t vd, vuint16m8_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32mf2_u32m1_tu(vuint32m1_t vd,
                                                vuint32mf2_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m1_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m2_u32m1_tu(vuint32m1_t vd, vuint32m2_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m4_u32m1_tu(vuint32m1_t vd, vuint32m4_t vs2,
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                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m8_u32m1_tu(vuint32m1_t vd, vuint32m8_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m1_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m2_u64m1_tu(vuint64m1_t vd, vuint64m2_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m4_u64m1_tu(vuint64m1_t vd, vuint64m4_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m8_u64m1_tu(vuint64m1_t vd, vuint64m8_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8mf8_u8m1_tu(vuint8m1_t vd, vuint8mf8_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8mf4_u8m1_tu(vuint8m1_t vd, vuint8mf4_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8mf2_u8m1_tu(vuint8m1_t vd, vuint8mf2_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m1_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m2_u8m1_tu(vuint8m1_t vd, vuint8m2_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m4_u8m1_tu(vuint8m1_t vd, vuint8m4_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m8_u8m1_tu(vuint8m1_t vd, vuint8m8_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16mf4_u16m1_tu(vuint16m1_t vd, vuint16mf4_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16mf2_u16m1_tu(vuint16m1_t vd, vuint16mf2_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m1_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m2_u16m1_tu(vuint16m1_t vd, vuint16m2_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m4_u16m1_tu(vuint16m1_t vd, vuint16m4_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m8_u16m1_tu(vuint16m1_t vd, vuint16m8_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_vs_u32mf2_u32m1_tu(vuint32m1_t vd, vuint32mf2_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m1_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m2_u32m1_tu(vuint32m1_t vd, vuint32m2_t vs2,
                                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m4_u32m1_tu(vuint32m1_t vd, vuint32m4_t vs2,
                                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m8_u32m1_tu(vuint32m1_t vd, vuint32m8_t vs2,
                                              vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m1_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m2_u64m1_tu(vuint64m1_t vd, vuint64m2_t vs2,
                                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m4_u64m1_tu(vuint64m1_t vd, vuint64m4_t vs2,
                                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m8_u64m1_tu(vuint64m1_t vd, vuint64m8_t vs2,
                                              vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8mf8_u8m1_tu(vuint8m1_t vd, vuint8mf8_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8mf4_u8m1_tu(vuint8m1_t vd, vuint8mf4_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8mf2_u8m1_tu(vuint8m1_t vd, vuint8mf2_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m1_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m2_u8m1_tu(vuint8m1_t vd, vuint8m2_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m4_u8m1_tu(vuint8m1_t vd, vuint8m4_t vs2,
                                          vuint8m1_t vs1, size_t vl);
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vuint8m1_t __riscv_vredor_vs_u8m8_u8m1_tu(vuint8m1_t vd, vuint8m8_t vs2,
                                          vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16mf4_u16m1_tu(vuint16m1_t vd, vuint16mf4_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16mf2_u16m1_tu(vuint16m1_t vd, vuint16mf2_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m1_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m2_u16m1_tu(vuint16m1_t vd, vuint16m2_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m4_u16m1_tu(vuint16m1_t vd, vuint16m4_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m8_u16m1_tu(vuint16m1_t vd, vuint16m8_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_vs_u32mf2_u32m1_tu(vuint32m1_t vd, vuint32mf2_t vs2,
                                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m1_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m2_u32m1_tu(vuint32m1_t vd, vuint32m2_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m4_u32m1_tu(vuint32m1_t vd, vuint32m4_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m8_u32m1_tu(vuint32m1_t vd, vuint32m8_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m1_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m2_u64m1_tu(vuint64m1_t vd, vuint64m2_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m4_u64m1_tu(vuint64m1_t vd, vuint64m4_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m8_u64m1_tu(vuint64m1_t vd, vuint64m8_t vs2,
                                             vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf8_u8m1_tu(vuint8m1_t vd, vuint8mf8_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf4_u8m1_tu(vuint8m1_t vd, vuint8mf4_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf2_u8m1_tu(vuint8m1_t vd, vuint8mf2_t vs2,
                                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m1_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m2_u8m1_tu(vuint8m1_t vd, vuint8m2_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m4_u8m1_tu(vuint8m1_t vd, vuint8m4_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m8_u8m1_tu(vuint8m1_t vd, vuint8m8_t vs2,
                                           vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16mf4_u16m1_tu(vuint16m1_t vd, vuint16mf4_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16mf2_u16m1_tu(vuint16m1_t vd, vuint16mf2_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m1_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m2_u16m1_tu(vuint16m1_t vd, vuint16m2_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m4_u16m1_tu(vuint16m1_t vd, vuint16m4_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m8_u16m1_tu(vuint16m1_t vd, vuint16m8_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32mf2_u32m1_tu(vuint32m1_t vd, vuint32mf2_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m1_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m2_u32m1_tu(vuint32m1_t vd, vuint32m2_t vs2,
                                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m4_u32m1_tu(vuint32m1_t vd, vuint32m4_t vs2,
                                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m8_u32m1_tu(vuint32m1_t vd, vuint32m8_t vs2,
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                                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m1_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m2_u64m1_tu(vuint64m1_t vd, vuint64m2_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m4_u64m1_tu(vuint64m1_t vd, vuint64m4_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m8_u64m1_tu(vuint64m1_t vd, vuint64m8_t vs2,
                                                vuint64m1_t vs1, size_t vl);
// masked functions
vint8m1_t __riscv_vredsum_vs_i8mf8_i8m1_tum(vbool64_t vm, vint8m1_t vd,
                                            vint8mf8_t vs2, vint8m1_t vs1,
                                            size_t vl);
vint8m1_t __riscv_vredsum_vs_i8mf4_i8m1_tum(vbool32_t vm, vint8m1_t vd,
                                            vint8mf4_t vs2, vint8m1_t vs1,
                                            size_t vl);
vint8m1_t __riscv_vredsum_vs_i8mf2_i8m1_tum(vbool16_t vm, vint8m1_t vd,
                                            vint8mf2_t vs2, vint8m1_t vs1,
                                            size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m1_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                           vint8m1_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m2_i8m1_tum(vbool4_t vm, vint8m1_t vd,
                                           vint8m2_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m4_i8m1_tum(vbool2_t vm, vint8m1_t vd,
                                           vint8m4_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredsum_vs_i8m8_i8m1_tum(vbool1_t vm, vint8m1_t vd,
                                           vint8m8_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredsum_vs_i16mf4_i16m1_tum(vbool64_t vm, vint16m1_t vd,
                                               vint16mf4_t vs2, vint16m1_t vs1,
                                               size_t vl);
vint16m1_t __riscv_vredsum_vs_i16mf2_i16m1_tum(vbool32_t vm, vint16m1_t vd,
                                               vint16mf2_t vs2, vint16m1_t vs1,
                                               size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m1_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                              vint16m1_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m2_i16m1_tum(vbool8_t vm, vint16m1_t vd,
                                              vint16m2_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m4_i16m1_tum(vbool4_t vm, vint16m1_t vd,
                                              vint16m4_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vredsum_vs_i16m8_i16m1_tum(vbool2_t vm, vint16m1_t vd,
                                              vint16m8_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredsum_vs_i32mf2_i32m1_tum(vbool64_t vm, vint32m1_t vd,
                                               vint32mf2_t vs2, vint32m1_t vs1,
                                               size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m1_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                              vint32m1_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m2_i32m1_tum(vbool16_t vm, vint32m1_t vd,
                                              vint32m2_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m4_i32m1_tum(vbool8_t vm, vint32m1_t vd,
                                              vint32m4_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredsum_vs_i32m8_i32m1_tum(vbool4_t vm, vint32m1_t vd,
                                              vint32m8_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m1_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                              vint64m1_t vs2, vint64m1_t vs1,
                                              size_t vl);
```

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vint64m1_t __riscv_vredsum_vs_i64m2_i64m1_tum(vbool32_t vm, vint64m1_t vd,
                                              vint64m2_t vs2, vint64m1_t vs1,
                                              size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m4_i64m1_tum(vbool16_t vm, vint64m1_t vd,
                                              vint64m4_t vs2, vint64m1_t vs1,
                                              size_t vl);
vint64m1_t __riscv_vredsum_vs_i64m8_i64m1_tum(vbool8_t vm, vint64m1_t vd,
                                              vint64m8_t vs2, vint64m1_t vs1,
                                              size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf8_i8m1_tum(vbool64_t vm, vint8m1_t vd,
                                            vint8mf8_t vs2, vint8m1_t vs1,
                                            size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf4_i8m1_tum(vbool32_t vm, vint8m1_t vd,
                                            vint8mf4_t vs2, vint8m1_t vs1,
                                            size_t vl);
vint8m1_t __riscv_vredmax_vs_i8mf2_i8m1_tum(vbool16_t vm, vint8m1_t vd,
                                            vint8mf2_t vs2, vint8m1_t vs1,
                                            size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m1_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                           vint8m1_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m2_i8m1_tum(vbool4_t vm, vint8m1_t vd,
                                           vint8m2_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m4_i8m1_tum(vbool2_t vm, vint8m1_t vd,
                                           vint8m4_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredmax_vs_i8m8_i8m1_tum(vbool1_t vm, vint8m1_t vd,
                                           vint8m8_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredmax_vs_i16mf4_i16m1_tum(vbool64_t vm, vint16m1_t vd,
                                               vint16mf4_t vs2, vint16m1_t vs1,
                                               size_t vl);
vint16m1_t __riscv_vredmax_vs_i16mf2_i16m1_tum(vbool32_t vm, vint16m1_t vd,
                                               vint16mf2_t vs2, vint16m1_t vs1,
                                               size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m1_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                              vint16m1_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m2_i16m1_tum(vbool8_t vm, vint16m1_t vd,
                                              vint16m2_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m4_i16m1_tum(vbool4_t vm, vint16m1_t vd,
                                              vint16m4_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vredmax_vs_i16m8_i16m1_tum(vbool2_t vm, vint16m1_t vd,
                                              vint16m8_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredmax_vs_i32mf2_i32m1_tum(vbool64_t vm, vint32m1_t vd,
                                               vint32mf2_t vs2, vint32m1_t vs1,
                                               size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m1_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                              vint32m1_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m2_i32m1_tum(vbool16_t vm, vint32m1_t vd,
                                              vint32m2_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m4_i32m1_tum(vbool8_t vm, vint32m1_t vd,
                                              vint32m4_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredmax_vs_i32m8_i32m1_tum(vbool4_t vm, vint32m1_t vd,
                                              vint32m8_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m1_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                              vint64m1_t vs2, vint64m1_t vs1,
                                              size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m2_i64m1_tum(vbool32_t vm, vint64m1_t vd,
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                                          vint64m2_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m4_i64m1_tum(vbool16_t vm, vint64m1_t vd,
                                          vint64m4_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredmax_vs_i64m8_i64m1_tum(vbool8_t vm, vint64m1_t vd,
                                          vint64m8_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf8_i8m1_tum(vbool64_t vm, vint8m1_t vd,
                                         vint8mf8_t vs2, vint8m1_t vs1,
                                         size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf4_i8m1_tum(vbool32_t vm, vint8m1_t vd,
                                         vint8mf4_t vs2, vint8m1_t vs1,
                                         size_t vl);
vint8m1_t __riscv_vredmin_vs_i8mf2_i8m1_tum(vbool16_t vm, vint8m1_t vd,
                                         vint8mf2_t vs2, vint8m1_t vs1,
                                         size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m1_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                        vint8m1_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m2_i8m1_tum(vbool4_t vm, vint8m1_t vd,
                                        vint8m2_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m4_i8m1_tum(vbool2_t vm, vint8m1_t vd,
                                        vint8m4_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredmin_vs_i8m8_i8m1_tum(vbool1_t vm, vint8m1_t vd,
                                        vint8m8_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint16m1_t __riscv_vredmin_vs_i16mf4_i16m1_tum(vbool64_t vm, vint16m1_t vd,
                                           vint16mf4_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredmin_vs_i16mf2_i16m1_tum(vbool32_t vm, vint16m1_t vd,
                                           vint16mf2_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m1_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                          vint16m1_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m2_i16m1_tum(vbool8_t vm, vint16m1_t vd,
                                          vint16m2_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m4_i16m1_tum(vbool4_t vm, vint16m1_t vd,
                                          vint16m4_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredmin_vs_i16m8_i16m1_tum(vbool2_t vm, vint16m1_t vd,
                                          vint16m8_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredmin_vs_i32mf2_i32m1_tum(vbool64_t vm, vint32m1_t vd,
                                           vint32mf2_t vs2, vint32m1_t vs1,
                                           size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m1_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                          vint32m1_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m2_i32m1_tum(vbool16_t vm, vint32m1_t vd,
                                          vint32m2_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m4_i32m1_tum(vbool8_t vm, vint32m1_t vd,
                                          vint32m4_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredmin_vs_i32m8_i32m1_tum(vbool4_t vm, vint32m1_t vd,
                                          vint32m8_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m1_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                          vint64m1_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m2_i64m1_tum(vbool32_t vm, vint64m1_t vd,
                                          vint64m2_t vs2, vint64m1_t vs1,
```

```
                                            size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m4_i64m1_tum(vbool16_t vm, vint64m1_t vd,
                                              vint64m4_t vs2, vint64m1_t vs1,
                                              size_t vl);
vint64m1_t __riscv_vredmin_vs_i64m8_i64m1_tum(vbool8_t vm, vint64m1_t vd,
                                              vint64m8_t vs2, vint64m1_t vs1,
                                              size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf8_i8m1_tum(vbool64_t vm, vint8m1_t vd,
                                            vint8mf8_t vs2, vint8m1_t vs1,
                                            size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf4_i8m1_tum(vbool32_t vm, vint8m1_t vd,
                                            vint8mf4_t vs2, vint8m1_t vs1,
                                            size_t vl);
vint8m1_t __riscv_vredand_vs_i8mf2_i8m1_tum(vbool16_t vm, vint8m1_t vd,
                                            vint8mf2_t vs2, vint8m1_t vs1,
                                            size_t vl);
vint8m1_t __riscv_vredand_vs_i8m1_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                           vint8m1_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredand_vs_i8m2_i8m1_tum(vbool4_t vm, vint8m1_t vd,
                                           vint8m2_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredand_vs_i8m4_i8m1_tum(vbool2_t vm, vint8m1_t vd,
                                           vint8m4_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredand_vs_i8m8_i8m1_tum(vbool1_t vm, vint8m1_t vd,
                                           vint8m8_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredand_vs_i16mf4_i16m1_tum(vbool64_t vm, vint16m1_t vd,
                                               vint16mf4_t vs2, vint16m1_t vs1,
                                               size_t vl);
vint16m1_t __riscv_vredand_vs_i16mf2_i16m1_tum(vbool32_t vm, vint16m1_t vd,
                                               vint16mf2_t vs2, vint16m1_t vs1,
                                               size_t vl);
vint16m1_t __riscv_vredand_vs_i16m1_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                              vint16m1_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vredand_vs_i16m2_i16m1_tum(vbool8_t vm, vint16m1_t vd,
                                              vint16m2_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vredand_vs_i16m4_i16m1_tum(vbool4_t vm, vint16m1_t vd,
                                              vint16m4_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vredand_vs_i16m8_i16m1_tum(vbool2_t vm, vint16m1_t vd,
                                              vint16m8_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredand_vs_i32mf2_i32m1_tum(vbool64_t vm, vint32m1_t vd,
                                               vint32mf2_t vs2, vint32m1_t vs1,
                                               size_t vl);
vint32m1_t __riscv_vredand_vs_i32m1_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                              vint32m1_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredand_vs_i32m2_i32m1_tum(vbool16_t vm, vint32m1_t vd,
                                              vint32m2_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredand_vs_i32m4_i32m1_tum(vbool8_t vm, vint32m1_t vd,
                                              vint32m4_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredand_vs_i32m8_i32m1_tum(vbool4_t vm, vint32m1_t vd,
                                              vint32m8_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint64m1_t __riscv_vredand_vs_i64m1_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                              vint64m1_t vs2, vint64m1_t vs1,
                                              size_t vl);
vint64m1_t __riscv_vredand_vs_i64m2_i64m1_tum(vbool32_t vm, vint64m1_t vd,
                                              vint64m2_t vs2, vint64m1_t vs1,
                                              size_t vl);
```

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vint64m1_t __riscv_vredand_vs_i64m4_i64m1_tum(vbool16_t vm, vint64m1_t vd,
                                              vint64m4_t vs2, vint64m1_t vs1,
                                              size_t vl);
vint64m1_t __riscv_vredand_vs_i64m8_i64m1_tum(vbool8_t vm, vint64m1_t vd,
                                              vint64m8_t vs2, vint64m1_t vs1,
                                              size_t vl);
vint8m1_t __riscv_vredor_vs_i8mf8_i8m1_tum(vbool64_t vm, vint8m1_t vd,
                                           vint8mf8_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredor_vs_i8mf4_i8m1_tum(vbool32_t vm, vint8m1_t vd,
                                           vint8mf4_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredor_vs_i8mf2_i8m1_tum(vbool16_t vm, vint8m1_t vd,
                                           vint8mf2_t vs2, vint8m1_t vs1,
                                           size_t vl);
vint8m1_t __riscv_vredor_vs_i8m1_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                          vint8m1_t vs2, vint8m1_t vs1,
                                          size_t vl);
vint8m1_t __riscv_vredor_vs_i8m2_i8m1_tum(vbool4_t vm, vint8m1_t vd,
                                          vint8m2_t vs2, vint8m1_t vs1,
                                          size_t vl);
vint8m1_t __riscv_vredor_vs_i8m4_i8m1_tum(vbool2_t vm, vint8m1_t vd,
                                          vint8m4_t vs2, vint8m1_t vs1,
                                          size_t vl);
vint8m1_t __riscv_vredor_vs_i8m8_i8m1_tum(vbool1_t vm, vint8m1_t vd,
                                          vint8m8_t vs2, vint8m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredor_vs_i16mf4_i16m1_tum(vbool64_t vm, vint16m1_t vd,
                                              vint16mf4_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vredor_vs_i16mf2_i16m1_tum(vbool32_t vm, vint16m1_t vd,
                                              vint16mf2_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vredor_vs_i16m1_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                             vint16m1_t vs2, vint16m1_t vs1,
                                             size_t vl);
vint16m1_t __riscv_vredor_vs_i16m2_i16m1_tum(vbool8_t vm, vint16m1_t vd,
                                             vint16m2_t vs2, vint16m1_t vs1,
                                             size_t vl);
vint16m1_t __riscv_vredor_vs_i16m4_i16m1_tum(vbool4_t vm, vint16m1_t vd,
                                             vint16m4_t vs2, vint16m1_t vs1,
                                             size_t vl);
vint16m1_t __riscv_vredor_vs_i16m8_i16m1_tum(vbool2_t vm, vint16m1_t vd,
                                             vint16m8_t vs2, vint16m1_t vs1,
                                             size_t vl);
vint32m1_t __riscv_vredor_vs_i32mf2_i32m1_tum(vbool64_t vm, vint32m1_t vd,
                                              vint32mf2_t vs2, vint32m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vredor_vs_i32m1_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                             vint32m1_t vs2, vint32m1_t vs1,
                                             size_t vl);
vint32m1_t __riscv_vredor_vs_i32m2_i32m1_tum(vbool16_t vm, vint32m1_t vd,
                                             vint32m2_t vs2, vint32m1_t vs1,
                                             size_t vl);
vint32m1_t __riscv_vredor_vs_i32m4_i32m1_tum(vbool8_t vm, vint32m1_t vd,
                                             vint32m4_t vs2, vint32m1_t vs1,
                                             size_t vl);
vint32m1_t __riscv_vredor_vs_i32m8_i32m1_tum(vbool4_t vm, vint32m1_t vd,
                                             vint32m8_t vs2, vint32m1_t vs1,
                                             size_t vl);
vint64m1_t __riscv_vredor_vs_i64m1_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                             vint64m1_t vs2, vint64m1_t vs1,
                                             size_t vl);
vint64m1_t __riscv_vredor_vs_i64m2_i64m1_tum(vbool32_t vm, vint64m1_t vd,
                                             vint64m2_t vs2, vint64m1_t vs1,
                                             size_t vl);
vint64m1_t __riscv_vredor_vs_i64m4_i64m1_tum(vbool16_t vm, vint64m1_t vd,
```

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                                          vint64m4_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredor_vs_i64m8_i64m1_tum(vbool8_t vm, vint64m1_t vd,
                                          vint64m8_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf8_i8m1_tum(vbool64_t vm, vint8m1_t vd,
                                         vint8mf8_t vs2, vint8m1_t vs1,
                                         size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf4_i8m1_tum(vbool32_t vm, vint8m1_t vd,
                                         vint8mf4_t vs2, vint8m1_t vs1,
                                         size_t vl);
vint8m1_t __riscv_vredxor_vs_i8mf2_i8m1_tum(vbool16_t vm, vint8m1_t vd,
                                         vint8mf2_t vs2, vint8m1_t vs1,
                                         size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m1_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                        vint8m1_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m2_i8m1_tum(vbool4_t vm, vint8m1_t vd,
                                        vint8m2_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m4_i8m1_tum(vbool2_t vm, vint8m1_t vd,
                                        vint8m4_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint8m1_t __riscv_vredxor_vs_i8m8_i8m1_tum(vbool1_t vm, vint8m1_t vd,
                                        vint8m8_t vs2, vint8m1_t vs1,
                                        size_t vl);
vint16m1_t __riscv_vredxor_vs_i16mf4_i16m1_tum(vbool64_t vm, vint16m1_t vd,
                                           vint16mf4_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredxor_vs_i16mf2_i16m1_tum(vbool32_t vm, vint16m1_t vd,
                                           vint16mf2_t vs2, vint16m1_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m1_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                          vint16m1_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m2_i16m1_tum(vbool8_t vm, vint16m1_t vd,
                                          vint16m2_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m4_i16m1_tum(vbool4_t vm, vint16m1_t vd,
                                          vint16m4_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vredxor_vs_i16m8_i16m1_tum(vbool2_t vm, vint16m1_t vd,
                                          vint16m8_t vs2, vint16m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredxor_vs_i32mf2_i32m1_tum(vbool64_t vm, vint32m1_t vd,
                                           vint32mf2_t vs2, vint32m1_t vs1,
                                           size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m1_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                          vint32m1_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m2_i32m1_tum(vbool16_t vm, vint32m1_t vd,
                                          vint32m2_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m4_i32m1_tum(vbool8_t vm, vint32m1_t vd,
                                          vint32m4_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vredxor_vs_i32m8_i32m1_tum(vbool4_t vm, vint32m1_t vd,
                                          vint32m8_t vs2, vint32m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m1_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                          vint64m1_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m2_i64m1_tum(vbool32_t vm, vint64m1_t vd,
                                          vint64m2_t vs2, vint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m4_i64m1_tum(vbool16_t vm, vint64m1_t vd,
                                          vint64m4_t vs2, vint64m1_t vs1,
```

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                                            size_t vl);
vint64m1_t __riscv_vredxor_vs_i64m8_i64m1_tum(vbool8_t vm, vint64m1_t vd,
                                             vint64m8_t vs2, vint64m1_t vs1,
                                             size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf8_u8m1_tum(vbool64_t vm, vuint8m1_t vd,
                                            vuint8mf8_t vs2, vuint8m1_t vs1,
                                            size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf4_u8m1_tum(vbool32_t vm, vuint8m1_t vd,
                                            vuint8mf4_t vs2, vuint8m1_t vs1,
                                            size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8mf2_u8m1_tum(vbool16_t vm, vuint8m1_t vd,
                                            vuint8mf2_t vs2, vuint8m1_t vs1,
                                            size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m1_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                           vuint8m1_t vs2, vuint8m1_t vs1,
                                           size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m2_u8m1_tum(vbool4_t vm, vuint8m1_t vd,
                                           vuint8m2_t vs2, vuint8m1_t vs1,
                                           size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m4_u8m1_tum(vbool2_t vm, vuint8m1_t vd,
                                           vuint8m4_t vs2, vuint8m1_t vs1,
                                           size_t vl);
vuint8m1_t __riscv_vredsum_vs_u8m8_u8m1_tum(vbool1_t vm, vuint8m1_t vd,
                                           vuint8m8_t vs2, vuint8m1_t vs1,
                                           size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16mf4_u16m1_tum(vbool64_t vm, vuint16m1_t vd,
                                               vuint16mf4_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16mf2_u16m1_tum(vbool32_t vm, vuint16m1_t vd,
                                               vuint16mf2_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m1_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                              vuint16m1_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m2_u16m1_tum(vbool8_t vm, vuint16m1_t vd,
                                              vuint16m2_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m4_u16m1_tum(vbool4_t vm, vuint16m1_t vd,
                                              vuint16m4_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vuint16m1_t __riscv_vredsum_vs_u16m8_u16m1_tum(vbool2_t vm, vuint16m1_t vd,
                                              vuint16m8_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32mf2_u32m1_tum(vbool64_t vm, vuint32m1_t vd,
                                               vuint32mf2_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m1_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                              vuint32m1_t vs2, vuint32m1_t vs1,
                                              size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m2_u32m1_tum(vbool16_t vm, vuint32m1_t vd,
                                              vuint32m2_t vs2, vuint32m1_t vs1,
                                              size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m4_u32m1_tum(vbool8_t vm, vuint32m1_t vd,
                                              vuint32m4_t vs2, vuint32m1_t vs1,
                                              size_t vl);
vuint32m1_t __riscv_vredsum_vs_u32m8_u32m1_tum(vbool4_t vm, vuint32m1_t vd,
                                              vuint32m8_t vs2, vuint32m1_t vs1,
                                              size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m1_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                              vuint64m1_t vs2, vuint64m1_t vs1,
                                              size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m2_u64m1_tum(vbool32_t vm, vuint64m1_t vd,
                                              vuint64m2_t vs2, vuint64m1_t vs1,
                                              size_t vl);
vuint64m1_t __riscv_vredsum_vs_u64m4_u64m1_tum(vbool16_t vm, vuint64m1_t vd,
                                              vuint64m4_t vs2, vuint64m1_t vs1,
                                              size_t vl);
```

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vuint64m1_t __riscv_vredsum_vs_u64m8_u64m1_tum(vbool8_t vm, vuint64m1_t vd,
                                               vuint64m8_t vs2, vuint64m1_t vs1,
                                               size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf8_u8m1_tum(vbool64_t vm, vuint8m1_t vd,
                                              vuint8mf8_t vs2, vuint8m1_t vs1,
                                              size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf4_u8m1_tum(vbool32_t vm, vuint8m1_t vd,
                                              vuint8mf4_t vs2, vuint8m1_t vs1,
                                              size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8mf2_u8m1_tum(vbool16_t vm, vuint8m1_t vd,
                                              vuint8mf2_t vs2, vuint8m1_t vs1,
                                              size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m1_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                             vuint8m1_t vs2, vuint8m1_t vs1,
                                             size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m2_u8m1_tum(vbool4_t vm, vuint8m1_t vd,
                                             vuint8m2_t vs2, vuint8m1_t vs1,
                                             size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m4_u8m1_tum(vbool2_t vm, vuint8m1_t vd,
                                             vuint8m4_t vs2, vuint8m1_t vs1,
                                             size_t vl);
vuint8m1_t __riscv_vredmaxu_vs_u8m8_u8m1_tum(vbool1_t vm, vuint8m1_t vd,
                                             vuint8m8_t vs2, vuint8m1_t vs1,
                                             size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16mf4_u16m1_tum(vbool64_t vm, vuint16m1_t vd,
                                                 vuint16mf4_t vs2,
                                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16mf2_u16m1_tum(vbool32_t vm, vuint16m1_t vd,
                                                 vuint16mf2_t vs2,
                                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m1_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                                vuint16m1_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m2_u16m1_tum(vbool8_t vm, vuint16m1_t vd,
                                                vuint16m2_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m4_u16m1_tum(vbool4_t vm, vuint16m1_t vd,
                                                vuint16m4_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_vs_u16m8_u16m1_tum(vbool2_t vm, vuint16m1_t vd,
                                                vuint16m8_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32mf2_u32m1_tum(vbool64_t vm, vuint32m1_t vd,
                                                 vuint32mf2_t vs2,
                                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m1_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                                vuint32m1_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m2_u32m1_tum(vbool16_t vm, vuint32m1_t vd,
                                                vuint32m2_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m4_u32m1_tum(vbool8_t vm, vuint32m1_t vd,
                                                vuint32m4_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_vs_u32m8_u32m1_tum(vbool4_t vm, vuint32m1_t vd,
                                                vuint32m8_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m1_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                                vuint64m1_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m2_u64m1_tum(vbool32_t vm, vuint64m1_t vd,
                                                vuint64m2_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m4_u64m1_tum(vbool16_t vm, vuint64m1_t vd,
                                                vuint64m4_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_vs_u64m8_u64m1_tum(vbool8_t vm, vuint64m1_t vd,
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                                            vuint64m8_t vs2,
                                            vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8mf8_u8m1_tum(vbool64_t vm, vuint8m1_t vd,
                                              vuint8mf8_t vs2, vuint8m1_t vs1,
                                              size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8mf4_u8m1_tum(vbool32_t vm, vuint8m1_t vd,
                                              vuint8mf4_t vs2, vuint8m1_t vs1,
                                              size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8mf2_u8m1_tum(vbool16_t vm, vuint8m1_t vd,
                                              vuint8mf2_t vs2, vuint8m1_t vs1,
                                              size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m1_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                             vuint8m1_t vs2, vuint8m1_t vs1,
                                             size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m2_u8m1_tum(vbool4_t vm, vuint8m1_t vd,
                                             vuint8m2_t vs2, vuint8m1_t vs1,
                                             size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m4_u8m1_tum(vbool2_t vm, vuint8m1_t vd,
                                             vuint8m4_t vs2, vuint8m1_t vs1,
                                             size_t vl);
vuint8m1_t __riscv_vredminu_vs_u8m8_u8m1_tum(vbool1_t vm, vuint8m1_t vd,
                                             vuint8m8_t vs2, vuint8m1_t vs1,
                                             size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16mf4_u16m1_tum(vbool64_t vm, vuint16m1_t vd,
                                                 vuint16mf4_t vs2,
                                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16mf2_u16m1_tum(vbool32_t vm, vuint16m1_t vd,
                                                 vuint16mf2_t vs2,
                                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m1_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                                vuint16m1_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m2_u16m1_tum(vbool8_t vm, vuint16m1_t vd,
                                                vuint16m2_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m4_u16m1_tum(vbool4_t vm, vuint16m1_t vd,
                                                vuint16m4_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_vs_u16m8_u16m1_tum(vbool2_t vm, vuint16m1_t vd,
                                                vuint16m8_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32mf2_u32m1_tum(vbool64_t vm, vuint32m1_t vd,
                                                 vuint32mf2_t vs2,
                                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m1_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                                vuint32m1_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m2_u32m1_tum(vbool16_t vm, vuint32m1_t vd,
                                                vuint32m2_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m4_u32m1_tum(vbool8_t vm, vuint32m1_t vd,
                                                vuint32m4_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_vs_u32m8_u32m1_tum(vbool4_t vm, vuint32m1_t vd,
                                                vuint32m8_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m1_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                                vuint64m1_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m2_u64m1_tum(vbool32_t vm, vuint64m1_t vd,
                                                vuint64m2_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m4_u64m1_tum(vbool16_t vm, vuint64m1_t vd,
                                                vuint64m4_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_vs_u64m8_u64m1_tum(vbool8_t vm, vuint64m1_t vd,
                                                vuint64m8_t vs2,
```

```
                                                vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_vs_u8mf8_u8m1_tum(vbool64_t vm, vuint8m1_t vd,
                                             vuint8mf8_t vs2, vuint8m1_t vs1,
                                             size_t vl);
vuint8m1_t __riscv_vredand_vs_u8mf4_u8m1_tum(vbool32_t vm, vuint8m1_t vd,
                                             vuint8mf4_t vs2, vuint8m1_t vs1,
                                             size_t vl);
vuint8m1_t __riscv_vredand_vs_u8mf2_u8m1_tum(vbool16_t vm, vuint8m1_t vd,
                                             vuint8mf2_t vs2, vuint8m1_t vs1,
                                             size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m1_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                            vuint8m1_t vs2, vuint8m1_t vs1,
                                            size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m2_u8m1_tum(vbool4_t vm, vuint8m1_t vd,
                                            vuint8m2_t vs2, vuint8m1_t vs1,
                                            size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m4_u8m1_tum(vbool2_t vm, vuint8m1_t vd,
                                            vuint8m4_t vs2, vuint8m1_t vs1,
                                            size_t vl);
vuint8m1_t __riscv_vredand_vs_u8m8_u8m1_tum(vbool1_t vm, vuint8m1_t vd,
                                            vuint8m8_t vs2, vuint8m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredand_vs_u16mf4_u16m1_tum(vbool64_t vm, vuint16m1_t vd,
                                                vuint16mf4_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16mf2_u16m1_tum(vbool32_t vm, vuint16m1_t vd,
                                                vuint16mf2_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m1_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                               vuint16m1_t vs2, vuint16m1_t vs1,
                                               size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m2_u16m1_tum(vbool8_t vm, vuint16m1_t vd,
                                               vuint16m2_t vs2, vuint16m1_t vs1,
                                               size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m4_u16m1_tum(vbool4_t vm, vuint16m1_t vd,
                                               vuint16m4_t vs2, vuint16m1_t vs1,
                                               size_t vl);
vuint16m1_t __riscv_vredand_vs_u16m8_u16m1_tum(vbool2_t vm, vuint16m1_t vd,
                                               vuint16m8_t vs2, vuint16m1_t vs1,
                                               size_t vl);
vuint32m1_t __riscv_vredand_vs_u32mf2_u32m1_tum(vbool64_t vm, vuint32m1_t vd,
                                                vuint32mf2_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m1_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                               vuint32m1_t vs2, vuint32m1_t vs1,
                                               size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m2_u32m1_tum(vbool16_t vm, vuint32m1_t vd,
                                               vuint32m2_t vs2, vuint32m1_t vs1,
                                               size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m4_u32m1_tum(vbool8_t vm, vuint32m1_t vd,
                                               vuint32m4_t vs2, vuint32m1_t vs1,
                                               size_t vl);
vuint32m1_t __riscv_vredand_vs_u32m8_u32m1_tum(vbool4_t vm, vuint32m1_t vd,
                                               vuint32m8_t vs2, vuint32m1_t vs1,
                                               size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m1_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                               vuint64m1_t vs2, vuint64m1_t vs1,
                                               size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m2_u64m1_tum(vbool32_t vm, vuint64m1_t vd,
                                               vuint64m2_t vs2, vuint64m1_t vs1,
                                               size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m4_u64m1_tum(vbool16_t vm, vuint64m1_t vd,
                                               vuint64m4_t vs2, vuint64m1_t vs1,
                                               size_t vl);
vuint64m1_t __riscv_vredand_vs_u64m8_u64m1_tum(vbool8_t vm, vuint64m1_t vd,
                                               vuint64m8_t vs2, vuint64m1_t vs1,
                                               size_t vl);
```

```
vuint8m1_t __riscv_vredor_vs_u8mf8_u8m1_tum(vbool64_t vm, vuint8m1_t vd,
                                            vuint8mf8_t vs2, vuint8m1_t vs1,
                                            size_t vl);
vuint8m1_t __riscv_vredor_vs_u8mf4_u8m1_tum(vbool32_t vm, vuint8m1_t vd,
                                            vuint8mf4_t vs2, vuint8m1_t vs1,
                                            size_t vl);
vuint8m1_t __riscv_vredor_vs_u8mf2_u8m1_tum(vbool16_t vm, vuint8m1_t vd,
                                            vuint8mf2_t vs2, vuint8m1_t vs1,
                                            size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m1_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                           vuint8m1_t vs2, vuint8m1_t vs1,
                                           size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m2_u8m1_tum(vbool4_t vm, vuint8m1_t vd,
                                           vuint8m2_t vs2, vuint8m1_t vs1,
                                           size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m4_u8m1_tum(vbool2_t vm, vuint8m1_t vd,
                                           vuint8m4_t vs2, vuint8m1_t vs1,
                                           size_t vl);
vuint8m1_t __riscv_vredor_vs_u8m8_u8m1_tum(vbool1_t vm, vuint8m1_t vd,
                                           vuint8m8_t vs2, vuint8m1_t vs1,
                                           size_t vl);
vuint16m1_t __riscv_vredor_vs_u16mf4_u16m1_tum(vbool64_t vm, vuint16m1_t vd,
                                               vuint16mf4_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16mf2_u16m1_tum(vbool32_t vm, vuint16m1_t vd,
                                               vuint16mf2_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m1_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                              vuint16m1_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m2_u16m1_tum(vbool8_t vm, vuint16m1_t vd,
                                              vuint16m2_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m4_u16m1_tum(vbool4_t vm, vuint16m1_t vd,
                                              vuint16m4_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vuint16m1_t __riscv_vredor_vs_u16m8_u16m1_tum(vbool2_t vm, vuint16m1_t vd,
                                              vuint16m8_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vuint32m1_t __riscv_vredor_vs_u32mf2_u32m1_tum(vbool64_t vm, vuint32m1_t vd,
                                               vuint32mf2_t vs2,
                                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m1_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                              vuint32m1_t vs2, vuint32m1_t vs1,
                                              size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m2_u32m1_tum(vbool16_t vm, vuint32m1_t vd,
                                              vuint32m2_t vs2, vuint32m1_t vs1,
                                              size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m4_u32m1_tum(vbool8_t vm, vuint32m1_t vd,
                                              vuint32m4_t vs2, vuint32m1_t vs1,
                                              size_t vl);
vuint32m1_t __riscv_vredor_vs_u32m8_u32m1_tum(vbool4_t vm, vuint32m1_t vd,
                                              vuint32m8_t vs2, vuint32m1_t vs1,
                                              size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m1_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                              vuint64m1_t vs2, vuint64m1_t vs1,
                                              size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m2_u64m1_tum(vbool32_t vm, vuint64m1_t vd,
                                              vuint64m2_t vs2, vuint64m1_t vs1,
                                              size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m4_u64m1_tum(vbool16_t vm, vuint64m1_t vd,
                                              vuint64m4_t vs2, vuint64m1_t vs1,
                                              size_t vl);
vuint64m1_t __riscv_vredor_vs_u64m8_u64m1_tum(vbool8_t vm, vuint64m1_t vd,
                                              vuint64m8_t vs2, vuint64m1_t vs1,
                                              size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf8_u8m1_tum(vbool64_t vm, vuint8m1_t vd,
```

```
                                          vuint8mf8_t vs2, vuint8m1_t vs1,
                                          size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf4_u8m1_tum(vbool32_t vm, vuint8m1_t vd,
                                          vuint8mf4_t vs2, vuint8m1_t vs1,
                                          size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8mf2_u8m1_tum(vbool16_t vm, vuint8m1_t vd,
                                          vuint8mf2_t vs2, vuint8m1_t vs1,
                                          size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m1_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                         vuint8m1_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m2_u8m1_tum(vbool4_t vm, vuint8m1_t vd,
                                         vuint8m2_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m4_u8m1_tum(vbool2_t vm, vuint8m1_t vd,
                                         vuint8m4_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vredxor_vs_u8m8_u8m1_tum(vbool1_t vm, vuint8m1_t vd,
                                         vuint8m8_t vs2, vuint8m1_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16mf4_u16m1_tum(vbool64_t vm, vuint16m1_t vd,
                                             vuint16mf4_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16mf2_u16m1_tum(vbool32_t vm, vuint16m1_t vd,
                                             vuint16mf2_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m1_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                            vuint16m1_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m2_u16m1_tum(vbool8_t vm, vuint16m1_t vd,
                                            vuint16m2_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m4_u16m1_tum(vbool4_t vm, vuint16m1_t vd,
                                            vuint16m4_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint16m1_t __riscv_vredxor_vs_u16m8_u16m1_tum(vbool2_t vm, vuint16m1_t vd,
                                            vuint16m8_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32mf2_u32m1_tum(vbool64_t vm, vuint32m1_t vd,
                                             vuint32mf2_t vs2,
                                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m1_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                            vuint32m1_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m2_u32m1_tum(vbool16_t vm, vuint32m1_t vd,
                                            vuint32m2_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m4_u32m1_tum(vbool8_t vm, vuint32m1_t vd,
                                            vuint32m4_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint32m1_t __riscv_vredxor_vs_u32m8_u32m1_tum(vbool4_t vm, vuint32m1_t vd,
                                            vuint32m8_t vs2, vuint32m1_t vs1,
                                            size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m1_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                            vuint64m1_t vs2, vuint64m1_t vs1,
                                            size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m2_u64m1_tum(vbool32_t vm, vuint64m1_t vd,
                                            vuint64m2_t vs2, vuint64m1_t vs1,
                                            size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m4_u64m1_tum(vbool16_t vm, vuint64m1_t vd,
                                            vuint64m4_t vs2, vuint64m1_t vs1,
                                            size_t vl);
vuint64m1_t __riscv_vredxor_vs_u64m8_u64m1_tum(vbool8_t vm, vuint64m1_t vd,
                                            vuint64m8_t vs2, vuint64m1_t vs1,
                                            size_t vl);
```

B.6.2. Vector Widening Integer Reduction Intrinsics

```
vint16m1_t __riscv_vwredsum_vs_i8mf8_i16m1_tu(vint16m1_t vd, vint8mf8_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8mf4_i16m1_tu(vint16m1_t vd, vint8mf4_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8mf2_i16m1_tu(vint16m1_t vd, vint8mf2_t vs2,
                                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m1_i16m1_tu(vint16m1_t vd, vint8m1_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m2_i16m1_tu(vint16m1_t vd, vint8m2_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m4_i16m1_tu(vint16m1_t vd, vint8m4_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m8_i16m1_tu(vint16m1_t vd, vint8m8_t vs2,
                                             vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16mf4_i32m1_tu(vint32m1_t vd, vint16mf4_t vs2,
                                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16mf2_i32m1_tu(vint32m1_t vd, vint16mf2_t vs2,
                                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m1_i32m1_tu(vint32m1_t vd, vint16m1_t vs2,
                                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m2_i32m1_tu(vint32m1_t vd, vint16m2_t vs2,
                                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m4_i32m1_tu(vint32m1_t vd, vint16m4_t vs2,
                                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m8_i32m1_tu(vint32m1_t vd, vint16m8_t vs2,
                                              vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32mf2_i64m1_tu(vint64m1_t vd, vint32mf2_t vs2,
                                               vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m1_i64m1_tu(vint64m1_t vd, vint32m1_t vs2,
                                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m2_i64m1_tu(vint64m1_t vd, vint32m2_t vs2,
                                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m4_i64m1_tu(vint64m1_t vd, vint32m4_t vs2,
                                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m8_i64m1_tu(vint64m1_t vd, vint32m8_t vs2,
                                              vint64m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf8_u16m1_tu(vuint16m1_t vd, vuint8mf8_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf4_u16m1_tu(vuint16m1_t vd, vuint8mf4_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf2_u16m1_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m1_u16m1_tu(vuint16m1_t vd, vuint8m1_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m2_u16m1_tu(vuint16m1_t vd, vuint8m2_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m4_u16m1_tu(vuint16m1_t vd, vuint8m4_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m8_u16m1_tu(vuint16m1_t vd, vuint8m8_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16mf4_u32m1_tu(vuint32m1_t vd,
                                                 vuint16mf4_t vs2,
                                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16mf2_u32m1_tu(vuint32m1_t vd,
                                                 vuint16mf2_t vs2,
                                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m1_u32m1_tu(vuint32m1_t vd, vuint16m1_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m2_u32m1_tu(vuint32m1_t vd, vuint16m2_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m4_u32m1_tu(vuint32m1_t vd, vuint16m4_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m8_u32m1_tu(vuint32m1_t vd, vuint16m8_t vs2,
                                                vuint32m1_t vs1, size_t vl);
```

```
vuint64m1_t __riscv_vwredsumu_vs_u32mf2_u64m1_tu(vuint64m1_t vd,
                                                 vuint32mf2_t vs2,
                                                 vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m1_u64m1_tu(vuint64m1_t vd, vuint32m1_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m2_u64m1_tu(vuint64m1_t vd, vuint32m2_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m4_u64m1_tu(vuint64m1_t vd, vuint32m4_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m8_u64m1_tu(vuint64m1_t vd, vuint32m8_t vs2,
                                                vuint64m1_t vs1, size_t vl);
// masked functions
vint16m1_t __riscv_vwredsum_vs_i8mf8_i16m1_tum(vbool64_t vm, vint16m1_t vd,
                                               vint8mf8_t vs2, vint16m1_t vs1,
                                               size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8mf4_i16m1_tum(vbool32_t vm, vint16m1_t vd,
                                               vint8mf4_t vs2, vint16m1_t vs1,
                                               size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8mf2_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                               vint8mf2_t vs2, vint16m1_t vs1,
                                               size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m1_i16m1_tum(vbool8_t vm, vint16m1_t vd,
                                              vint8m1_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m2_i16m1_tum(vbool4_t vm, vint16m1_t vd,
                                              vint8m2_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m4_i16m1_tum(vbool2_t vm, vint16m1_t vd,
                                              vint8m4_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vwredsum_vs_i8m8_i16m1_tum(vbool1_t vm, vint16m1_t vd,
                                              vint8m8_t vs2, vint16m1_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16mf4_i32m1_tum(vbool64_t vm, vint32m1_t vd,
                                                vint16mf4_t vs2, vint32m1_t vs1,
                                                size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16mf2_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                                vint16mf2_t vs2, vint32m1_t vs1,
                                                size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m1_i32m1_tum(vbool16_t vm, vint32m1_t vd,
                                               vint16m1_t vs2, vint32m1_t vs1,
                                               size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m2_i32m1_tum(vbool8_t vm, vint32m1_t vd,
                                               vint16m2_t vs2, vint32m1_t vs1,
                                               size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m4_i32m1_tum(vbool4_t vm, vint32m1_t vd,
                                               vint16m4_t vs2, vint32m1_t vs1,
                                               size_t vl);
vint32m1_t __riscv_vwredsum_vs_i16m8_i32m1_tum(vbool2_t vm, vint32m1_t vd,
                                               vint16m8_t vs2, vint32m1_t vs1,
                                               size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32mf2_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                                vint32mf2_t vs2, vint64m1_t vs1,
                                                size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m1_i64m1_tum(vbool32_t vm, vint64m1_t vd,
                                               vint32m1_t vs2, vint64m1_t vs1,
                                               size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m2_i64m1_tum(vbool16_t vm, vint64m1_t vd,
                                               vint32m2_t vs2, vint64m1_t vs1,
                                               size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m4_i64m1_tum(vbool8_t vm, vint64m1_t vd,
                                               vint32m4_t vs2, vint64m1_t vs1,
                                               size_t vl);
vint64m1_t __riscv_vwredsum_vs_i32m8_i64m1_tum(vbool4_t vm, vint64m1_t vd,
                                               vint32m8_t vs2, vint64m1_t vs1,
                                               size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf8_u16m1_tum(vbool64_t vm, vuint16m1_t vd,
```

```
                                                vuint8mf8_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf4_u16m1_tum(vbool32_t vm, vuint16m1_t vd,
                                                vuint8mf4_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8mf2_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                                vuint8mf2_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m1_u16m1_tum(vbool8_t vm, vuint16m1_t vd,
                                               vuint8m1_t vs2, vuint16m1_t vs1,
                                               size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m2_u16m1_tum(vbool4_t vm, vuint16m1_t vd,
                                               vuint8m2_t vs2, vuint16m1_t vs1,
                                               size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m4_u16m1_tum(vbool2_t vm, vuint16m1_t vd,
                                               vuint8m4_t vs2, vuint16m1_t vs1,
                                               size_t vl);
vuint16m1_t __riscv_vwredsumu_vs_u8m8_u16m1_tum(vbool1_t vm, vuint16m1_t vd,
                                               vuint8m8_t vs2, vuint16m1_t vs1,
                                               size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16mf4_u32m1_tum(vbool64_t vm, vuint32m1_t vd,
                                                 vuint16mf4_t vs2,
                                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16mf2_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                                 vuint16mf2_t vs2,
                                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m1_u32m1_tum(vbool16_t vm, vuint32m1_t vd,
                                                vuint16m1_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m2_u32m1_tum(vbool8_t vm, vuint32m1_t vd,
                                                vuint16m2_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m4_u32m1_tum(vbool4_t vm, vuint32m1_t vd,
                                                vuint16m4_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_vs_u16m8_u32m1_tum(vbool2_t vm, vuint32m1_t vd,
                                                vuint16m8_t vs2,
                                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32mf2_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                                 vuint32mf2_t vs2,
                                                 vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m1_u64m1_tum(vbool32_t vm, vuint64m1_t vd,
                                                vuint32m1_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m2_u64m1_tum(vbool16_t vm, vuint64m1_t vd,
                                                vuint32m2_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m4_u64m1_tum(vbool8_t vm, vuint64m1_t vd,
                                                vuint32m4_t vs2,
                                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_vs_u32m8_u64m1_tum(vbool4_t vm, vuint64m1_t vd,
                                                vuint32m8_t vs2,
                                                vuint64m1_t vs1, size_t vl);
```

B.6.3. Vector Single-Width Floating-Point Reduction Intrinsics

```
vfloat16m1_t __riscv_vfredosum_vs_f16mf4_f16m1_tu(vfloat16m1_t vd,
                                                 vfloat16mf4_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16mf2_f16m1_tu(vfloat16m1_t vd,
                                                 vfloat16mf2_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m1_f16m1_tu(vfloat16m1_t vd,
                                                vfloat16m1_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
```

```
vfloat16m1_t __riscv_vfredosum_vs_f16m2_f16m1_tu(vfloat16m1_t vd,
                                                 vfloat16m2_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m4_f16m1_tu(vfloat16m1_t vd,
                                                 vfloat16m4_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m8_f16m1_tu(vfloat16m1_t vd,
                                                 vfloat16m8_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32mf2_f32m1_tu(vfloat32m1_t vd,
                                                  vfloat32mf2_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m1_f32m1_tu(vfloat32m1_t vd,
                                                 vfloat32m1_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m2_f32m1_tu(vfloat32m1_t vd,
                                                 vfloat32m2_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m4_f32m1_tu(vfloat32m1_t vd,
                                                 vfloat32m4_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m8_f32m1_tu(vfloat32m1_t vd,
                                                 vfloat32m8_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m1_f64m1_tu(vfloat64m1_t vd,
                                                 vfloat64m1_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m2_f64m1_tu(vfloat64m1_t vd,
                                                 vfloat64m2_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m4_f64m1_tu(vfloat64m1_t vd,
                                                 vfloat64m4_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m8_f64m1_tu(vfloat64m1_t vd,
                                                 vfloat64m8_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf4_f16m1_tu(vfloat16m1_t vd,
                                                  vfloat16mf4_t vs2,
                                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf2_f16m1_tu(vfloat16m1_t vd,
                                                  vfloat16mf2_t vs2,
                                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m1_f16m1_tu(vfloat16m1_t vd,
                                                 vfloat16m1_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m2_f16m1_tu(vfloat16m1_t vd,
                                                 vfloat16m2_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m4_f16m1_tu(vfloat16m1_t vd,
                                                 vfloat16m4_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m8_f16m1_tu(vfloat16m1_t vd,
                                                 vfloat16m8_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32mf2_f32m1_tu(vfloat32m1_t vd,
                                                  vfloat32mf2_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m1_f32m1_tu(vfloat32m1_t vd,
                                                 vfloat32m1_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m2_f32m1_tu(vfloat32m1_t vd,
                                                 vfloat32m2_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m4_f32m1_tu(vfloat32m1_t vd,
                                                 vfloat32m4_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m8_f32m1_tu(vfloat32m1_t vd,
```

```
                                                vfloat32m8_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m1_f64m1_tu(vfloat64m1_t vd,
                                                vfloat64m1_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m2_f64m1_tu(vfloat64m1_t vd,
                                                vfloat64m2_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m4_f64m1_tu(vfloat64m1_t vd,
                                                vfloat64m4_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m8_f64m1_tu(vfloat64m1_t vd,
                                                vfloat64m8_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16mf4_f16m1_tu(vfloat16m1_t vd,
                                                vfloat16mf4_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16mf2_f16m1_tu(vfloat16m1_t vd,
                                                vfloat16mf2_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m1_f16m1_tu(vfloat16m1_t vd,
                                               vfloat16m1_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m2_f16m1_tu(vfloat16m1_t vd,
                                               vfloat16m2_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m4_f16m1_tu(vfloat16m1_t vd,
                                               vfloat16m4_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m8_f16m1_tu(vfloat16m1_t vd,
                                               vfloat16m8_t vs2,
                                               vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32mf2_f32m1_tu(vfloat32m1_t vd,
                                                vfloat32mf2_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m1_f32m1_tu(vfloat32m1_t vd,
                                               vfloat32m1_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m2_f32m1_tu(vfloat32m1_t vd,
                                               vfloat32m2_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m4_f32m1_tu(vfloat32m1_t vd,
                                               vfloat32m4_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m8_f32m1_tu(vfloat32m1_t vd,
                                               vfloat32m8_t vs2,
                                               vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m1_f64m1_tu(vfloat64m1_t vd,
                                               vfloat64m1_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m2_f64m1_tu(vfloat64m1_t vd,
                                               vfloat64m2_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m4_f64m1_tu(vfloat64m1_t vd,
                                               vfloat64m4_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m8_f64m1_tu(vfloat64m1_t vd,
                                               vfloat64m8_t vs2,
                                               vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16mf4_f16m1_tu(vfloat16m1_t vd,
                                                vfloat16mf4_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16mf2_f16m1_tu(vfloat16m1_t vd,
                                                vfloat16mf2_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m1_f16m1_tu(vfloat16m1_t vd,
                                               vfloat16m1_t vs2,
```

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                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m2_f16m1_tu(vfloat16m1_t vd,
                                                vfloat16m2_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m4_f16m1_tu(vfloat16m1_t vd,
                                                vfloat16m4_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m8_f16m1_tu(vfloat16m1_t vd,
                                                vfloat16m8_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32mf2_f32m1_tu(vfloat32m1_t vd,
                                                 vfloat32mf2_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m1_f32m1_tu(vfloat32m1_t vd,
                                                vfloat32m1_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m2_f32m1_tu(vfloat32m1_t vd,
                                                vfloat32m2_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m4_f32m1_tu(vfloat32m1_t vd,
                                                vfloat32m4_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m8_f32m1_tu(vfloat32m1_t vd,
                                                vfloat32m8_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m1_f64m1_tu(vfloat64m1_t vd,
                                                vfloat64m1_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m2_f64m1_tu(vfloat64m1_t vd,
                                                vfloat64m2_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m4_f64m1_tu(vfloat64m1_t vd,
                                                vfloat64m4_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m8_f64m1_tu(vfloat64m1_t vd,
                                                vfloat64m8_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
// masked functions
vfloat16m1_t __riscv_vfredosum_vs_f16mf4_f16m1_tum(vbool64_t vm,
                                                   vfloat16m1_t vd,
                                                   vfloat16mf4_t vs2,
                                                   vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16mf2_f16m1_tum(vbool32_t vm,
                                                   vfloat16m1_t vd,
                                                   vfloat16mf2_t vs2,
                                                   vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m1_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                                  vfloat16m1_t vs2,
                                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m2_f16m1_tum(vbool8_t vm, vfloat16m1_t vd,
                                                  vfloat16m2_t vs2,
                                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m4_f16m1_tum(vbool4_t vm, vfloat16m1_t vd,
                                                  vfloat16m4_t vs2,
                                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m8_f16m1_tum(vbool2_t vm, vfloat16m1_t vd,
                                                  vfloat16m8_t vs2,
                                                  vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32mf2_f32m1_tum(vbool64_t vm,
                                                   vfloat32m1_t vd,
                                                   vfloat32mf2_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m1_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                                  vfloat32m1_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m2_f32m1_tum(vbool16_t vm, vfloat32m1_t vd,
                                                  vfloat32m2_t vs2,
```

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                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m4_f32m1_tum(vbool8_t vm, vfloat32m1_t vd,
                                                vfloat32m4_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m8_f32m1_tum(vbool4_t vm, vfloat32m1_t vd,
                                                vfloat32m8_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m1_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                                vfloat64m1_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m2_f64m1_tum(vbool32_t vm, vfloat64m1_t vd,
                                                vfloat64m2_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m4_f64m1_tum(vbool16_t vm, vfloat64m1_t vd,
                                                vfloat64m4_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m8_f64m1_tum(vbool8_t vm, vfloat64m1_t vd,
                                                vfloat64m8_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf4_f16m1_tum(vbool64_t vm,
                                                 vfloat16m1_t vd,
                                                 vfloat16mf4_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf2_f16m1_tum(vbool32_t vm,
                                                 vfloat16m1_t vd,
                                                 vfloat16mf2_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m1_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                                vfloat16m1_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m2_f16m1_tum(vbool8_t vm, vfloat16m1_t vd,
                                                vfloat16m2_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m4_f16m1_tum(vbool4_t vm, vfloat16m1_t vd,
                                                vfloat16m4_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m8_f16m1_tum(vbool2_t vm, vfloat16m1_t vd,
                                                vfloat16m8_t vs2,
                                                vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32mf2_f32m1_tum(vbool64_t vm,
                                                 vfloat32m1_t vd,
                                                 vfloat32mf2_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m1_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                                vfloat32m1_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m2_f32m1_tum(vbool16_t vm, vfloat32m1_t vd,
                                                vfloat32m2_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m4_f32m1_tum(vbool8_t vm, vfloat32m1_t vd,
                                                vfloat32m4_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m8_f32m1_tum(vbool4_t vm, vfloat32m1_t vd,
                                                vfloat32m8_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m1_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                                vfloat64m1_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m2_f64m1_tum(vbool32_t vm, vfloat64m1_t vd,
                                                vfloat64m2_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m4_f64m1_tum(vbool16_t vm, vfloat64m1_t vd,
                                                vfloat64m4_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m8_f64m1_tum(vbool8_t vm, vfloat64m1_t vd,
                                                vfloat64m8_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
```

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vfloat16m1_t __riscv_vfredmax_vs_f16mf4_f16m1_tum(vbool64_t vm, vfloat16m1_t vd,
                                                  vfloat16mf4_t vs2,
                                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16mf2_f16m1_tum(vbool32_t vm, vfloat16m1_t vd,
                                                  vfloat16mf2_t vs2,
                                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m1_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                                 vfloat16m1_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m2_f16m1_tum(vbool8_t vm, vfloat16m1_t vd,
                                                 vfloat16m2_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m4_f16m1_tum(vbool4_t vm, vfloat16m1_t vd,
                                                 vfloat16m4_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_vs_f16m8_f16m1_tum(vbool2_t vm, vfloat16m1_t vd,
                                                 vfloat16m8_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32mf2_f32m1_tum(vbool64_t vm, vfloat32m1_t vd,
                                                  vfloat32mf2_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m1_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                                 vfloat32m1_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m2_f32m1_tum(vbool16_t vm, vfloat32m1_t vd,
                                                 vfloat32m2_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m4_f32m1_tum(vbool8_t vm, vfloat32m1_t vd,
                                                 vfloat32m4_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_vs_f32m8_f32m1_tum(vbool4_t vm, vfloat32m1_t vd,
                                                 vfloat32m8_t vs2,
                                                 vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m1_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                                 vfloat64m1_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m2_f64m1_tum(vbool32_t vm, vfloat64m1_t vd,
                                                 vfloat64m2_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m4_f64m1_tum(vbool16_t vm, vfloat64m1_t vd,
                                                 vfloat64m4_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_vs_f64m8_f64m1_tum(vbool8_t vm, vfloat64m1_t vd,
                                                 vfloat64m8_t vs2,
                                                 vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16mf4_f16m1_tum(vbool64_t vm, vfloat16m1_t vd,
                                                  vfloat16mf4_t vs2,
                                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16mf2_f16m1_tum(vbool32_t vm, vfloat16m1_t vd,
                                                  vfloat16mf2_t vs2,
                                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m1_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                                 vfloat16m1_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m2_f16m1_tum(vbool8_t vm, vfloat16m1_t vd,
                                                 vfloat16m2_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m4_f16m1_tum(vbool4_t vm, vfloat16m1_t vd,
                                                 vfloat16m4_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_vs_f16m8_f16m1_tum(vbool2_t vm, vfloat16m1_t vd,
                                                 vfloat16m8_t vs2,
                                                 vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32mf2_f32m1_tum(vbool64_t vm, vfloat32m1_t vd,
                                                  vfloat32mf2_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m1_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
```

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                                                vfloat32m1_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m2_f32m1_tum(vbool16_t vm, vfloat32m1_t vd,
                                                vfloat32m2_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m4_f32m1_tum(vbool8_t vm, vfloat32m1_t vd,
                                                vfloat32m4_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_vs_f32m8_f32m1_tum(vbool4_t vm, vfloat32m1_t vd,
                                                vfloat32m8_t vs2,
                                                vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m1_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                                vfloat64m1_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m2_f64m1_tum(vbool32_t vm, vfloat64m1_t vd,
                                                vfloat64m2_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m4_f64m1_tum(vbool16_t vm, vfloat64m1_t vd,
                                                vfloat64m4_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_vs_f64m8_f64m1_tum(vbool8_t vm, vfloat64m1_t vd,
                                                vfloat64m8_t vs2,
                                                vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16mf4_f16m1_rm_tu(vfloat16m1_t vd,
                                                     vfloat16mf4_t vs2,
                                                     vfloat16m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16mf2_f16m1_rm_tu(vfloat16m1_t vd,
                                                     vfloat16mf2_t vs2,
                                                     vfloat16m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m1_f16m1_rm_tu(vfloat16m1_t vd,
                                                    vfloat16m1_t vs2,
                                                    vfloat16m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m2_f16m1_rm_tu(vfloat16m1_t vd,
                                                    vfloat16m2_t vs2,
                                                    vfloat16m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m4_f16m1_rm_tu(vfloat16m1_t vd,
                                                    vfloat16m4_t vs2,
                                                    vfloat16m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat16m1_t __riscv_vfredosum_vs_f16m8_f16m1_rm_tu(vfloat16m1_t vd,
                                                    vfloat16m8_t vs2,
                                                    vfloat16m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32mf2_f32m1_rm_tu(vfloat32m1_t vd,
                                                     vfloat32mf2_t vs2,
                                                     vfloat32m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m1_f32m1_rm_tu(vfloat32m1_t vd,
                                                    vfloat32m1_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m2_f32m1_rm_tu(vfloat32m1_t vd,
                                                    vfloat32m2_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
```

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                                                size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m4_f32m1_rm_tu(vfloat32m1_t vd,
                                                vfloat32m4_t vs2,
                                                vfloat32m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat32m1_t __riscv_vfredosum_vs_f32m8_f32m1_rm_tu(vfloat32m1_t vd,
                                                vfloat32m8_t vs2,
                                                vfloat32m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m1_f64m1_rm_tu(vfloat64m1_t vd,
                                                vfloat64m1_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m2_f64m1_rm_tu(vfloat64m1_t vd,
                                                vfloat64m2_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m4_f64m1_rm_tu(vfloat64m1_t vd,
                                                vfloat64m4_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat64m1_t __riscv_vfredosum_vs_f64m8_f64m1_rm_tu(vfloat64m1_t vd,
                                                vfloat64m8_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf4_f16m1_rm_tu(vfloat16m1_t vd,
                                                 vfloat16mf4_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm,
                                                 size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16mf2_f16m1_rm_tu(vfloat16m1_t vd,
                                                 vfloat16mf2_t vs2,
                                                 vfloat16m1_t vs1,
                                                 unsigned int frm,
                                                 size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m1_f16m1_rm_tu(vfloat16m1_t vd,
                                                vfloat16m1_t vs2,
                                                vfloat16m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m2_f16m1_rm_tu(vfloat16m1_t vd,
                                                vfloat16m2_t vs2,
                                                vfloat16m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m4_f16m1_rm_tu(vfloat16m1_t vd,
                                                vfloat16m4_t vs2,
                                                vfloat16m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat16m1_t __riscv_vfredusum_vs_f16m8_f16m1_rm_tu(vfloat16m1_t vd,
                                                vfloat16m8_t vs2,
                                                vfloat16m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32mf2_f32m1_rm_tu(vfloat32m1_t vd,
                                                 vfloat32mf2_t vs2,
                                                 vfloat32m1_t vs1,
                                                 unsigned int frm,
                                                 size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m1_f32m1_rm_tu(vfloat32m1_t vd,
```

```
                                                vfloat32m1_t vs2,
                                                vfloat32m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m2_f32m1_rm_tu(vfloat32m1_t vd,
                                                vfloat32m2_t vs2,
                                                vfloat32m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m4_f32m1_rm_tu(vfloat32m1_t vd,
                                                vfloat32m4_t vs2,
                                                vfloat32m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat32m1_t __riscv_vfredusum_vs_f32m8_f32m1_rm_tu(vfloat32m1_t vd,
                                                vfloat32m8_t vs2,
                                                vfloat32m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m1_f64m1_rm_tu(vfloat64m1_t vd,
                                                vfloat64m1_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m2_f64m1_rm_tu(vfloat64m1_t vd,
                                                vfloat64m2_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m4_f64m1_rm_tu(vfloat64m1_t vd,
                                                vfloat64m4_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
vfloat64m1_t __riscv_vfredusum_vs_f64m8_f64m1_rm_tu(vfloat64m1_t vd,
                                                vfloat64m8_t vs2,
                                                vfloat64m1_t vs1,
                                                unsigned int frm,
                                                size_t vl);
// masked functions
vfloat16m1_t
__riscv_vfredosum_vs_f16mf4_f16m1_rm_tum(vbool64_t vm, vfloat16m1_t vd,
                                         vfloat16mf4_t vs2, vfloat16m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16m1_t
__riscv_vfredosum_vs_f16mf2_f16m1_rm_tum(vbool32_t vm, vfloat16m1_t vd,
                                         vfloat16mf2_t vs2, vfloat16m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16m1_t
__riscv_vfredosum_vs_f16m1_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m1_t
__riscv_vfredosum_vs_f16m2_f16m1_rm_tum(vbool8_t vm, vfloat16m1_t vd,
                                        vfloat16m2_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m1_t
__riscv_vfredosum_vs_f16m4_f16m1_rm_tum(vbool4_t vm, vfloat16m1_t vd,
                                        vfloat16m4_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m1_t
__riscv_vfredosum_vs_f16m8_f16m1_rm_tum(vbool2_t vm, vfloat16m1_t vd,
                                        vfloat16m8_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfredosum_vs_f32mf2_f32m1_rm_tum(vbool64_t vm, vfloat32m1_t vd,
                                         vfloat32mf2_t vs2, vfloat32m1_t vs1,
```

```
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfredosum_vs_f32m1_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfredosum_vs_f32m2_f32m1_rm_tum(vbool16_t vm, vfloat32m1_t vd,
                                        vfloat32m2_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfredosum_vs_f32m4_f32m1_rm_tum(vbool8_t vm, vfloat32m1_t vd,
                                        vfloat32m4_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfredosum_vs_f32m8_f32m1_rm_tum(vbool4_t vm, vfloat32m1_t vd,
                                        vfloat32m8_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfredosum_vs_f64m1_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfredosum_vs_f64m2_f64m1_rm_tum(vbool32_t vm, vfloat64m1_t vd,
                                        vfloat64m2_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfredosum_vs_f64m4_f64m1_rm_tum(vbool16_t vm, vfloat64m1_t vd,
                                        vfloat64m4_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfredosum_vs_f64m8_f64m1_rm_tum(vbool8_t vm, vfloat64m1_t vd,
                                        vfloat64m8_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m1_t
__riscv_vfredusum_vs_f16mf4_f16m1_rm_tum(vbool64_t vm, vfloat16m1_t vd,
                                         vfloat16mf4_t vs2, vfloat16m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16m1_t
__riscv_vfredusum_vs_f16mf2_f16m1_rm_tum(vbool32_t vm, vfloat16m1_t vd,
                                         vfloat16mf2_t vs2, vfloat16m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat16m1_t
__riscv_vfredusum_vs_f16m1_f16m1_rm_tum(vbool16_t vm, vfloat16m1_t vd,
                                        vfloat16m1_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m1_t
__riscv_vfredusum_vs_f16m2_f16m1_rm_tum(vbool8_t vm, vfloat16m1_t vd,
                                        vfloat16m2_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m1_t
__riscv_vfredusum_vs_f16m4_f16m1_rm_tum(vbool4_t vm, vfloat16m1_t vd,
                                        vfloat16m4_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat16m1_t
__riscv_vfredusum_vs_f16m8_f16m1_rm_tum(vbool2_t vm, vfloat16m1_t vd,
                                        vfloat16m8_t vs2, vfloat16m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfredusum_vs_f32mf2_f32m1_rm_tum(vbool64_t vm, vfloat32m1_t vd,
                                         vfloat32mf2_t vs2, vfloat32m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfredusum_vs_f32m1_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfredusum_vs_f32m2_f32m1_rm_tum(vbool16_t vm, vfloat32m1_t vd,
```

```
                                        vfloat32m2_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfredusum_vs_f32m4_f32m1_rm_tum(vbool8_t vm, vfloat32m1_t vd,
                                        vfloat32m4_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfredusum_vs_f32m8_f32m1_rm_tum(vbool4_t vm, vfloat32m1_t vd,
                                        vfloat32m8_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfredusum_vs_f64m1_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfredusum_vs_f64m2_f64m1_rm_tum(vbool32_t vm, vfloat64m1_t vd,
                                        vfloat64m2_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfredusum_vs_f64m4_f64m1_rm_tum(vbool16_t vm, vfloat64m1_t vd,
                                        vfloat64m4_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfredusum_vs_f64m8_f64m1_rm_tum(vbool8_t vm, vfloat64m1_t vd,
                                        vfloat64m8_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
```

B.6.4. Vector Widening Floating-Point Reduction Intrinsics

```
vfloat32m1_t __riscv_vfwredosum_vs_f16mf4_f32m1_tu(vfloat32m1_t vd,
                                                   vfloat16mf4_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16mf2_f32m1_tu(vfloat32m1_t vd,
                                                   vfloat16mf2_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m1_f32m1_tu(vfloat32m1_t vd,
                                                  vfloat16m1_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m2_f32m1_tu(vfloat32m1_t vd,
                                                  vfloat16m2_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m4_f32m1_tu(vfloat32m1_t vd,
                                                  vfloat16m4_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m8_f32m1_tu(vfloat32m1_t vd,
                                                  vfloat16m8_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32mf2_f64m1_tu(vfloat64m1_t vd,
                                                   vfloat32mf2_t vs2,
                                                   vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m1_f64m1_tu(vfloat64m1_t vd,
                                                  vfloat32m1_t vs2,
                                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m2_f64m1_tu(vfloat64m1_t vd,
                                                  vfloat32m2_t vs2,
                                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m4_f64m1_tu(vfloat64m1_t vd,
                                                  vfloat32m4_t vs2,
                                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m8_f64m1_tu(vfloat64m1_t vd,
                                                  vfloat32m8_t vs2,
                                                  vfloat64m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf4_f32m1_tu(vfloat32m1_t vd,
                                                   vfloat16mf4_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
```

```
vfloat32m1_t __riscv_vfwredusum_vs_f16mf2_f32m1_tu(vfloat32m1_t vd,
                                                   vfloat16mf2_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m1_f32m1_tu(vfloat32m1_t vd,
                                                  vfloat16m1_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m2_f32m1_tu(vfloat32m1_t vd,
                                                  vfloat16m2_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m4_f32m1_tu(vfloat32m1_t vd,
                                                  vfloat16m4_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m8_f32m1_tu(vfloat32m1_t vd,
                                                  vfloat16m8_t vs2,
                                                  vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32mf2_f64m1_tu(vfloat64m1_t vd,
                                                   vfloat32mf2_t vs2,
                                                   vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m1_f64m1_tu(vfloat64m1_t vd,
                                                  vfloat32m1_t vs2,
                                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m2_f64m1_tu(vfloat64m1_t vd,
                                                  vfloat32m2_t vs2,
                                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m4_f64m1_tu(vfloat64m1_t vd,
                                                  vfloat32m4_t vs2,
                                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m8_f64m1_tu(vfloat64m1_t vd,
                                                  vfloat32m8_t vs2,
                                                  vfloat64m1_t vs1, size_t vl);
// masked functions
vfloat32m1_t __riscv_vfwredosum_vs_f16mf4_f32m1_tum(vbool64_t vm,
                                                    vfloat32m1_t vd,
                                                    vfloat16mf4_t vs2,
                                                    vfloat32m1_t vs1,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16mf2_f32m1_tum(vbool32_t vm,
                                                    vfloat32m1_t vd,
                                                    vfloat16mf2_t vs2,
                                                    vfloat32m1_t vs1,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m1_f32m1_tum(vbool16_t vm,
                                                   vfloat32m1_t vd,
                                                   vfloat16m1_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m2_f32m1_tum(vbool8_t vm, vfloat32m1_t vd,
                                                   vfloat16m2_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m4_f32m1_tum(vbool4_t vm, vfloat32m1_t vd,
                                                   vfloat16m4_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m8_f32m1_tum(vbool2_t vm, vfloat32m1_t vd,
                                                   vfloat16m8_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32mf2_f64m1_tum(vbool64_t vm,
                                                    vfloat64m1_t vd,
                                                    vfloat32mf2_t vs2,
                                                    vfloat64m1_t vs1,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m1_f64m1_tum(vbool32_t vm,
                                                   vfloat64m1_t vd,
                                                   vfloat32m1_t vs2,
                                                   vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m2_f64m1_tum(vbool16_t vm,
                                                   vfloat64m1_t vd,
                                                   vfloat32m2_t vs2,
                                                   vfloat64m1_t vs1, size_t vl);
```

```
vfloat64m1_t __riscv_vfwredosum_vs_f32m4_f64m1_tum(vbool8_t vm, vfloat64m1_t vd,
                                                   vfloat32m4_t vs2,
                                                   vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m8_f64m1_tum(vbool4_t vm, vfloat64m1_t vd,
                                                   vfloat32m8_t vs2,
                                                   vfloat64m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf4_f32m1_tum(vbool64_t vm,
                                                    vfloat32m1_t vd,
                                                    vfloat16mf4_t vs2,
                                                    vfloat32m1_t vs1,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf2_f32m1_tum(vbool32_t vm,
                                                    vfloat32m1_t vd,
                                                    vfloat16mf2_t vs2,
                                                    vfloat32m1_t vs1,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m1_f32m1_tum(vbool16_t vm,
                                                   vfloat32m1_t vd,
                                                   vfloat16m1_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m2_f32m1_tum(vbool8_t vm, vfloat32m1_t vd,
                                                   vfloat16m2_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m4_f32m1_tum(vbool4_t vm, vfloat32m1_t vd,
                                                   vfloat16m4_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m8_f32m1_tum(vbool2_t vm, vfloat32m1_t vd,
                                                   vfloat16m8_t vs2,
                                                   vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32mf2_f64m1_tum(vbool64_t vm,
                                                    vfloat64m1_t vd,
                                                    vfloat32mf2_t vs2,
                                                    vfloat64m1_t vs1,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m1_f64m1_tum(vbool32_t vm,
                                                   vfloat64m1_t vd,
                                                   vfloat32m1_t vs2,
                                                   vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m2_f64m1_tum(vbool16_t vm,
                                                   vfloat64m1_t vd,
                                                   vfloat32m2_t vs2,
                                                   vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m4_f64m1_tum(vbool8_t vm, vfloat64m1_t vd,
                                                   vfloat32m4_t vs2,
                                                   vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m8_f64m1_tum(vbool4_t vm, vfloat64m1_t vd,
                                                   vfloat32m8_t vs2,
                                                   vfloat64m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16mf4_f32m1_rm_tu(vfloat32m1_t vd,
                                                      vfloat16mf4_t vs2,
                                                      vfloat32m1_t vs1,
                                                      unsigned int frm,
                                                      size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16mf2_f32m1_rm_tu(vfloat32m1_t vd,
                                                      vfloat16mf2_t vs2,
                                                      vfloat32m1_t vs1,
                                                      unsigned int frm,
                                                      size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m1_f32m1_rm_tu(vfloat32m1_t vd,
                                                     vfloat16m1_t vs2,
                                                     vfloat32m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m2_f32m1_rm_tu(vfloat32m1_t vd,
                                                     vfloat16m2_t vs2,
                                                     vfloat32m1_t vs1,
                                                     unsigned int frm,
```

```
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m4_f32m1_rm_tu(vfloat32m1_t vd,
                                                    vfloat16m4_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_vs_f16m8_f32m1_rm_tu(vfloat32m1_t vd,
                                                    vfloat16m8_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32mf2_f64m1_rm_tu(vfloat64m1_t vd,
                                                     vfloat32mf2_t vs2,
                                                     vfloat64m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m1_f64m1_rm_tu(vfloat64m1_t vd,
                                                    vfloat32m1_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m2_f64m1_rm_tu(vfloat64m1_t vd,
                                                    vfloat32m2_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m4_f64m1_rm_tu(vfloat64m1_t vd,
                                                    vfloat32m4_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_vs_f32m8_f64m1_rm_tu(vfloat64m1_t vd,
                                                    vfloat32m8_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf4_f32m1_rm_tu(vfloat32m1_t vd,
                                                     vfloat16mf4_t vs2,
                                                     vfloat32m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16mf2_f32m1_rm_tu(vfloat32m1_t vd,
                                                     vfloat16mf2_t vs2,
                                                     vfloat32m1_t vs1,
                                                     unsigned int frm,
                                                     size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m1_f32m1_rm_tu(vfloat32m1_t vd,
                                                    vfloat16m1_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m2_f32m1_rm_tu(vfloat32m1_t vd,
                                                    vfloat16m2_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m4_f32m1_rm_tu(vfloat32m1_t vd,
                                                    vfloat16m4_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_vs_f16m8_f32m1_rm_tu(vfloat32m1_t vd,
                                                    vfloat16m8_t vs2,
                                                    vfloat32m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32mf2_f64m1_rm_tu(vfloat64m1_t vd,
```

```
                                                    vfloat32mf2_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m1_f64m1_rm_tu(vfloat64m1_t vd,
                                                    vfloat32m1_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m2_f64m1_rm_tu(vfloat64m1_t vd,
                                                    vfloat32m2_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m4_f64m1_rm_tu(vfloat64m1_t vd,
                                                    vfloat32m4_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_vs_f32m8_f64m1_rm_tu(vfloat64m1_t vd,
                                                    vfloat32m8_t vs2,
                                                    vfloat64m1_t vs1,
                                                    unsigned int frm,
                                                    size_t vl);
// masked functions
vfloat32m1_t
__riscv_vfwredosum_vs_f16mf4_f32m1_rm_tum(vbool64_t vm, vfloat32m1_t vd,
                                          vfloat16mf4_t vs2, vfloat32m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfwredosum_vs_f16mf2_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat16mf2_t vs2, vfloat32m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfwredosum_vs_f16m1_f32m1_rm_tum(vbool16_t vm, vfloat32m1_t vd,
                                         vfloat16m1_t vs2, vfloat32m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfwredosum_vs_f16m2_f32m1_rm_tum(vbool8_t vm, vfloat32m1_t vd,
                                         vfloat16m2_t vs2, vfloat32m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfwredosum_vs_f16m4_f32m1_rm_tum(vbool4_t vm, vfloat32m1_t vd,
                                         vfloat16m4_t vs2, vfloat32m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfwredosum_vs_f16m8_f32m1_rm_tum(vbool2_t vm, vfloat32m1_t vd,
                                         vfloat16m8_t vs2, vfloat32m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfwredosum_vs_f32mf2_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat32mf2_t vs2, vfloat64m1_t vs1,
                                          unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfwredosum_vs_f32m1_f64m1_rm_tum(vbool32_t vm, vfloat64m1_t vd,
                                         vfloat32m1_t vs2, vfloat64m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfwredosum_vs_f32m2_f64m1_rm_tum(vbool16_t vm, vfloat64m1_t vd,
                                         vfloat32m2_t vs2, vfloat64m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfwredosum_vs_f32m4_f64m1_rm_tum(vbool8_t vm, vfloat64m1_t vd,
                                         vfloat32m4_t vs2, vfloat64m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfwredosum_vs_f32m8_f64m1_rm_tum(vbool4_t vm, vfloat64m1_t vd,
```

```
                                        vfloat32m8_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfwredusum_vs_f16mf4_f32m1_rm_tum(vbool64_t vm, vfloat32m1_t vd,
                                         vfloat16mf4_t vs2, vfloat32m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfwredusum_vs_f16mf2_f32m1_rm_tum(vbool32_t vm, vfloat32m1_t vd,
                                         vfloat16mf2_t vs2, vfloat32m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfwredusum_vs_f16m1_f32m1_rm_tum(vbool16_t vm, vfloat32m1_t vd,
                                        vfloat16m1_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfwredusum_vs_f16m2_f32m1_rm_tum(vbool8_t vm, vfloat32m1_t vd,
                                        vfloat16m2_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfwredusum_vs_f16m4_f32m1_rm_tum(vbool4_t vm, vfloat32m1_t vd,
                                        vfloat16m4_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat32m1_t
__riscv_vfwredusum_vs_f16m8_f32m1_rm_tum(vbool2_t vm, vfloat32m1_t vd,
                                        vfloat16m8_t vs2, vfloat32m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfwredusum_vs_f32mf2_f64m1_rm_tum(vbool64_t vm, vfloat64m1_t vd,
                                         vfloat32mf2_t vs2, vfloat64m1_t vs1,
                                         unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfwredusum_vs_f32m1_f64m1_rm_tum(vbool32_t vm, vfloat64m1_t vd,
                                        vfloat32m1_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfwredusum_vs_f32m2_f64m1_rm_tum(vbool16_t vm, vfloat64m1_t vd,
                                        vfloat32m2_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfwredusum_vs_f32m4_f64m1_rm_tum(vbool8_t vm, vfloat64m1_t vd,
                                        vfloat32m4_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
vfloat64m1_t
__riscv_vfwredusum_vs_f32m8_f64m1_rm_tum(vbool4_t vm, vfloat64m1_t vd,
                                        vfloat32m8_t vs2, vfloat64m1_t vs1,
                                        unsigned int frm, size_t vl);
```

B.7. Vector Mask Intrinsics

B.7.1. Vector Mask-Register Logical

Intrinsics here don't have a policy variant.

B.7.2. Vector count population in mask `vcpop.m`

Intrinsics here don't have a policy variant.

B.7.3. `vfirst` find-first-set mask bit

Intrinsics here don't have a policy variant.

B.7.4. `vmsbf.m` set-before-first mask bit

```
// masked functions
vbool1_t __riscv_vmsbf_m_b1_mu(vbool1_t vm, vbool1_t vd, vbool1_t vs2,
                               size_t vl);
vbool2_t __riscv_vmsbf_m_b2_mu(vbool2_t vm, vbool2_t vd, vbool2_t vs2,
                               size_t vl);
vbool4_t __riscv_vmsbf_m_b4_mu(vbool4_t vm, vbool4_t vd, vbool4_t vs2,
                               size_t vl);
vbool8_t __riscv_vmsbf_m_b8_mu(vbool8_t vm, vbool8_t vd, vbool8_t vs2,
                               size_t vl);
vbool16_t __riscv_vmsbf_m_b16_mu(vbool16_t vm, vbool16_t vd, vbool16_t vs2,
                                 size_t vl);
vbool32_t __riscv_vmsbf_m_b32_mu(vbool32_t vm, vbool32_t vd, vbool32_t vs2,
                                 size_t vl);
vbool64_t __riscv_vmsbf_m_b64_mu(vbool64_t vm, vbool64_t vd, vbool64_t vs2,
                                 size_t vl);
```

B.7.5. `vmsif.m` set-including-first mask bit

```
// masked functions
vbool1_t __riscv_vmsif_m_b1_mu(vbool1_t vm, vbool1_t vd, vbool1_t vs2,
                               size_t vl);
vbool2_t __riscv_vmsif_m_b2_mu(vbool2_t vm, vbool2_t vd, vbool2_t vs2,
                               size_t vl);
vbool4_t __riscv_vmsif_m_b4_mu(vbool4_t vm, vbool4_t vd, vbool4_t vs2,
                               size_t vl);
vbool8_t __riscv_vmsif_m_b8_mu(vbool8_t vm, vbool8_t vd, vbool8_t vs2,
                               size_t vl);
vbool16_t __riscv_vmsif_m_b16_mu(vbool16_t vm, vbool16_t vd, vbool16_t vs2,
                                 size_t vl);
vbool32_t __riscv_vmsif_m_b32_mu(vbool32_t vm, vbool32_t vd, vbool32_t vs2,
                                 size_t vl);
vbool64_t __riscv_vmsif_m_b64_mu(vbool64_t vm, vbool64_t vd, vbool64_t vs2,
                                 size_t vl);
```

B.7.6. `vmsof.m` set-only-first mask bit

```
// masked functions
vbool1_t __riscv_vmsof_m_b1_mu(vbool1_t vm, vbool1_t vd, vbool1_t vs2,
                               size_t vl);
vbool2_t __riscv_vmsof_m_b2_mu(vbool2_t vm, vbool2_t vd, vbool2_t vs2,
                               size_t vl);
vbool4_t __riscv_vmsof_m_b4_mu(vbool4_t vm, vbool4_t vd, vbool4_t vs2,
                               size_t vl);
vbool8_t __riscv_vmsof_m_b8_mu(vbool8_t vm, vbool8_t vd, vbool8_t vs2,
                               size_t vl);
vbool16_t __riscv_vmsof_m_b16_mu(vbool16_t vm, vbool16_t vd, vbool16_t vs2,
                                 size_t vl);
vbool32_t __riscv_vmsof_m_b32_mu(vbool32_t vm, vbool32_t vd, vbool32_t vs2,
                                 size_t vl);
vbool64_t __riscv_vmsof_m_b64_mu(vbool64_t vm, vbool64_t vd, vbool64_t vs2,
                                 size_t vl);
```

B.7.7. Vector Iota Intrinsics

```
vuint8mf8_t __riscv_viota_m_u8mf8_tu(vuint8mf8_t vd, vbool64_t vs2, size_t vl);
vuint8mf4_t __riscv_viota_m_u8mf4_tu(vuint8mf4_t vd, vbool32_t vs2, size_t vl);
```

```
vuint8mf2_t __riscv_viota_m_u8mf2_tu(vuint8mf2_t vd, vbool16_t vs2, size_t vl);
vuint8m1_t __riscv_viota_m_u8m1_tu(vuint8m1_t vd, vbool8_t vs2, size_t vl);
vuint8m2_t __riscv_viota_m_u8m2_tu(vuint8m2_t vd, vbool4_t vs2, size_t vl);
vuint8m4_t __riscv_viota_m_u8m4_tu(vuint8m4_t vd, vbool2_t vs2, size_t vl);
vuint8m8_t __riscv_viota_m_u8m8_tu(vuint8m8_t vd, vbool1_t vs2, size_t vl);
vuint16mf4_t __riscv_viota_m_u16mf4_tu(vuint16mf4_t vd, vbool64_t vs2,
                                       size_t vl);
vuint16mf2_t __riscv_viota_m_u16mf2_tu(vuint16mf2_t vd, vbool32_t vs2,
                                       size_t vl);
vuint16m1_t __riscv_viota_m_u16m1_tu(vuint16m1_t vd, vbool16_t vs2, size_t vl);
vuint16m2_t __riscv_viota_m_u16m2_tu(vuint16m2_t vd, vbool8_t vs2, size_t vl);
vuint16m4_t __riscv_viota_m_u16m4_tu(vuint16m4_t vd, vbool4_t vs2, size_t vl);
vuint16m8_t __riscv_viota_m_u16m8_tu(vuint16m8_t vd, vbool2_t vs2, size_t vl);
vuint32mf2_t __riscv_viota_m_u32mf2_tu(vuint32mf2_t vd, vbool64_t vs2,
                                       size_t vl);
vuint32m1_t __riscv_viota_m_u32m1_tu(vuint32m1_t vd, vbool32_t vs2, size_t vl);
vuint32m2_t __riscv_viota_m_u32m2_tu(vuint32m2_t vd, vbool16_t vs2, size_t vl);
vuint32m4_t __riscv_viota_m_u32m4_tu(vuint32m4_t vd, vbool8_t vs2, size_t vl);
vuint32m8_t __riscv_viota_m_u32m8_tu(vuint32m8_t vd, vbool4_t vs2, size_t vl);
vuint64m1_t __riscv_viota_m_u64m1_tu(vuint64m1_t vd, vbool64_t vs2, size_t vl);
vuint64m2_t __riscv_viota_m_u64m2_tu(vuint64m2_t vd, vbool32_t vs2, size_t vl);
vuint64m4_t __riscv_viota_m_u64m4_tu(vuint64m4_t vd, vbool16_t vs2, size_t vl);
vuint64m8_t __riscv_viota_m_u64m8_tu(vuint64m8_t vd, vbool8_t vs2, size_t vl);
// masked functions
vuint8mf8_t __riscv_viota_m_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vbool64_t vs2, size_t vl);
vuint8mf4_t __riscv_viota_m_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vbool32_t vs2, size_t vl);
vuint8mf2_t __riscv_viota_m_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vbool16_t vs2, size_t vl);
vuint8m1_t __riscv_viota_m_u8m1_tum(vbool8_t vm, vuint8m1_t vd, vbool8_t vs2,
                                    size_t vl);
vuint8m2_t __riscv_viota_m_u8m2_tum(vbool4_t vm, vuint8m2_t vd, vbool4_t vs2,
                                    size_t vl);
vuint8m4_t __riscv_viota_m_u8m4_tum(vbool2_t vm, vuint8m4_t vd, vbool2_t vs2,
                                    size_t vl);
vuint8m8_t __riscv_viota_m_u8m8_tum(vbool1_t vm, vuint8m8_t vd, vbool1_t vs2,
                                    size_t vl);
vuint16mf4_t __riscv_viota_m_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                        vbool64_t vs2, size_t vl);
vuint16mf2_t __riscv_viota_m_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                        vbool32_t vs2, size_t vl);
vuint16m1_t __riscv_viota_m_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                      vbool16_t vs2, size_t vl);
vuint16m2_t __riscv_viota_m_u16m2_tum(vbool8_t vm, vuint16m2_t vd, vbool8_t vs2,
                                      size_t vl);
vuint16m4_t __riscv_viota_m_u16m4_tum(vbool4_t vm, vuint16m4_t vd, vbool4_t vs2,
                                      size_t vl);
vuint16m8_t __riscv_viota_m_u16m8_tum(vbool2_t vm, vuint16m8_t vd, vbool2_t vs2,
                                      size_t vl);
vuint32mf2_t __riscv_viota_m_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                        vbool64_t vs2, size_t vl);
vuint32m1_t __riscv_viota_m_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                      vbool32_t vs2, size_t vl);
vuint32m2_t __riscv_viota_m_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                      vbool16_t vs2, size_t vl);
vuint32m4_t __riscv_viota_m_u32m4_tum(vbool8_t vm, vuint32m4_t vd, vbool8_t vs2,
                                      size_t vl);
vuint32m8_t __riscv_viota_m_u32m8_tum(vbool4_t vm, vuint32m8_t vd, vbool4_t vs2,
                                      size_t vl);
vuint64m1_t __riscv_viota_m_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                      vbool64_t vs2, size_t vl);
vuint64m2_t __riscv_viota_m_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                      vbool32_t vs2, size_t vl);
vuint64m4_t __riscv_viota_m_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                      vbool16_t vs2, size_t vl);
vuint64m8_t __riscv_viota_m_u64m8_tum(vbool8_t vm, vuint64m8_t vd, vbool8_t vs2,
```

```
                                      size_t vl);
// masked functions
vuint8mf8_t __riscv_viota_m_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vbool64_t vs2, size_t vl);
vuint8mf4_t __riscv_viota_m_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vbool32_t vs2, size_t vl);
vuint8mf2_t __riscv_viota_m_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vbool16_t vs2, size_t vl);
vuint8m1_t __riscv_viota_m_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, vbool8_t vs2,
                                     size_t vl);
vuint8m2_t __riscv_viota_m_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, vbool4_t vs2,
                                     size_t vl);
vuint8m4_t __riscv_viota_m_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, vbool2_t vs2,
                                     size_t vl);
vuint8m8_t __riscv_viota_m_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, vbool1_t vs2,
                                     size_t vl);
vuint16mf4_t __riscv_viota_m_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vbool64_t vs2, size_t vl);
vuint16mf2_t __riscv_viota_m_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vbool32_t vs2, size_t vl);
vuint16m1_t __riscv_viota_m_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vbool16_t vs2, size_t vl);
vuint16m2_t __riscv_viota_m_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vbool8_t vs2, size_t vl);
vuint16m4_t __riscv_viota_m_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vbool4_t vs2, size_t vl);
vuint16m8_t __riscv_viota_m_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vbool2_t vs2, size_t vl);
vuint32mf2_t __riscv_viota_m_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vbool64_t vs2, size_t vl);
vuint32m1_t __riscv_viota_m_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vbool32_t vs2, size_t vl);
vuint32m2_t __riscv_viota_m_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vbool16_t vs2, size_t vl);
vuint32m4_t __riscv_viota_m_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vbool8_t vs2, size_t vl);
vuint32m8_t __riscv_viota_m_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                       vbool4_t vs2, size_t vl);
vuint64m1_t __riscv_viota_m_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                       vbool64_t vs2, size_t vl);
vuint64m2_t __riscv_viota_m_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                       vbool32_t vs2, size_t vl);
vuint64m4_t __riscv_viota_m_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                       vbool16_t vs2, size_t vl);
vuint64m8_t __riscv_viota_m_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                       vbool8_t vs2, size_t vl);
// masked functions
vuint8mf8_t __riscv_viota_m_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vbool64_t vs2, size_t vl);
vuint8mf4_t __riscv_viota_m_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vbool32_t vs2, size_t vl);
vuint8mf2_t __riscv_viota_m_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vbool16_t vs2, size_t vl);
vuint8m1_t __riscv_viota_m_u8m1_mu(vbool8_t vm, vuint8m1_t vd, vbool8_t vs2,
                                   size_t vl);
vuint8m2_t __riscv_viota_m_u8m2_mu(vbool4_t vm, vuint8m2_t vd, vbool4_t vs2,
                                   size_t vl);
vuint8m4_t __riscv_viota_m_u8m4_mu(vbool2_t vm, vuint8m4_t vd, vbool2_t vs2,
                                   size_t vl);
vuint8m8_t __riscv_viota_m_u8m8_mu(vbool1_t vm, vuint8m8_t vd, vbool1_t vs2,
                                   size_t vl);
vuint16mf4_t __riscv_viota_m_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                       vbool64_t vs2, size_t vl);
vuint16mf2_t __riscv_viota_m_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                       vbool32_t vs2, size_t vl);
vuint16m1_t __riscv_viota_m_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                     vbool16_t vs2, size_t vl);
```

```
vuint16m2_t __riscv_viota_m_u16m2_mu(vbool8_t vm, vuint16m2_t vd, vbool8_t vs2,
                                     size_t vl);
vuint16m4_t __riscv_viota_m_u16m4_mu(vbool4_t vm, vuint16m4_t vd, vbool4_t vs2,
                                     size_t vl);
vuint16m8_t __riscv_viota_m_u16m8_mu(vbool2_t vm, vuint16m8_t vd, vbool2_t vs2,
                                     size_t vl);
vuint32mf2_t __riscv_viota_m_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                       vbool64_t vs2, size_t vl);
vuint32m1_t __riscv_viota_m_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                     vbool32_t vs2, size_t vl);
vuint32m2_t __riscv_viota_m_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                     vbool16_t vs2, size_t vl);
vuint32m4_t __riscv_viota_m_u32m4_mu(vbool8_t vm, vuint32m4_t vd, vbool8_t vs2,
                                     size_t vl);
vuint32m8_t __riscv_viota_m_u32m8_mu(vbool4_t vm, vuint32m8_t vd, vbool4_t vs2,
                                     size_t vl);
vuint64m1_t __riscv_viota_m_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                     vbool64_t vs2, size_t vl);
vuint64m2_t __riscv_viota_m_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                     vbool32_t vs2, size_t vl);
vuint64m4_t __riscv_viota_m_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                     vbool16_t vs2, size_t vl);
vuint64m8_t __riscv_viota_m_u64m8_mu(vbool8_t vm, vuint64m8_t vd, vbool8_t vs2,
                                     size_t vl);
```

B.7.8. Vector Element Index Intrinsics

```
vuint8mf8_t __riscv_vid_v_u8mf8_tu(vuint8mf8_t vd, size_t vl);
vuint8mf4_t __riscv_vid_v_u8mf4_tu(vuint8mf4_t vd, size_t vl);
vuint8mf2_t __riscv_vid_v_u8mf2_tu(vuint8mf2_t vd, size_t vl);
vuint8m1_t __riscv_vid_v_u8m1_tu(vuint8m1_t vd, size_t vl);
vuint8m2_t __riscv_vid_v_u8m2_tu(vuint8m2_t vd, size_t vl);
vuint8m4_t __riscv_vid_v_u8m4_tu(vuint8m4_t vd, size_t vl);
vuint8m8_t __riscv_vid_v_u8m8_tu(vuint8m8_t vd, size_t vl);
vuint16mf4_t __riscv_vid_v_u16mf4_tu(vuint16mf4_t vd, size_t vl);
vuint16mf2_t __riscv_vid_v_u16mf2_tu(vuint16mf2_t vd, size_t vl);
vuint16m1_t __riscv_vid_v_u16m1_tu(vuint16m1_t vd, size_t vl);
vuint16m2_t __riscv_vid_v_u16m2_tu(vuint16m2_t vd, size_t vl);
vuint16m4_t __riscv_vid_v_u16m4_tu(vuint16m4_t vd, size_t vl);
vuint16m8_t __riscv_vid_v_u16m8_tu(vuint16m8_t vd, size_t vl);
vuint32mf2_t __riscv_vid_v_u32mf2_tu(vuint32mf2_t vd, size_t vl);
vuint32m1_t __riscv_vid_v_u32m1_tu(vuint32m1_t vd, size_t vl);
vuint32m2_t __riscv_vid_v_u32m2_tu(vuint32m2_t vd, size_t vl);
vuint32m4_t __riscv_vid_v_u32m4_tu(vuint32m4_t vd, size_t vl);
vuint32m8_t __riscv_vid_v_u32m8_tu(vuint32m8_t vd, size_t vl);
vuint64m1_t __riscv_vid_v_u64m1_tu(vuint64m1_t vd, size_t vl);
vuint64m2_t __riscv_vid_v_u64m2_tu(vuint64m2_t vd, size_t vl);
vuint64m4_t __riscv_vid_v_u64m4_tu(vuint64m4_t vd, size_t vl);
vuint64m8_t __riscv_vid_v_u64m8_tu(vuint64m8_t vd, size_t vl);
// masked functions
vuint8mf8_t __riscv_vid_v_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd, size_t vl);
vuint8mf4_t __riscv_vid_v_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd, size_t vl);
vuint8mf2_t __riscv_vid_v_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd, size_t vl);
vuint8m1_t __riscv_vid_v_u8m1_tum(vbool8_t vm, vuint8m1_t vd, size_t vl);
vuint8m2_t __riscv_vid_v_u8m2_tum(vbool4_t vm, vuint8m2_t vd, size_t vl);
vuint8m4_t __riscv_vid_v_u8m4_tum(vbool2_t vm, vuint8m4_t vd, size_t vl);
vuint8m8_t __riscv_vid_v_u8m8_tum(vbool1_t vm, vuint8m8_t vd, size_t vl);
vuint16mf4_t __riscv_vid_v_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd, size_t vl);
vuint16mf2_t __riscv_vid_v_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd, size_t vl);
vuint16m1_t __riscv_vid_v_u16m1_tum(vbool16_t vm, vuint16m1_t vd, size_t vl);
vuint16m2_t __riscv_vid_v_u16m2_tum(vbool8_t vm, vuint16m2_t vd, size_t vl);
vuint16m4_t __riscv_vid_v_u16m4_tum(vbool4_t vm, vuint16m4_t vd, size_t vl);
vuint16m8_t __riscv_vid_v_u16m8_tum(vbool2_t vm, vuint16m8_t vd, size_t vl);
vuint32mf2_t __riscv_vid_v_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd, size_t vl);
vuint32m1_t __riscv_vid_v_u32m1_tum(vbool32_t vm, vuint32m1_t vd, size_t vl);
```

```
vuint32m2_t __riscv_vid_v_u32m2_tum(vbool16_t vm, vuint32m2_t vd, size_t vl);
vuint32m4_t __riscv_vid_v_u32m4_tum(vbool8_t vm, vuint32m4_t vd, size_t vl);
vuint32m8_t __riscv_vid_v_u32m8_tum(vbool4_t vm, vuint32m8_t vd, size_t vl);
vuint64m1_t __riscv_vid_v_u64m1_tum(vbool64_t vm, vuint64m1_t vd, size_t vl);
vuint64m2_t __riscv_vid_v_u64m2_tum(vbool32_t vm, vuint64m2_t vd, size_t vl);
vuint64m4_t __riscv_vid_v_u64m4_tum(vbool16_t vm, vuint64m4_t vd, size_t vl);
vuint64m8_t __riscv_vid_v_u64m8_tum(vbool8_t vm, vuint64m8_t vd, size_t vl);
// masked functions
vuint8mf8_t __riscv_vid_v_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd, size_t vl);
vuint8mf4_t __riscv_vid_v_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd, size_t vl);
vuint8mf2_t __riscv_vid_v_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd, size_t vl);
vuint8m1_t __riscv_vid_v_u8m1_tumu(vbool8_t vm, vuint8m1_t vd, size_t vl);
vuint8m2_t __riscv_vid_v_u8m2_tumu(vbool4_t vm, vuint8m2_t vd, size_t vl);
vuint8m4_t __riscv_vid_v_u8m4_tumu(vbool2_t vm, vuint8m4_t vd, size_t vl);
vuint8m8_t __riscv_vid_v_u8m8_tumu(vbool1_t vm, vuint8m8_t vd, size_t vl);
vuint16mf4_t __riscv_vid_v_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       size_t vl);
vuint16mf2_t __riscv_vid_v_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                       size_t vl);
vuint16m1_t __riscv_vid_v_u16m1_tumu(vbool16_t vm, vuint16m1_t vd, size_t vl);
vuint16m2_t __riscv_vid_v_u16m2_tumu(vbool8_t vm, vuint16m2_t vd, size_t vl);
vuint16m4_t __riscv_vid_v_u16m4_tumu(vbool4_t vm, vuint16m4_t vd, size_t vl);
vuint16m8_t __riscv_vid_v_u16m8_tumu(vbool2_t vm, vuint16m8_t vd, size_t vl);
vuint32mf2_t __riscv_vid_v_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                       size_t vl);
vuint32m1_t __riscv_vid_v_u32m1_tumu(vbool32_t vm, vuint32m1_t vd, size_t vl);
vuint32m2_t __riscv_vid_v_u32m2_tumu(vbool16_t vm, vuint32m2_t vd, size_t vl);
vuint32m4_t __riscv_vid_v_u32m4_tumu(vbool8_t vm, vuint32m4_t vd, size_t vl);
vuint32m8_t __riscv_vid_v_u32m8_tumu(vbool4_t vm, vuint32m8_t vd, size_t vl);
vuint64m1_t __riscv_vid_v_u64m1_tumu(vbool64_t vm, vuint64m1_t vd, size_t vl);
vuint64m2_t __riscv_vid_v_u64m2_tumu(vbool32_t vm, vuint64m2_t vd, size_t vl);
vuint64m4_t __riscv_vid_v_u64m4_tumu(vbool16_t vm, vuint64m4_t vd, size_t vl);
vuint64m8_t __riscv_vid_v_u64m8_tumu(vbool8_t vm, vuint64m8_t vd, size_t vl);
// masked functions
vuint8mf8_t __riscv_vid_v_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd, size_t vl);
vuint8mf4_t __riscv_vid_v_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd, size_t vl);
vuint8mf2_t __riscv_vid_v_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd, size_t vl);
vuint8m1_t __riscv_vid_v_u8m1_mu(vbool8_t vm, vuint8m1_t vd, size_t vl);
vuint8m2_t __riscv_vid_v_u8m2_mu(vbool4_t vm, vuint8m2_t vd, size_t vl);
vuint8m4_t __riscv_vid_v_u8m4_mu(vbool2_t vm, vuint8m4_t vd, size_t vl);
vuint8m8_t __riscv_vid_v_u8m8_mu(vbool1_t vm, vuint8m8_t vd, size_t vl);
vuint16mf4_t __riscv_vid_v_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd, size_t vl);
vuint16mf2_t __riscv_vid_v_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd, size_t vl);
vuint16m1_t __riscv_vid_v_u16m1_mu(vbool16_t vm, vuint16m1_t vd, size_t vl);
vuint16m2_t __riscv_vid_v_u16m2_mu(vbool8_t vm, vuint16m2_t vd, size_t vl);
vuint16m4_t __riscv_vid_v_u16m4_mu(vbool4_t vm, vuint16m4_t vd, size_t vl);
vuint16m8_t __riscv_vid_v_u16m8_mu(vbool2_t vm, vuint16m8_t vd, size_t vl);
vuint32mf2_t __riscv_vid_v_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd, size_t vl);
vuint32m1_t __riscv_vid_v_u32m1_mu(vbool32_t vm, vuint32m1_t vd, size_t vl);
vuint32m2_t __riscv_vid_v_u32m2_mu(vbool16_t vm, vuint32m2_t vd, size_t vl);
vuint32m4_t __riscv_vid_v_u32m4_mu(vbool8_t vm, vuint32m4_t vd, size_t vl);
vuint32m8_t __riscv_vid_v_u32m8_mu(vbool4_t vm, vuint32m8_t vd, size_t vl);
vuint64m1_t __riscv_vid_v_u64m1_mu(vbool64_t vm, vuint64m1_t vd, size_t vl);
vuint64m2_t __riscv_vid_v_u64m2_mu(vbool32_t vm, vuint64m2_t vd, size_t vl);
vuint64m4_t __riscv_vid_v_u64m4_mu(vbool16_t vm, vuint64m4_t vd, size_t vl);
vuint64m8_t __riscv_vid_v_u64m8_mu(vbool8_t vm, vuint64m8_t vd, size_t vl);
```

B.8. Vector Permutation Intrinsics

B.8.1. Integer and Floating-Point Scalar Move Intrinsics

```
vfloat16mf4_t __riscv_vfmv_s_f_f16mf4_tu(vfloat16mf4_t vd, _Float16 rs1,
                                         size_t vl);
```

```
vfloat16mf2_t __riscv_vfmv_s_f_f16mf2_tu(vfloat16mf2_t vd, _Float16 rs1,
                                         size_t vl);
vfloat16m1_t __riscv_vfmv_s_f_f16m1_tu(vfloat16m1_t vd, _Float16 rs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfmv_s_f_f16m2_tu(vfloat16m2_t vd, _Float16 rs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfmv_s_f_f16m4_tu(vfloat16m4_t vd, _Float16 rs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfmv_s_f_f16m8_tu(vfloat16m8_t vd, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfmv_s_f_f32mf2_tu(vfloat32mf2_t vd, float rs1,
                                         size_t vl);
vfloat32m1_t __riscv_vfmv_s_f_f32m1_tu(vfloat32m1_t vd, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmv_s_f_f32m2_tu(vfloat32m2_t vd, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmv_s_f_f32m4_tu(vfloat32m4_t vd, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmv_s_f_f32m8_tu(vfloat32m8_t vd, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmv_s_f_f64m1_tu(vfloat64m1_t vd, double rs1, size_t vl);
vfloat64m2_t __riscv_vfmv_s_f_f64m2_tu(vfloat64m2_t vd, double rs1, size_t vl);
vfloat64m4_t __riscv_vfmv_s_f_f64m4_tu(vfloat64m4_t vd, double rs1, size_t vl);
vfloat64m8_t __riscv_vfmv_s_f_f64m8_tu(vfloat64m8_t vd, double rs1, size_t vl);
vint8mf8_t __riscv_vmv_s_x_i8mf8_tu(vint8mf8_t vd, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmv_s_x_i8mf4_tu(vint8mf4_t vd, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmv_s_x_i8mf2_tu(vint8mf2_t vd, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmv_s_x_i8m1_tu(vint8m1_t vd, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmv_s_x_i8m2_tu(vint8m2_t vd, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmv_s_x_i8m4_tu(vint8m4_t vd, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmv_s_x_i8m8_tu(vint8m8_t vd, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmv_s_x_i16mf4_tu(vint16mf4_t vd, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmv_s_x_i16mf2_tu(vint16mf2_t vd, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmv_s_x_i16m1_tu(vint16m1_t vd, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmv_s_x_i16m2_tu(vint16m2_t vd, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmv_s_x_i16m4_tu(vint16m4_t vd, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmv_s_x_i16m8_tu(vint16m8_t vd, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmv_s_x_i32mf2_tu(vint32mf2_t vd, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmv_s_x_i32m1_tu(vint32m1_t vd, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmv_s_x_i32m2_tu(vint32m2_t vd, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmv_s_x_i32m4_tu(vint32m4_t vd, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmv_s_x_i32m8_tu(vint32m8_t vd, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmv_s_x_i64m1_tu(vint64m1_t vd, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmv_s_x_i64m2_tu(vint64m2_t vd, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmv_s_x_i64m4_tu(vint64m4_t vd, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmv_s_x_i64m8_tu(vint64m8_t vd, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmv_s_x_u8mf8_tu(vuint8mf8_t vd, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmv_s_x_u8mf4_tu(vuint8mf4_t vd, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmv_s_x_u8mf2_tu(vuint8mf2_t vd, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmv_s_x_u8m1_tu(vuint8m1_t vd, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmv_s_x_u8m2_tu(vuint8m2_t vd, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmv_s_x_u8m4_tu(vuint8m4_t vd, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmv_s_x_u8m8_tu(vuint8m8_t vd, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmv_s_x_u16mf4_tu(vuint16mf4_t vd, uint16_t rs1,
                                       size_t vl);
vuint16mf2_t __riscv_vmv_s_x_u16mf2_tu(vuint16mf2_t vd, uint16_t rs1,
                                       size_t vl);
vuint16m1_t __riscv_vmv_s_x_u16m1_tu(vuint16m1_t vd, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmv_s_x_u16m2_tu(vuint16m2_t vd, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmv_s_x_u16m4_tu(vuint16m4_t vd, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmv_s_x_u16m8_tu(vuint16m8_t vd, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmv_s_x_u32mf2_tu(vuint32mf2_t vd, uint32_t rs1,
                                       size_t vl);
vuint32m1_t __riscv_vmv_s_x_u32m1_tu(vuint32m1_t vd, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmv_s_x_u32m2_tu(vuint32m2_t vd, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmv_s_x_u32m4_tu(vuint32m4_t vd, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmv_s_x_u32m8_tu(vuint32m8_t vd, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmv_s_x_u64m1_tu(vuint64m1_t vd, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmv_s_x_u64m2_tu(vuint64m2_t vd, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmv_s_x_u64m4_tu(vuint64m4_t vd, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmv_s_x_u64m8_tu(vuint64m8_t vd, uint64_t rs1, size_t vl);
```

B.8.2. Vector Slideup Intrinsics

```
vfloat16mf4_t __riscv_vslideup_vx_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                            size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslideup_vx_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                            size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslideup_vx_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                          size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslideup_vx_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                          size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslideup_vx_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                          size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslideup_vx_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                          size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslideup_vx_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                            size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslideup_vx_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                          size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslideup_vx_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                          size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslideup_vx_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                          size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslideup_vx_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslideup_vx_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslideup_vx_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslideup_vx_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslideup_vx_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                          size_t rs1, size_t vl);
vint8mf8_t __riscv_vslideup_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                        size_t rs1, size_t vl);
vint8mf4_t __riscv_vslideup_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                        size_t rs1, size_t vl);
vint8mf2_t __riscv_vslideup_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                        size_t rs1, size_t vl);
vint8m1_t __riscv_vslideup_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                                      size_t vl);
vint8m2_t __riscv_vslideup_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                                      size_t vl);
vint8m4_t __riscv_vslideup_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                                      size_t vl);
vint8m8_t __riscv_vslideup_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                                      size_t vl);
vint16mf4_t __riscv_vslideup_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                          size_t rs1, size_t vl);
vint16mf2_t __riscv_vslideup_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                          size_t rs1, size_t vl);
vint16m1_t __riscv_vslideup_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                        size_t rs1, size_t vl);
vint16m2_t __riscv_vslideup_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                        size_t rs1, size_t vl);
vint16m4_t __riscv_vslideup_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                        size_t rs1, size_t vl);
vint16m8_t __riscv_vslideup_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                        size_t rs1, size_t vl);
vint32mf2_t __riscv_vslideup_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                          size_t rs1, size_t vl);
vint32m1_t __riscv_vslideup_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                        size_t rs1, size_t vl);
vint32m2_t __riscv_vslideup_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                        size_t rs1, size_t vl);
vint32m4_t __riscv_vslideup_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                        size_t rs1, size_t vl);
```

```
vint32m8_t __riscv_vslideup_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                        size_t rs1, size_t vl);
vint64m1_t __riscv_vslideup_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                        size_t rs1, size_t vl);
vint64m2_t __riscv_vslideup_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                        size_t rs1, size_t vl);
vint64m4_t __riscv_vslideup_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                        size_t rs1, size_t vl);
vint64m8_t __riscv_vslideup_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                        size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslideup_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                         size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslideup_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                         size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslideup_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                         size_t rs1, size_t vl);
vuint8m1_t __riscv_vslideup_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                       size_t rs1, size_t vl);
vuint8m2_t __riscv_vslideup_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                       size_t rs1, size_t vl);
vuint8m4_t __riscv_vslideup_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                       size_t rs1, size_t vl);
vuint8m8_t __riscv_vslideup_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                       size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslideup_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                           size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslideup_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                           size_t rs1, size_t vl);
vuint16m1_t __riscv_vslideup_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                         size_t rs1, size_t vl);
vuint16m2_t __riscv_vslideup_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                         size_t rs1, size_t vl);
vuint16m4_t __riscv_vslideup_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                         size_t rs1, size_t vl);
vuint16m8_t __riscv_vslideup_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                         size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslideup_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                           size_t rs1, size_t vl);
vuint32m1_t __riscv_vslideup_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                         size_t rs1, size_t vl);
vuint32m2_t __riscv_vslideup_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                         size_t rs1, size_t vl);
vuint32m4_t __riscv_vslideup_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                         size_t rs1, size_t vl);
vuint32m8_t __riscv_vslideup_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                         size_t rs1, size_t vl);
vuint64m1_t __riscv_vslideup_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                         size_t rs1, size_t vl);
vuint64m2_t __riscv_vslideup_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                         size_t rs1, size_t vl);
vuint64m4_t __riscv_vslideup_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                         size_t rs1, size_t vl);
vuint64m8_t __riscv_vslideup_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                         size_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslideup_vx_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                             vfloat16mf4_t vs2, size_t rs1,
                                             size_t vl);
vfloat16mf2_t __riscv_vslideup_vx_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                             vfloat16mf2_t vs2, size_t rs1,
                                             size_t vl);
vfloat16m1_t __riscv_vslideup_vx_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                           vfloat16m1_t vs2, size_t rs1,
                                           size_t vl);
vfloat16m2_t __riscv_vslideup_vx_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                           vfloat16m2_t vs2, size_t rs1,
                                           size_t vl);
```

```
vfloat16m4_t __riscv_vslideup_vx_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                           vfloat16m4_t vs2, size_t rs1,
                                           size_t vl);
vfloat16m8_t __riscv_vslideup_vx_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                           vfloat16m8_t vs2, size_t rs1,
                                           size_t vl);
vfloat32mf2_t __riscv_vslideup_vx_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                             vfloat32mf2_t vs2, size_t rs1,
                                             size_t vl);
vfloat32m1_t __riscv_vslideup_vx_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                           vfloat32m1_t vs2, size_t rs1,
                                           size_t vl);
vfloat32m2_t __riscv_vslideup_vx_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                           vfloat32m2_t vs2, size_t rs1,
                                           size_t vl);
vfloat32m4_t __riscv_vslideup_vx_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                           vfloat32m4_t vs2, size_t rs1,
                                           size_t vl);
vfloat32m8_t __riscv_vslideup_vx_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                           vfloat32m8_t vs2, size_t rs1,
                                           size_t vl);
vfloat64m1_t __riscv_vslideup_vx_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                           vfloat64m1_t vs2, size_t rs1,
                                           size_t vl);
vfloat64m2_t __riscv_vslideup_vx_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                           vfloat64m2_t vs2, size_t rs1,
                                           size_t vl);
vfloat64m4_t __riscv_vslideup_vx_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                           vfloat64m4_t vs2, size_t rs1,
                                           size_t vl);
vfloat64m8_t __riscv_vslideup_vx_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                           vfloat64m8_t vs2, size_t rs1,
                                           size_t vl);
vint8mf8_t __riscv_vslideup_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                         vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vslideup_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                         vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vslideup_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                         vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vslideup_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                       size_t rs1, size_t vl);
vint8m2_t __riscv_vslideup_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                       size_t rs1, size_t vl);
vint8m4_t __riscv_vslideup_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                       size_t rs1, size_t vl);
vint8m8_t __riscv_vslideup_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                       size_t rs1, size_t vl);
vint16mf4_t __riscv_vslideup_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                           vint16mf4_t vs2, size_t rs1,
                                           size_t vl);
vint16mf2_t __riscv_vslideup_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                           vint16mf2_t vs2, size_t rs1,
                                           size_t vl);
vint16m1_t __riscv_vslideup_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                         vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vslideup_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                         vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vslideup_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                         vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vslideup_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                         vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vslideup_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                           vint32mf2_t vs2, size_t rs1,
                                           size_t vl);
vint32m1_t __riscv_vslideup_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                         vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vslideup_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
```

```
                                        vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vslideup_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                        vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vslideup_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                        vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vslideup_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                        vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vslideup_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                        vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vslideup_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                        vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vslideup_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                        vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslideup_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                         vuint8mf8_t vs2, size_t rs1,
                                         size_t vl);
vuint8mf4_t __riscv_vslideup_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                         vuint8mf4_t vs2, size_t rs1,
                                         size_t vl);
vuint8mf2_t __riscv_vslideup_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                         vuint8mf2_t vs2, size_t rs1,
                                         size_t vl);
vuint8m1_t __riscv_vslideup_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                       vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vslideup_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                       vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vslideup_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                       vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vslideup_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                       vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslideup_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                           vuint16mf4_t vs2, size_t rs1,
                                           size_t vl);
vuint16mf2_t __riscv_vslideup_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                           vuint16mf2_t vs2, size_t rs1,
                                           size_t vl);
vuint16m1_t __riscv_vslideup_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs2, size_t rs1,
                                         size_t vl);
vuint16m2_t __riscv_vslideup_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, size_t rs1,
                                         size_t vl);
vuint16m4_t __riscv_vslideup_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, size_t rs1,
                                         size_t vl);
vuint16m8_t __riscv_vslideup_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, size_t rs1,
                                         size_t vl);
vuint32mf2_t __riscv_vslideup_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                           vuint32mf2_t vs2, size_t rs1,
                                           size_t vl);
vuint32m1_t __riscv_vslideup_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, size_t rs1,
                                         size_t vl);
vuint32m2_t __riscv_vslideup_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, size_t rs1,
                                         size_t vl);
vuint32m4_t __riscv_vslideup_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, size_t rs1,
                                         size_t vl);
vuint32m8_t __riscv_vslideup_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, size_t rs1,
                                         size_t vl);
vuint64m1_t __riscv_vslideup_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                         vuint64m1_t vs2, size_t rs1,
                                         size_t vl);
vuint64m2_t __riscv_vslideup_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
```

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                                        vuint64m2_t vs2, size_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vslideup_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, size_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vslideup_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, size_t rs1,
                                        size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslideup_vx_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, size_t rs1,
                                            size_t vl);
vfloat16mf2_t __riscv_vslideup_vx_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, size_t rs1,
                                            size_t vl);
vfloat16m1_t __riscv_vslideup_vx_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, size_t rs1,
                                          size_t vl);
vfloat16m2_t __riscv_vslideup_vx_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, size_t rs1,
                                          size_t vl);
vfloat16m4_t __riscv_vslideup_vx_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, size_t rs1,
                                          size_t vl);
vfloat16m8_t __riscv_vslideup_vx_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, size_t rs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vslideup_vx_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, size_t rs1,
                                            size_t vl);
vfloat32m1_t __riscv_vslideup_vx_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, size_t rs1,
                                          size_t vl);
vfloat32m2_t __riscv_vslideup_vx_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, size_t rs1,
                                          size_t vl);
vfloat32m4_t __riscv_vslideup_vx_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, size_t rs1,
                                          size_t vl);
vfloat32m8_t __riscv_vslideup_vx_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, size_t rs1,
                                          size_t vl);
vfloat64m1_t __riscv_vslideup_vx_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, size_t rs1,
                                          size_t vl);
vfloat64m2_t __riscv_vslideup_vx_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, size_t rs1,
                                          size_t vl);
vfloat64m4_t __riscv_vslideup_vx_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, size_t rs1,
                                          size_t vl);
vfloat64m8_t __riscv_vslideup_vx_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, size_t rs1,
                                          size_t vl);
vint8mf8_t __riscv_vslideup_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                        vint8mf8_t vs2, size_t rs1,
                                        size_t vl);
vint8mf4_t __riscv_vslideup_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                        vint8mf4_t vs2, size_t rs1,
                                        size_t vl);
vint8mf2_t __riscv_vslideup_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                        vint8mf2_t vs2, size_t rs1,
                                        size_t vl);
vint8m1_t __riscv_vslideup_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                      vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vslideup_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                      vint8m2_t vs2, size_t rs1, size_t vl);
```

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vint8m4_t __riscv_vslideup_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                        vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vslideup_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd,
                                        vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vslideup_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                            vint16mf4_t vs2, size_t rs1,
                                            size_t vl);
vint16mf2_t __riscv_vslideup_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                            vint16mf2_t vs2, size_t rs1,
                                            size_t vl);
vint16m1_t __riscv_vslideup_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                          vint16m1_t vs2, size_t rs1,
                                          size_t vl);
vint16m2_t __riscv_vslideup_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                          vint16m2_t vs2, size_t rs1,
                                          size_t vl);
vint16m4_t __riscv_vslideup_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                          vint16m4_t vs2, size_t rs1,
                                          size_t vl);
vint16m8_t __riscv_vslideup_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                          vint16m8_t vs2, size_t rs1,
                                          size_t vl);
vint32mf2_t __riscv_vslideup_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                            vint32mf2_t vs2, size_t rs1,
                                            size_t vl);
vint32m1_t __riscv_vslideup_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                          vint32m1_t vs2, size_t rs1,
                                          size_t vl);
vint32m2_t __riscv_vslideup_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                          vint32m2_t vs2, size_t rs1,
                                          size_t vl);
vint32m4_t __riscv_vslideup_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                          vint32m4_t vs2, size_t rs1,
                                          size_t vl);
vint32m8_t __riscv_vslideup_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                          vint32m8_t vs2, size_t rs1,
                                          size_t vl);
vint64m1_t __riscv_vslideup_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                          vint64m1_t vs2, size_t rs1,
                                          size_t vl);
vint64m2_t __riscv_vslideup_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                          vint64m2_t vs2, size_t rs1,
                                          size_t vl);
vint64m4_t __riscv_vslideup_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                          vint64m4_t vs2, size_t rs1,
                                          size_t vl);
vint64m8_t __riscv_vslideup_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                          vint64m8_t vs2, size_t rs1,
                                          size_t vl);
vuint8mf8_t __riscv_vslideup_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                           vuint8mf8_t vs2, size_t rs1,
                                           size_t vl);
vuint8mf4_t __riscv_vslideup_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                           vuint8mf4_t vs2, size_t rs1,
                                           size_t vl);
vuint8mf2_t __riscv_vslideup_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                           vuint8mf2_t vs2, size_t rs1,
                                           size_t vl);
vuint8m1_t __riscv_vslideup_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                         vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vslideup_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                         vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vslideup_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                         vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vslideup_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                         vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslideup_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
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                                          vuint16mf4_t vs2, size_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vslideup_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, size_t rs1,
                                          size_t vl);
vuint16m1_t __riscv_vslideup_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs2, size_t rs1,
                                         size_t vl);
vuint16m2_t __riscv_vslideup_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, size_t rs1,
                                         size_t vl);
vuint16m4_t __riscv_vslideup_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, size_t rs1,
                                         size_t vl);
vuint16m8_t __riscv_vslideup_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                         vuint16m8_t vs2, size_t rs1,
                                         size_t vl);
vuint32mf2_t __riscv_vslideup_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, size_t rs1,
                                          size_t vl);
vuint32m1_t __riscv_vslideup_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                         vuint32m1_t vs2, size_t rs1,
                                         size_t vl);
vuint32m2_t __riscv_vslideup_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                         vuint32m2_t vs2, size_t rs1,
                                         size_t vl);
vuint32m4_t __riscv_vslideup_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                         vuint32m4_t vs2, size_t rs1,
                                         size_t vl);
vuint32m8_t __riscv_vslideup_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                         vuint32m8_t vs2, size_t rs1,
                                         size_t vl);
vuint64m1_t __riscv_vslideup_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                         vuint64m1_t vs2, size_t rs1,
                                         size_t vl);
vuint64m2_t __riscv_vslideup_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                         vuint64m2_t vs2, size_t rs1,
                                         size_t vl);
vuint64m4_t __riscv_vslideup_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                         vuint64m4_t vs2, size_t rs1,
                                         size_t vl);
vuint64m8_t __riscv_vslideup_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                         vuint64m8_t vs2, size_t rs1,
                                         size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslideup_vx_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                          vfloat16mf4_t vs2, size_t rs1,
                                          size_t vl);
vfloat16mf2_t __riscv_vslideup_vx_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                          vfloat16mf2_t vs2, size_t rs1,
                                          size_t vl);
vfloat16m1_t __riscv_vslideup_vx_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                         vfloat16m1_t vs2, size_t rs1,
                                         size_t vl);
vfloat16m2_t __riscv_vslideup_vx_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                         vfloat16m2_t vs2, size_t rs1,
                                         size_t vl);
vfloat16m4_t __riscv_vslideup_vx_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                         vfloat16m4_t vs2, size_t rs1,
                                         size_t vl);
vfloat16m8_t __riscv_vslideup_vx_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                         vfloat16m8_t vs2, size_t rs1,
                                         size_t vl);
vfloat32mf2_t __riscv_vslideup_vx_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, size_t rs1,
                                          size_t vl);
vfloat32m1_t __riscv_vslideup_vx_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
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                                        vfloat32m1_t vs2, size_t rs1,
                                        size_t vl);
vfloat32m2_t __riscv_vslideup_vx_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, size_t rs1,
                                        size_t vl);
vfloat32m4_t __riscv_vslideup_vx_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, size_t rs1,
                                        size_t vl);
vfloat32m8_t __riscv_vslideup_vx_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, size_t rs1,
                                        size_t vl);
vfloat64m1_t __riscv_vslideup_vx_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, size_t rs1,
                                        size_t vl);
vfloat64m2_t __riscv_vslideup_vx_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, size_t rs1,
                                        size_t vl);
vfloat64m4_t __riscv_vslideup_vx_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, size_t rs1,
                                        size_t vl);
vfloat64m8_t __riscv_vslideup_vx_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, size_t rs1,
                                        size_t vl);
vint8mf8_t __riscv_vslideup_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                      vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vslideup_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                      vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vslideup_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                      vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vslideup_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    size_t rs1, size_t vl);
vint8m2_t __riscv_vslideup_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    size_t rs1, size_t vl);
vint8m4_t __riscv_vslideup_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    size_t rs1, size_t vl);
vint8m8_t __riscv_vslideup_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                    size_t rs1, size_t vl);
vint16mf4_t __riscv_vslideup_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                        vint16mf4_t vs2, size_t rs1,
                                        size_t vl);
vint16mf2_t __riscv_vslideup_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                        vint16mf2_t vs2, size_t rs1,
                                        size_t vl);
vint16m1_t __riscv_vslideup_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                      vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vslideup_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                      vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vslideup_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                      vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vslideup_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                      vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vslideup_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                        vint32mf2_t vs2, size_t rs1,
                                        size_t vl);
vint32m1_t __riscv_vslideup_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                      vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vslideup_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                      vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vslideup_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                      vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vslideup_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                      vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vslideup_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                      vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vslideup_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                      vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vslideup_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
```

```
                                      vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vslideup_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                      vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslideup_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, size_t rs1,
                                       size_t vl);
vuint8mf4_t __riscv_vslideup_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, size_t rs1,
                                       size_t vl);
vuint8mf2_t __riscv_vslideup_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, size_t rs1,
                                       size_t vl);
vuint8m1_t __riscv_vslideup_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                     vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vslideup_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                     vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vslideup_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                     vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vslideup_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd,
                                     vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslideup_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, size_t rs1,
                                         size_t vl);
vuint16mf2_t __riscv_vslideup_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, size_t rs1,
                                         size_t vl);
vuint16m1_t __riscv_vslideup_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, size_t rs1,
                                       size_t vl);
vuint16m2_t __riscv_vslideup_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, size_t rs1,
                                       size_t vl);
vuint16m4_t __riscv_vslideup_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, size_t rs1,
                                       size_t vl);
vuint16m8_t __riscv_vslideup_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, size_t rs1,
                                       size_t vl);
vuint32mf2_t __riscv_vslideup_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, size_t rs1,
                                         size_t vl);
vuint32m1_t __riscv_vslideup_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, size_t rs1,
                                       size_t vl);
vuint32m2_t __riscv_vslideup_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, size_t rs1,
                                       size_t vl);
vuint32m4_t __riscv_vslideup_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, size_t rs1,
                                       size_t vl);
vuint32m8_t __riscv_vslideup_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                       vuint32m8_t vs2, size_t rs1,
                                       size_t vl);
vuint64m1_t __riscv_vslideup_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                       vuint64m1_t vs2, size_t rs1,
                                       size_t vl);
vuint64m2_t __riscv_vslideup_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                       vuint64m2_t vs2, size_t rs1,
                                       size_t vl);
vuint64m4_t __riscv_vslideup_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                       vuint64m4_t vs2, size_t rs1,
                                       size_t vl);
vuint64m8_t __riscv_vslideup_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                       vuint64m8_t vs2, size_t rs1,
                                       size_t vl);
```

B.8.3. Vector Slidedown Intrinsics

```
vfloat16mf4_t __riscv_vslidedown_vx_f16mf4_tu(vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2, size_t rs1,
                                              size_t vl);
vfloat16mf2_t __riscv_vslidedown_vx_f16mf2_tu(vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2, size_t rs1,
                                              size_t vl);
vfloat16m1_t __riscv_vslidedown_vx_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                            size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslidedown_vx_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                            size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslidedown_vx_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                            size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslidedown_vx_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                            size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslidedown_vx_f32mf2_tu(vfloat32mf2_t vd,
                                              vfloat32mf2_t vs2, size_t rs1,
                                              size_t vl);
vfloat32m1_t __riscv_vslidedown_vx_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                            size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslidedown_vx_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                            size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslidedown_vx_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                            size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslidedown_vx_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                            size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslidedown_vx_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                            size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslidedown_vx_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                            size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslidedown_vx_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                            size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslidedown_vx_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                            size_t rs1, size_t vl);
vint8mf8_t __riscv_vslidedown_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                          size_t rs1, size_t vl);
vint8mf4_t __riscv_vslidedown_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                          size_t rs1, size_t vl);
vint8mf2_t __riscv_vslidedown_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                          size_t rs1, size_t vl);
vint8m1_t __riscv_vslidedown_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                                        size_t vl);
vint8m2_t __riscv_vslidedown_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                                        size_t vl);
vint8m4_t __riscv_vslidedown_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                                        size_t vl);
vint8m8_t __riscv_vslidedown_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                                        size_t vl);
vint16mf4_t __riscv_vslidedown_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                            size_t rs1, size_t vl);
vint16mf2_t __riscv_vslidedown_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                            size_t rs1, size_t vl);
vint16m1_t __riscv_vslidedown_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                          size_t rs1, size_t vl);
vint16m2_t __riscv_vslidedown_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                          size_t rs1, size_t vl);
vint16m4_t __riscv_vslidedown_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                          size_t rs1, size_t vl);
vint16m8_t __riscv_vslidedown_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                          size_t rs1, size_t vl);
vint32mf2_t __riscv_vslidedown_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                            size_t rs1, size_t vl);
vint32m1_t __riscv_vslidedown_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                          size_t rs1, size_t vl);
vint32m2_t __riscv_vslidedown_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
```

```
                                          size_t rs1, size_t vl);
vint32m4_t __riscv_vslidedown_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                          size_t rs1, size_t vl);
vint32m8_t __riscv_vslidedown_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                          size_t rs1, size_t vl);
vint64m1_t __riscv_vslidedown_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                          size_t rs1, size_t vl);
vint64m2_t __riscv_vslidedown_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                          size_t rs1, size_t vl);
vint64m4_t __riscv_vslidedown_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                          size_t rs1, size_t vl);
vint64m8_t __riscv_vslidedown_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                          size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslidedown_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                           size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslidedown_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                           size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslidedown_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                           size_t rs1, size_t vl);
vuint8m1_t __riscv_vslidedown_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                         size_t rs1, size_t vl);
vuint8m2_t __riscv_vslidedown_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                         size_t rs1, size_t vl);
vuint8m4_t __riscv_vslidedown_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                         size_t rs1, size_t vl);
vuint8m8_t __riscv_vslidedown_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                         size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslidedown_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                             size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslidedown_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                             size_t rs1, size_t vl);
vuint16m1_t __riscv_vslidedown_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                           size_t rs1, size_t vl);
vuint16m2_t __riscv_vslidedown_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                           size_t rs1, size_t vl);
vuint16m4_t __riscv_vslidedown_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                           size_t rs1, size_t vl);
vuint16m8_t __riscv_vslidedown_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                           size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslidedown_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                             size_t rs1, size_t vl);
vuint32m1_t __riscv_vslidedown_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                           size_t rs1, size_t vl);
vuint32m2_t __riscv_vslidedown_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                           size_t rs1, size_t vl);
vuint32m4_t __riscv_vslidedown_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                           size_t rs1, size_t vl);
vuint32m8_t __riscv_vslidedown_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                           size_t rs1, size_t vl);
vuint64m1_t __riscv_vslidedown_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                           size_t rs1, size_t vl);
vuint64m2_t __riscv_vslidedown_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                           size_t rs1, size_t vl);
vuint64m4_t __riscv_vslidedown_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                           size_t rs1, size_t vl);
vuint64m8_t __riscv_vslidedown_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                           size_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslidedown_vx_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                               vfloat16mf4_t vs2, size_t rs1,
                                               size_t vl);
vfloat16mf2_t __riscv_vslidedown_vx_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               vfloat16mf2_t vs2, size_t rs1,
                                               size_t vl);
vfloat16m1_t __riscv_vslidedown_vx_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                             vfloat16m1_t vs2, size_t rs1,
                                             size_t vl);
```

```
vfloat16m2_t __riscv_vslidedown_vx_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                             vfloat16m2_t vs2, size_t rs1,
                                             size_t vl);
vfloat16m4_t __riscv_vslidedown_vx_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                             vfloat16m4_t vs2, size_t rs1,
                                             size_t vl);
vfloat16m8_t __riscv_vslidedown_vx_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                             vfloat16m8_t vs2, size_t rs1,
                                             size_t vl);
vfloat32mf2_t __riscv_vslidedown_vx_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat32mf2_t vs2, size_t rs1,
                                               size_t vl);
vfloat32m1_t __riscv_vslidedown_vx_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat32m1_t vs2, size_t rs1,
                                             size_t vl);
vfloat32m2_t __riscv_vslidedown_vx_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat32m2_t vs2, size_t rs1,
                                             size_t vl);
vfloat32m4_t __riscv_vslidedown_vx_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat32m4_t vs2, size_t rs1,
                                             size_t vl);
vfloat32m8_t __riscv_vslidedown_vx_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                             vfloat32m8_t vs2, size_t rs1,
                                             size_t vl);
vfloat64m1_t __riscv_vslidedown_vx_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat64m1_t vs2, size_t rs1,
                                             size_t vl);
vfloat64m2_t __riscv_vslidedown_vx_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat64m2_t vs2, size_t rs1,
                                             size_t vl);
vfloat64m4_t __riscv_vslidedown_vx_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                             vfloat64m4_t vs2, size_t rs1,
                                             size_t vl);
vfloat64m8_t __riscv_vslidedown_vx_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                             vfloat64m8_t vs2, size_t rs1,
                                             size_t vl);
vint8mf8_t __riscv_vslidedown_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                           vint8mf8_t vs2, size_t rs1,
                                           size_t vl);
vint8mf4_t __riscv_vslidedown_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                           vint8mf4_t vs2, size_t rs1,
                                           size_t vl);
vint8mf2_t __riscv_vslidedown_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                           vint8mf2_t vs2, size_t rs1,
                                           size_t vl);
vint8m1_t __riscv_vslidedown_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                         vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vslidedown_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                         vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vslidedown_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                         vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vslidedown_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd,
                                         vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vslidedown_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                             vint16mf4_t vs2, size_t rs1,
                                             size_t vl);
vint16mf2_t __riscv_vslidedown_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                             vint16mf2_t vs2, size_t rs1,
                                             size_t vl);
vint16m1_t __riscv_vslidedown_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                           vint16m1_t vs2, size_t rs1,
                                           size_t vl);
vint16m2_t __riscv_vslidedown_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                           vint16m2_t vs2, size_t rs1,
                                           size_t vl);
vint16m4_t __riscv_vslidedown_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                           vint16m4_t vs2, size_t rs1,
```

```
                                          size_t vl);
vint16m8_t __riscv_vslidedown_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                           vint16m8_t vs2, size_t rs1,
                                           size_t vl);
vint32mf2_t __riscv_vslidedown_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                             vint32mf2_t vs2, size_t rs1,
                                             size_t vl);
vint32m1_t __riscv_vslidedown_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                           vint32m1_t vs2, size_t rs1,
                                           size_t vl);
vint32m2_t __riscv_vslidedown_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                           vint32m2_t vs2, size_t rs1,
                                           size_t vl);
vint32m4_t __riscv_vslidedown_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                           vint32m4_t vs2, size_t rs1,
                                           size_t vl);
vint32m8_t __riscv_vslidedown_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                           vint32m8_t vs2, size_t rs1,
                                           size_t vl);
vint64m1_t __riscv_vslidedown_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                           vint64m1_t vs2, size_t rs1,
                                           size_t vl);
vint64m2_t __riscv_vslidedown_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                           vint64m2_t vs2, size_t rs1,
                                           size_t vl);
vint64m4_t __riscv_vslidedown_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                           vint64m4_t vs2, size_t rs1,
                                           size_t vl);
vint64m8_t __riscv_vslidedown_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                           vint64m8_t vs2, size_t rs1,
                                           size_t vl);
vuint8mf8_t __riscv_vslidedown_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                            vuint8mf8_t vs2, size_t rs1,
                                            size_t vl);
vuint8mf4_t __riscv_vslidedown_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                            vuint8mf4_t vs2, size_t rs1,
                                            size_t vl);
vuint8mf2_t __riscv_vslidedown_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                            vuint8mf2_t vs2, size_t rs1,
                                            size_t vl);
vuint8m1_t __riscv_vslidedown_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                          vuint8m1_t vs2, size_t rs1,
                                          size_t vl);
vuint8m2_t __riscv_vslidedown_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                          vuint8m2_t vs2, size_t rs1,
                                          size_t vl);
vuint8m4_t __riscv_vslidedown_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                          vuint8m4_t vs2, size_t rs1,
                                          size_t vl);
vuint8m8_t __riscv_vslidedown_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                          vuint8m8_t vs2, size_t rs1,
                                          size_t vl);
vuint16mf4_t __riscv_vslidedown_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                              vuint16mf4_t vs2, size_t rs1,
                                              size_t vl);
vuint16mf2_t __riscv_vslidedown_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                              vuint16mf2_t vs2, size_t rs1,
                                              size_t vl);
vuint16m1_t __riscv_vslidedown_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                            vuint16m1_t vs2, size_t rs1,
                                            size_t vl);
vuint16m2_t __riscv_vslidedown_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                            vuint16m2_t vs2, size_t rs1,
                                            size_t vl);
vuint16m4_t __riscv_vslidedown_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                            vuint16m4_t vs2, size_t rs1,
                                            size_t vl);
```

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vuint16m8_t __riscv_vslidedown_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                            vuint16m8_t vs2, size_t rs1,
                                            size_t vl);
vuint32mf2_t __riscv_vslidedown_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                              vuint32mf2_t vs2, size_t rs1,
                                              size_t vl);
vuint32m1_t __riscv_vslidedown_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                            vuint32m1_t vs2, size_t rs1,
                                            size_t vl);
vuint32m2_t __riscv_vslidedown_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                            vuint32m2_t vs2, size_t rs1,
                                            size_t vl);
vuint32m4_t __riscv_vslidedown_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                            vuint32m4_t vs2, size_t rs1,
                                            size_t vl);
vuint32m8_t __riscv_vslidedown_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                            vuint32m8_t vs2, size_t rs1,
                                            size_t vl);
vuint64m1_t __riscv_vslidedown_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                            vuint64m1_t vs2, size_t rs1,
                                            size_t vl);
vuint64m2_t __riscv_vslidedown_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                            vuint64m2_t vs2, size_t rs1,
                                            size_t vl);
vuint64m4_t __riscv_vslidedown_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                            vuint64m4_t vs2, size_t rs1,
                                            size_t vl);
vuint64m8_t __riscv_vslidedown_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                            vuint64m8_t vs2, size_t rs1,
                                            size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslidedown_vx_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                                vfloat16mf4_t vs2, size_t rs1,
                                                size_t vl);
vfloat16mf2_t __riscv_vslidedown_vx_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                                vfloat16mf2_t vs2, size_t rs1,
                                                size_t vl);
vfloat16m1_t __riscv_vslidedown_vx_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                              vfloat16m1_t vs2, size_t rs1,
                                              size_t vl);
vfloat16m2_t __riscv_vslidedown_vx_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                              vfloat16m2_t vs2, size_t rs1,
                                              size_t vl);
vfloat16m4_t __riscv_vslidedown_vx_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                              vfloat16m4_t vs2, size_t rs1,
                                              size_t vl);
vfloat16m8_t __riscv_vslidedown_vx_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                              vfloat16m8_t vs2, size_t rs1,
                                              size_t vl);
vfloat32mf2_t __riscv_vslidedown_vx_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                                vfloat32mf2_t vs2, size_t rs1,
                                                size_t vl);
vfloat32m1_t __riscv_vslidedown_vx_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                              vfloat32m1_t vs2, size_t rs1,
                                              size_t vl);
vfloat32m2_t __riscv_vslidedown_vx_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                              vfloat32m2_t vs2, size_t rs1,
                                              size_t vl);
vfloat32m4_t __riscv_vslidedown_vx_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                              vfloat32m4_t vs2, size_t rs1,
                                              size_t vl);
vfloat32m8_t __riscv_vslidedown_vx_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                              vfloat32m8_t vs2, size_t rs1,
                                              size_t vl);
vfloat64m1_t __riscv_vslidedown_vx_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                              vfloat64m1_t vs2, size_t rs1,
                                              size_t vl);
```

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vfloat64m2_t __riscv_vslidedown_vx_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                              vfloat64m2_t vs2, size_t rs1,
                                              size_t vl);
vfloat64m4_t __riscv_vslidedown_vx_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                              vfloat64m4_t vs2, size_t rs1,
                                              size_t vl);
vfloat64m8_t __riscv_vslidedown_vx_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                              vfloat64m8_t vs2, size_t rs1,
                                              size_t vl);
vint8mf8_t __riscv_vslidedown_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                            vint8mf8_t vs2, size_t rs1,
                                            size_t vl);
vint8mf4_t __riscv_vslidedown_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                            vint8mf4_t vs2, size_t rs1,
                                            size_t vl);
vint8mf2_t __riscv_vslidedown_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                            vint8mf2_t vs2, size_t rs1,
                                            size_t vl);
vint8m1_t __riscv_vslidedown_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                          vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vslidedown_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                          vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vslidedown_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                          vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vslidedown_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd,
                                          vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vslidedown_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                              vint16mf4_t vs2, size_t rs1,
                                              size_t vl);
vint16mf2_t __riscv_vslidedown_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                              vint16mf2_t vs2, size_t rs1,
                                              size_t vl);
vint16m1_t __riscv_vslidedown_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                            vint16m1_t vs2, size_t rs1,
                                            size_t vl);
vint16m2_t __riscv_vslidedown_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                            vint16m2_t vs2, size_t rs1,
                                            size_t vl);
vint16m4_t __riscv_vslidedown_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                            vint16m4_t vs2, size_t rs1,
                                            size_t vl);
vint16m8_t __riscv_vslidedown_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                            vint16m8_t vs2, size_t rs1,
                                            size_t vl);
vint32mf2_t __riscv_vslidedown_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                              vint32mf2_t vs2, size_t rs1,
                                              size_t vl);
vint32m1_t __riscv_vslidedown_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                            vint32m1_t vs2, size_t rs1,
                                            size_t vl);
vint32m2_t __riscv_vslidedown_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                            vint32m2_t vs2, size_t rs1,
                                            size_t vl);
vint32m4_t __riscv_vslidedown_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                            vint32m4_t vs2, size_t rs1,
                                            size_t vl);
vint32m8_t __riscv_vslidedown_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                            vint32m8_t vs2, size_t rs1,
                                            size_t vl);
vint64m1_t __riscv_vslidedown_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                            vint64m1_t vs2, size_t rs1,
                                            size_t vl);
vint64m2_t __riscv_vslidedown_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                            vint64m2_t vs2, size_t rs1,
                                            size_t vl);
vint64m4_t __riscv_vslidedown_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                            vint64m4_t vs2, size_t rs1,
```

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                                          size_t vl);
vint64m8_t __riscv_vslidedown_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                           vint64m8_t vs2, size_t rs1,
                                           size_t vl);
vuint8mf8_t __riscv_vslidedown_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                            vuint8mf8_t vs2, size_t rs1,
                                            size_t vl);
vuint8mf4_t __riscv_vslidedown_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                            vuint8mf4_t vs2, size_t rs1,
                                            size_t vl);
vuint8mf2_t __riscv_vslidedown_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                            vuint8mf2_t vs2, size_t rs1,
                                            size_t vl);
vuint8m1_t __riscv_vslidedown_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                          vuint8m1_t vs2, size_t rs1,
                                          size_t vl);
vuint8m2_t __riscv_vslidedown_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                          vuint8m2_t vs2, size_t rs1,
                                          size_t vl);
vuint8m4_t __riscv_vslidedown_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                          vuint8m4_t vs2, size_t rs1,
                                          size_t vl);
vuint8m8_t __riscv_vslidedown_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                          vuint8m8_t vs2, size_t rs1,
                                          size_t vl);
vuint16mf4_t __riscv_vslidedown_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                              vuint16mf4_t vs2, size_t rs1,
                                              size_t vl);
vuint16mf2_t __riscv_vslidedown_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                              vuint16mf2_t vs2, size_t rs1,
                                              size_t vl);
vuint16m1_t __riscv_vslidedown_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                            vuint16m1_t vs2, size_t rs1,
                                            size_t vl);
vuint16m2_t __riscv_vslidedown_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                            vuint16m2_t vs2, size_t rs1,
                                            size_t vl);
vuint16m4_t __riscv_vslidedown_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                            vuint16m4_t vs2, size_t rs1,
                                            size_t vl);
vuint16m8_t __riscv_vslidedown_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                            vuint16m8_t vs2, size_t rs1,
                                            size_t vl);
vuint32mf2_t __riscv_vslidedown_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                              vuint32mf2_t vs2, size_t rs1,
                                              size_t vl);
vuint32m1_t __riscv_vslidedown_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                            vuint32m1_t vs2, size_t rs1,
                                            size_t vl);
vuint32m2_t __riscv_vslidedown_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                            vuint32m2_t vs2, size_t rs1,
                                            size_t vl);
vuint32m4_t __riscv_vslidedown_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                            vuint32m4_t vs2, size_t rs1,
                                            size_t vl);
vuint32m8_t __riscv_vslidedown_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                            vuint32m8_t vs2, size_t rs1,
                                            size_t vl);
vuint64m1_t __riscv_vslidedown_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                            vuint64m1_t vs2, size_t rs1,
                                            size_t vl);
vuint64m2_t __riscv_vslidedown_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                            vuint64m2_t vs2, size_t rs1,
                                            size_t vl);
vuint64m4_t __riscv_vslidedown_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                            vuint64m4_t vs2, size_t rs1,
                                            size_t vl);
```

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vuint64m8_t __riscv_vslidedown_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                             vuint64m8_t vs2, size_t rs1,
                                             size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslidedown_vx_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2, size_t rs1,
                                              size_t vl);
vfloat16mf2_t __riscv_vslidedown_vx_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2, size_t rs1,
                                              size_t vl);
vfloat16m1_t __riscv_vslidedown_vx_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs2, size_t rs1,
                                            size_t vl);
vfloat16m2_t __riscv_vslidedown_vx_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs2, size_t rs1,
                                            size_t vl);
vfloat16m4_t __riscv_vslidedown_vx_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs2, size_t rs1,
                                            size_t vl);
vfloat16m8_t __riscv_vslidedown_vx_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                            vfloat16m8_t vs2, size_t rs1,
                                            size_t vl);
vfloat32mf2_t __riscv_vslidedown_vx_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat32mf2_t vs2, size_t rs1,
                                              size_t vl);
vfloat32m1_t __riscv_vslidedown_vx_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs2, size_t rs1,
                                            size_t vl);
vfloat32m2_t __riscv_vslidedown_vx_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs2, size_t rs1,
                                            size_t vl);
vfloat32m4_t __riscv_vslidedown_vx_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs2, size_t rs1,
                                            size_t vl);
vfloat32m8_t __riscv_vslidedown_vx_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, size_t rs1,
                                            size_t vl);
vfloat64m1_t __riscv_vslidedown_vx_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs2, size_t rs1,
                                            size_t vl);
vfloat64m2_t __riscv_vslidedown_vx_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs2, size_t rs1,
                                            size_t vl);
vfloat64m4_t __riscv_vslidedown_vx_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                            vfloat64m4_t vs2, size_t rs1,
                                            size_t vl);
vfloat64m8_t __riscv_vslidedown_vx_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                            vfloat64m8_t vs2, size_t rs1,
                                            size_t vl);
vint8mf8_t __riscv_vslidedown_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                          vint8mf8_t vs2, size_t rs1,
                                          size_t vl);
vint8mf4_t __riscv_vslidedown_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                          vint8mf4_t vs2, size_t rs1,
                                          size_t vl);
vint8mf2_t __riscv_vslidedown_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                          vint8mf2_t vs2, size_t rs1,
                                          size_t vl);
vint8m1_t __riscv_vslidedown_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                        vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vslidedown_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd,
                                        vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vslidedown_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd,
                                        vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vslidedown_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd,
                                        vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vslidedown_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
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```
                                          vint16mf4_t vs2, size_t rs1,
                                          size_t vl);
vint16mf2_t __riscv_vslidedown_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                          vint16mf2_t vs2, size_t rs1,
                                          size_t vl);
vint16m1_t __riscv_vslidedown_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                        vint16m1_t vs2, size_t rs1,
                                        size_t vl);
vint16m2_t __riscv_vslidedown_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                        vint16m2_t vs2, size_t rs1,
                                        size_t vl);
vint16m4_t __riscv_vslidedown_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                        vint16m4_t vs2, size_t rs1,
                                        size_t vl);
vint16m8_t __riscv_vslidedown_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                        vint16m8_t vs2, size_t rs1,
                                        size_t vl);
vint32mf2_t __riscv_vslidedown_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                          vint32mf2_t vs2, size_t rs1,
                                          size_t vl);
vint32m1_t __riscv_vslidedown_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                        vint32m1_t vs2, size_t rs1,
                                        size_t vl);
vint32m2_t __riscv_vslidedown_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                        vint32m2_t vs2, size_t rs1,
                                        size_t vl);
vint32m4_t __riscv_vslidedown_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                        vint32m4_t vs2, size_t rs1,
                                        size_t vl);
vint32m8_t __riscv_vslidedown_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                        vint32m8_t vs2, size_t rs1,
                                        size_t vl);
vint64m1_t __riscv_vslidedown_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                        vint64m1_t vs2, size_t rs1,
                                        size_t vl);
vint64m2_t __riscv_vslidedown_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                        vint64m2_t vs2, size_t rs1,
                                        size_t vl);
vint64m4_t __riscv_vslidedown_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                        vint64m4_t vs2, size_t rs1,
                                        size_t vl);
vint64m8_t __riscv_vslidedown_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                        vint64m8_t vs2, size_t rs1,
                                        size_t vl);
vuint8mf8_t __riscv_vslidedown_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                         vuint8mf8_t vs2, size_t rs1,
                                         size_t vl);
vuint8mf4_t __riscv_vslidedown_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                         vuint8mf4_t vs2, size_t rs1,
                                         size_t vl);
vuint8mf2_t __riscv_vslidedown_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                         vuint8mf2_t vs2, size_t rs1,
                                         size_t vl);
vuint8m1_t __riscv_vslidedown_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                       vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vslidedown_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                       vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vslidedown_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                       vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vslidedown_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd,
                                       vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslidedown_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                           vuint16mf4_t vs2, size_t rs1,
                                           size_t vl);
vuint16mf2_t __riscv_vslidedown_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                           vuint16mf2_t vs2, size_t rs1,
                                           size_t vl);
```

```
vuint16m1_t __riscv_vslidedown_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                           vuint16m1_t vs2, size_t rs1,
                                           size_t vl);
vuint16m2_t __riscv_vslidedown_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                           vuint16m2_t vs2, size_t rs1,
                                           size_t vl);
vuint16m4_t __riscv_vslidedown_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                           vuint16m4_t vs2, size_t rs1,
                                           size_t vl);
vuint16m8_t __riscv_vslidedown_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                           vuint16m8_t vs2, size_t rs1,
                                           size_t vl);
vuint32mf2_t __riscv_vslidedown_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                             vuint32mf2_t vs2, size_t rs1,
                                             size_t vl);
vuint32m1_t __riscv_vslidedown_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                           vuint32m1_t vs2, size_t rs1,
                                           size_t vl);
vuint32m2_t __riscv_vslidedown_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                           vuint32m2_t vs2, size_t rs1,
                                           size_t vl);
vuint32m4_t __riscv_vslidedown_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                           vuint32m4_t vs2, size_t rs1,
                                           size_t vl);
vuint32m8_t __riscv_vslidedown_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                           vuint32m8_t vs2, size_t rs1,
                                           size_t vl);
vuint64m1_t __riscv_vslidedown_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                           vuint64m1_t vs2, size_t rs1,
                                           size_t vl);
vuint64m2_t __riscv_vslidedown_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                           vuint64m2_t vs2, size_t rs1,
                                           size_t vl);
vuint64m4_t __riscv_vslidedown_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                           vuint64m4_t vs2, size_t rs1,
                                           size_t vl);
vuint64m8_t __riscv_vslidedown_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                           vuint64m8_t vs2, size_t rs1,
                                           size_t vl);
```

B.8.4. Vector Slide1up and Slide1down Intrinsics

```
vfloat16mf4_t __riscv_vfslide1up_vf_f16mf4_tu(vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2, _Float16 rs1,
                                              size_t vl);
vfloat16mf2_t __riscv_vfslide1up_vf_f16mf2_tu(vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2, _Float16 rs1,
                                              size_t vl);
vfloat16m1_t __riscv_vfslide1up_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                            _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1up_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                            _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1up_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                            _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1up_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                            _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfslide1up_vf_f32mf2_tu(vfloat32mf2_t vd,
                                              vfloat32mf2_t vs2, float rs1,
                                              size_t vl);
vfloat32m1_t __riscv_vfslide1up_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                            float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1up_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                            float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1up_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                            float rs1, size_t vl);
```

```
vfloat32m8_t __riscv_vfslide1up_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                            float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1up_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                            double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1up_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                            double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1up_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                            double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1up_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                            double rs1, size_t vl);
vfloat16mf4_t __riscv_vfslide1down_vf_f16mf4_tu(vfloat16mf4_t vd,
                                                vfloat16mf4_t vs2, _Float16 rs1,
                                                size_t vl);
vfloat16mf2_t __riscv_vfslide1down_vf_f16mf2_tu(vfloat16mf2_t vd,
                                                vfloat16mf2_t vs2, _Float16 rs1,
                                                size_t vl);
vfloat16m1_t __riscv_vfslide1down_vf_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                              _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1down_vf_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                              _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1down_vf_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                              _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1down_vf_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                              _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfslide1down_vf_f32mf2_tu(vfloat32mf2_t vd,
                                                vfloat32mf2_t vs2, float rs1,
                                                size_t vl);
vfloat32m1_t __riscv_vfslide1down_vf_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                              float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1down_vf_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                              float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1down_vf_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                              float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1down_vf_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                              float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1down_vf_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                              double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1down_vf_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                              double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1down_vf_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                              double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1down_vf_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                              double rs1, size_t vl);
vint8mf8_t __riscv_vslide1up_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                         int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1up_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                         int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1up_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                         int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1up_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                       size_t vl);
vint8m2_t __riscv_vslide1up_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                       size_t vl);
vint8m4_t __riscv_vslide1up_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                       size_t vl);
vint8m8_t __riscv_vslide1up_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                       size_t vl);
vint16mf4_t __riscv_vslide1up_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                           int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1up_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                           int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1up_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                         int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1up_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                         int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1up_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                         int16_t rs1, size_t vl);
```

```
vint16m8_t __riscv_vslide1up_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                         int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1up_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                           int32_t rs1, size_t vl);
vint32m1_t __riscv_vslide1up_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                         int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1up_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                         int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1up_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                         int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1up_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                         int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1up_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                         int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1up_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                         int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1up_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                         int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1up_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                         int64_t rs1, size_t vl);
vint8mf8_t __riscv_vslide1down_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                           int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1down_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                           int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1down_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                           int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1down_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2,
                                         int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1down_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2,
                                         int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1down_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2,
                                         int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1down_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2,
                                         int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1down_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1down_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1down_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                           int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1down_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                           int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1down_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                           int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1down_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                           int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1down_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vslide1down_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                           int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1down_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                           int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1down_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                           int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1down_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                           int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1down_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                           int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1down_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                           int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1down_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                           int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1down_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                           int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1up_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                          uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1up_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
```

```
                                          uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1up_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                          uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1up_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                        uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1up_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                        uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1up_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                        uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1up_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                        uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1up_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                            uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1up_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                            uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1up_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                          uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1up_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                          uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1up_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                          uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1up_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                          uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1up_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                            uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1up_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                          uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1up_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                          uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1up_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                          uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1up_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                          uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1up_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                          uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1up_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                          uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1up_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                          uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1up_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                          uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1down_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                            uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1down_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                            uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1down_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                            uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1down_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                          uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1down_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                          uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1down_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                          uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1down_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                          uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1down_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                              uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1down_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                              uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1down_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                            uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1down_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                            uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1down_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                            uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1down_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                            uint16_t rs1, size_t vl);
```

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vuint32mf2_t __riscv_vslide1down_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                              uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1down_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                            uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1down_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                            uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1down_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                            uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1down_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                            uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1down_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                            uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1down_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                            uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1down_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                            uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1down_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                            uint64_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfslide1up_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                               vfloat16mf4_t vs2, _Float16 rs1,
                                               size_t vl);
vfloat16mf2_t __riscv_vfslide1up_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                               vfloat16mf2_t vs2, _Float16 rs1,
                                               size_t vl);
vfloat16m1_t __riscv_vfslide1up_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                             vfloat16m1_t vs2, _Float16 rs1,
                                             size_t vl);
vfloat16m2_t __riscv_vfslide1up_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                             vfloat16m2_t vs2, _Float16 rs1,
                                             size_t vl);
vfloat16m4_t __riscv_vfslide1up_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                             vfloat16m4_t vs2, _Float16 rs1,
                                             size_t vl);
vfloat16m8_t __riscv_vfslide1up_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                             vfloat16m8_t vs2, _Float16 rs1,
                                             size_t vl);
vfloat32mf2_t __riscv_vfslide1up_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                               vfloat32mf2_t vs2, float rs1,
                                               size_t vl);
vfloat32m1_t __riscv_vfslide1up_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                             vfloat32m1_t vs2, float rs1,
                                             size_t vl);
vfloat32m2_t __riscv_vfslide1up_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                             vfloat32m2_t vs2, float rs1,
                                             size_t vl);
vfloat32m4_t __riscv_vfslide1up_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                             vfloat32m4_t vs2, float rs1,
                                             size_t vl);
vfloat32m8_t __riscv_vfslide1up_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                             vfloat32m8_t vs2, float rs1,
                                             size_t vl);
vfloat64m1_t __riscv_vfslide1up_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                             vfloat64m1_t vs2, double rs1,
                                             size_t vl);
vfloat64m2_t __riscv_vfslide1up_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                             vfloat64m2_t vs2, double rs1,
                                             size_t vl);
vfloat64m4_t __riscv_vfslide1up_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                             vfloat64m4_t vs2, double rs1,
                                             size_t vl);
vfloat64m8_t __riscv_vfslide1up_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                             vfloat64m8_t vs2, double rs1,
                                             size_t vl);
vfloat16mf4_t __riscv_vfslide1down_vf_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                                 vfloat16mf4_t vs2,
                                                 _Float16 rs1, size_t vl);
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vfloat16mf2_t __riscv_vfslide1down_vf_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                                 vfloat16mf2_t vs2,
                                                 _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfslide1down_vf_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                               vfloat16m1_t vs2, _Float16 rs1,
                                               size_t vl);
vfloat16m2_t __riscv_vfslide1down_vf_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                               vfloat16m2_t vs2, _Float16 rs1,
                                               size_t vl);
vfloat16m4_t __riscv_vfslide1down_vf_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                               vfloat16m4_t vs2, _Float16 rs1,
                                               size_t vl);
vfloat16m8_t __riscv_vfslide1down_vf_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                               vfloat16m8_t vs2, _Float16 rs1,
                                               size_t vl);
vfloat32mf2_t __riscv_vfslide1down_vf_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                                 vfloat32mf2_t vs2, float rs1,
                                                 size_t vl);
vfloat32m1_t __riscv_vfslide1down_vf_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                               vfloat32m1_t vs2, float rs1,
                                               size_t vl);
vfloat32m2_t __riscv_vfslide1down_vf_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                               vfloat32m2_t vs2, float rs1,
                                               size_t vl);
vfloat32m4_t __riscv_vfslide1down_vf_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                               vfloat32m4_t vs2, float rs1,
                                               size_t vl);
vfloat32m8_t __riscv_vfslide1down_vf_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                               vfloat32m8_t vs2, float rs1,
                                               size_t vl);
vfloat64m1_t __riscv_vfslide1down_vf_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                               vfloat64m1_t vs2, double rs1,
                                               size_t vl);
vfloat64m2_t __riscv_vfslide1down_vf_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                               vfloat64m2_t vs2, double rs1,
                                               size_t vl);
vfloat64m4_t __riscv_vfslide1down_vf_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                               vfloat64m4_t vs2, double rs1,
                                               size_t vl);
vfloat64m8_t __riscv_vfslide1down_vf_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                               vfloat64m8_t vs2, double rs1,
                                               size_t vl);
vint8mf8_t __riscv_vslide1up_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                          vint8mf8_t vs2, int8_t rs1,
                                          size_t vl);
vint8mf4_t __riscv_vslide1up_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                          vint8mf4_t vs2, int8_t rs1,
                                          size_t vl);
vint8mf2_t __riscv_vslide1up_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                          vint8mf2_t vs2, int8_t rs1,
                                          size_t vl);
vint8m1_t __riscv_vslide1up_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                        vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1up_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                        vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1up_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                        vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1up_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd,
                                        vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1up_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                            vint16mf4_t vs2, int16_t rs1,
                                            size_t vl);
vint16mf2_t __riscv_vslide1up_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                            vint16mf2_t vs2, int16_t rs1,
                                            size_t vl);
vint16m1_t __riscv_vslide1up_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                          vint16m1_t vs2, int16_t rs1,
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                                        size_t vl);
vint16m2_t __riscv_vslide1up_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                        vint16m2_t vs2, int16_t rs1,
                                        size_t vl);
vint16m4_t __riscv_vslide1up_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                        vint16m4_t vs2, int16_t rs1,
                                        size_t vl);
vint16m8_t __riscv_vslide1up_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                        vint16m8_t vs2, int16_t rs1,
                                        size_t vl);
vint32mf2_t __riscv_vslide1up_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                          vint32mf2_t vs2, int32_t rs1,
                                          size_t vl);
vint32m1_t __riscv_vslide1up_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                        vint32m1_t vs2, int32_t rs1,
                                        size_t vl);
vint32m2_t __riscv_vslide1up_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                        vint32m2_t vs2, int32_t rs1,
                                        size_t vl);
vint32m4_t __riscv_vslide1up_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                        vint32m4_t vs2, int32_t rs1,
                                        size_t vl);
vint32m8_t __riscv_vslide1up_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                        vint32m8_t vs2, int32_t rs1,
                                        size_t vl);
vint64m1_t __riscv_vslide1up_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                        vint64m1_t vs2, int64_t rs1,
                                        size_t vl);
vint64m2_t __riscv_vslide1up_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                        vint64m2_t vs2, int64_t rs1,
                                        size_t vl);
vint64m4_t __riscv_vslide1up_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                        vint64m4_t vs2, int64_t rs1,
                                        size_t vl);
vint64m8_t __riscv_vslide1up_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                        vint64m8_t vs2, int64_t rs1,
                                        size_t vl);
vint8mf8_t __riscv_vslide1down_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                          vint8mf8_t vs2, int8_t rs1,
                                          size_t vl);
vint8mf4_t __riscv_vslide1down_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                          vint8mf4_t vs2, int8_t rs1,
                                          size_t vl);
vint8mf2_t __riscv_vslide1down_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                          vint8mf2_t vs2, int8_t rs1,
                                          size_t vl);
vint8m1_t __riscv_vslide1down_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd,
                                        vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1down_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                        vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1down_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                        vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1down_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd,
                                        vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1down_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                            vint16mf4_t vs2, int16_t rs1,
                                            size_t vl);
vint16mf2_t __riscv_vslide1down_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                            vint16mf2_t vs2, int16_t rs1,
                                            size_t vl);
vint16m1_t __riscv_vslide1down_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                          vint16m1_t vs2, int16_t rs1,
                                          size_t vl);
vint16m2_t __riscv_vslide1down_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                          vint16m2_t vs2, int16_t rs1,
                                          size_t vl);
vint16m4_t __riscv_vslide1down_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
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                                          vint16m4_t vs2, int16_t rs1,
                                          size_t vl);
vint16m8_t __riscv_vslide1down_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                          vint16m8_t vs2, int16_t rs1,
                                          size_t vl);
vint32mf2_t __riscv_vslide1down_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                            vint32mf2_t vs2, int32_t rs1,
                                            size_t vl);
vint32m1_t __riscv_vslide1down_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                          vint32m1_t vs2, int32_t rs1,
                                          size_t vl);
vint32m2_t __riscv_vslide1down_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                          vint32m2_t vs2, int32_t rs1,
                                          size_t vl);
vint32m4_t __riscv_vslide1down_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                          vint32m4_t vs2, int32_t rs1,
                                          size_t vl);
vint32m8_t __riscv_vslide1down_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                          vint32m8_t vs2, int32_t rs1,
                                          size_t vl);
vint64m1_t __riscv_vslide1down_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                          vint64m1_t vs2, int64_t rs1,
                                          size_t vl);
vint64m2_t __riscv_vslide1down_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                          vint64m2_t vs2, int64_t rs1,
                                          size_t vl);
vint64m4_t __riscv_vslide1down_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                          vint64m4_t vs2, int64_t rs1,
                                          size_t vl);
vint64m8_t __riscv_vslide1down_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                          vint64m8_t vs2, int64_t rs1,
                                          size_t vl);
vuint8mf8_t __riscv_vslide1up_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                         vuint8mf8_t vs2, uint8_t rs1,
                                         size_t vl);
vuint8mf4_t __riscv_vslide1up_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                         vuint8mf4_t vs2, uint8_t rs1,
                                         size_t vl);
vuint8mf2_t __riscv_vslide1up_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                         vuint8mf2_t vs2, uint8_t rs1,
                                         size_t vl);
vuint8m1_t __riscv_vslide1up_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                       vuint8m1_t vs2, uint8_t rs1,
                                       size_t vl);
vuint8m2_t __riscv_vslide1up_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                       vuint8m2_t vs2, uint8_t rs1,
                                       size_t vl);
vuint8m4_t __riscv_vslide1up_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                       vuint8m4_t vs2, uint8_t rs1,
                                       size_t vl);
vuint8m8_t __riscv_vslide1up_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                       vuint8m8_t vs2, uint8_t rs1,
                                       size_t vl);
vuint16mf4_t __riscv_vslide1up_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                           vuint16mf4_t vs2, uint16_t rs1,
                                           size_t vl);
vuint16mf2_t __riscv_vslide1up_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                           vuint16mf2_t vs2, uint16_t rs1,
                                           size_t vl);
vuint16m1_t __riscv_vslide1up_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m2_t __riscv_vslide1up_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, uint16_t rs1,
                                         size_t vl);
vuint16m4_t __riscv_vslide1up_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, uint16_t rs1,
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                                          size_t vl);
vuint16m8_t __riscv_vslide1up_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                          vuint16m8_t vs2, uint16_t rs1,
                                          size_t vl);
vuint32mf2_t __riscv_vslide1up_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                            vuint32mf2_t vs2, uint32_t rs1,
                                            size_t vl);
vuint32m1_t __riscv_vslide1up_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                          vuint32m1_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m2_t __riscv_vslide1up_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                          vuint32m2_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m4_t __riscv_vslide1up_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                          vuint32m4_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m8_t __riscv_vslide1up_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                          vuint32m8_t vs2, uint32_t rs1,
                                          size_t vl);
vuint64m1_t __riscv_vslide1up_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                          vuint64m1_t vs2, uint64_t rs1,
                                          size_t vl);
vuint64m2_t __riscv_vslide1up_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                          vuint64m2_t vs2, uint64_t rs1,
                                          size_t vl);
vuint64m4_t __riscv_vslide1up_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                          vuint64m4_t vs2, uint64_t rs1,
                                          size_t vl);
vuint64m8_t __riscv_vslide1up_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                          vuint64m8_t vs2, uint64_t rs1,
                                          size_t vl);
vuint8mf8_t __riscv_vslide1down_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                            vuint8mf8_t vs2, uint8_t rs1,
                                            size_t vl);
vuint8mf4_t __riscv_vslide1down_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                            vuint8mf4_t vs2, uint8_t rs1,
                                            size_t vl);
vuint8mf2_t __riscv_vslide1down_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                            vuint8mf2_t vs2, uint8_t rs1,
                                            size_t vl);
vuint8m1_t __riscv_vslide1down_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                          vuint8m1_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8m2_t __riscv_vslide1down_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                          vuint8m2_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8m4_t __riscv_vslide1down_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                          vuint8m4_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8m8_t __riscv_vslide1down_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                          vuint8m8_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf4_t __riscv_vslide1down_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                              vuint16mf4_t vs2, uint16_t rs1,
                                              size_t vl);
vuint16mf2_t __riscv_vslide1down_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                              vuint16mf2_t vs2, uint16_t rs1,
                                              size_t vl);
vuint16m1_t __riscv_vslide1down_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                            vuint16m1_t vs2, uint16_t rs1,
                                            size_t vl);
vuint16m2_t __riscv_vslide1down_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                            vuint16m2_t vs2, uint16_t rs1,
                                            size_t vl);
vuint16m4_t __riscv_vslide1down_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                            vuint16m4_t vs2, uint16_t rs1,
                                            size_t vl);
```

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vuint16m8_t __riscv_vslide1down_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                             vuint16m8_t vs2, uint16_t rs1,
                                             size_t vl);
vuint32mf2_t __riscv_vslide1down_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                               vuint32mf2_t vs2, uint32_t rs1,
                                               size_t vl);
vuint32m1_t __riscv_vslide1down_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                             vuint32m1_t vs2, uint32_t rs1,
                                             size_t vl);
vuint32m2_t __riscv_vslide1down_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                             vuint32m2_t vs2, uint32_t rs1,
                                             size_t vl);
vuint32m4_t __riscv_vslide1down_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                             vuint32m4_t vs2, uint32_t rs1,
                                             size_t vl);
vuint32m8_t __riscv_vslide1down_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                             vuint32m8_t vs2, uint32_t rs1,
                                             size_t vl);
vuint64m1_t __riscv_vslide1down_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                             vuint64m1_t vs2, uint64_t rs1,
                                             size_t vl);
vuint64m2_t __riscv_vslide1down_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                             vuint64m2_t vs2, uint64_t rs1,
                                             size_t vl);
vuint64m4_t __riscv_vslide1down_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                             vuint64m4_t vs2, uint64_t rs1,
                                             size_t vl);
vuint64m8_t __riscv_vslide1down_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                             vuint64m8_t vs2, uint64_t rs1,
                                             size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfslide1up_vf_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                                vfloat16mf4_t vs2, _Float16 rs1,
                                                size_t vl);
vfloat16mf2_t __riscv_vfslide1up_vf_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                                vfloat16mf2_t vs2, _Float16 rs1,
                                                size_t vl);
vfloat16m1_t __riscv_vfslide1up_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                              vfloat16m1_t vs2, _Float16 rs1,
                                              size_t vl);
vfloat16m2_t __riscv_vfslide1up_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                              vfloat16m2_t vs2, _Float16 rs1,
                                              size_t vl);
vfloat16m4_t __riscv_vfslide1up_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                              vfloat16m4_t vs2, _Float16 rs1,
                                              size_t vl);
vfloat16m8_t __riscv_vfslide1up_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                              vfloat16m8_t vs2, _Float16 rs1,
                                              size_t vl);
vfloat32mf2_t __riscv_vfslide1up_vf_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                                vfloat32mf2_t vs2, float rs1,
                                                size_t vl);
vfloat32m1_t __riscv_vfslide1up_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                              vfloat32m1_t vs2, float rs1,
                                              size_t vl);
vfloat32m2_t __riscv_vfslide1up_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                              vfloat32m2_t vs2, float rs1,
                                              size_t vl);
vfloat32m4_t __riscv_vfslide1up_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                              vfloat32m4_t vs2, float rs1,
                                              size_t vl);
vfloat32m8_t __riscv_vfslide1up_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                              vfloat32m8_t vs2, float rs1,
                                              size_t vl);
vfloat64m1_t __riscv_vfslide1up_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                              vfloat64m1_t vs2, double rs1,
                                              size_t vl);
```

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vfloat64m2_t __riscv_vfslide1up_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                              vfloat64m2_t vs2, double rs1,
                                              size_t vl);
vfloat64m4_t __riscv_vfslide1up_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                              vfloat64m4_t vs2, double rs1,
                                              size_t vl);
vfloat64m8_t __riscv_vfslide1up_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                              vfloat64m8_t vs2, double rs1,
                                              size_t vl);
vfloat16mf4_t __riscv_vfslide1down_vf_f16mf4_tumu(vbool64_t vm,
                                                  vfloat16mf4_t vd,
                                                  vfloat16mf4_t vs2,
                                                  _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfslide1down_vf_f16mf2_tumu(vbool32_t vm,
                                                  vfloat16mf2_t vd,
                                                  vfloat16mf2_t vs2,
                                                  _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfslide1down_vf_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                                vfloat16m1_t vs2, _Float16 rs1,
                                                size_t vl);
vfloat16m2_t __riscv_vfslide1down_vf_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                                vfloat16m2_t vs2, _Float16 rs1,
                                                size_t vl);
vfloat16m4_t __riscv_vfslide1down_vf_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                                vfloat16m4_t vs2, _Float16 rs1,
                                                size_t vl);
vfloat16m8_t __riscv_vfslide1down_vf_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                                vfloat16m8_t vs2, _Float16 rs1,
                                                size_t vl);
vfloat32mf2_t __riscv_vfslide1down_vf_f32mf2_tumu(vbool64_t vm,
                                                  vfloat32mf2_t vd,
                                                  vfloat32mf2_t vs2, float rs1,
                                                  size_t vl);
vfloat32m1_t __riscv_vfslide1down_vf_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                                vfloat32m1_t vs2, float rs1,
                                                size_t vl);
vfloat32m2_t __riscv_vfslide1down_vf_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                                vfloat32m2_t vs2, float rs1,
                                                size_t vl);
vfloat32m4_t __riscv_vfslide1down_vf_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                                vfloat32m4_t vs2, float rs1,
                                                size_t vl);
vfloat32m8_t __riscv_vfslide1down_vf_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                                vfloat32m8_t vs2, float rs1,
                                                size_t vl);
vfloat64m1_t __riscv_vfslide1down_vf_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                                vfloat64m1_t vs2, double rs1,
                                                size_t vl);
vfloat64m2_t __riscv_vfslide1down_vf_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                                vfloat64m2_t vs2, double rs1,
                                                size_t vl);
vfloat64m4_t __riscv_vfslide1down_vf_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                                vfloat64m4_t vs2, double rs1,
                                                size_t vl);
vfloat64m8_t __riscv_vfslide1down_vf_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                                vfloat64m8_t vs2, double rs1,
                                                size_t vl);
vint8mf8_t __riscv_vslide1up_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                           vint8mf8_t vs2, int8_t rs1,
                                           size_t vl);
vint8mf4_t __riscv_vslide1up_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                           vint8mf4_t vs2, int8_t rs1,
                                           size_t vl);
vint8mf2_t __riscv_vslide1up_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                           vint8mf2_t vs2, int8_t rs1,
                                           size_t vl);
vint8m1_t __riscv_vslide1up_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
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                                        vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1up_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                        vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1up_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                        vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1up_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd,
                                        vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1up_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                            vint16mf4_t vs2, int16_t rs1,
                                            size_t vl);
vint16mf2_t __riscv_vslide1up_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                            vint16mf2_t vs2, int16_t rs1,
                                            size_t vl);
vint16m1_t __riscv_vslide1up_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                          vint16m1_t vs2, int16_t rs1,
                                          size_t vl);
vint16m2_t __riscv_vslide1up_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                          vint16m2_t vs2, int16_t rs1,
                                          size_t vl);
vint16m4_t __riscv_vslide1up_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                          vint16m4_t vs2, int16_t rs1,
                                          size_t vl);
vint16m8_t __riscv_vslide1up_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                          vint16m8_t vs2, int16_t rs1,
                                          size_t vl);
vint32mf2_t __riscv_vslide1up_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                            vint32mf2_t vs2, int32_t rs1,
                                            size_t vl);
vint32m1_t __riscv_vslide1up_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                          vint32m1_t vs2, int32_t rs1,
                                          size_t vl);
vint32m2_t __riscv_vslide1up_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                          vint32m2_t vs2, int32_t rs1,
                                          size_t vl);
vint32m4_t __riscv_vslide1up_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                          vint32m4_t vs2, int32_t rs1,
                                          size_t vl);
vint32m8_t __riscv_vslide1up_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                          vint32m8_t vs2, int32_t rs1,
                                          size_t vl);
vint64m1_t __riscv_vslide1up_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                          vint64m1_t vs2, int64_t rs1,
                                          size_t vl);
vint64m2_t __riscv_vslide1up_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                          vint64m2_t vs2, int64_t rs1,
                                          size_t vl);
vint64m4_t __riscv_vslide1up_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                          vint64m4_t vs2, int64_t rs1,
                                          size_t vl);
vint64m8_t __riscv_vslide1up_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                          vint64m8_t vs2, int64_t rs1,
                                          size_t vl);
vint8mf8_t __riscv_vslide1down_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                            vint8mf8_t vs2, int8_t rs1,
                                            size_t vl);
vint8mf4_t __riscv_vslide1down_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                            vint8mf4_t vs2, int8_t rs1,
                                            size_t vl);
vint8mf2_t __riscv_vslide1down_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                            vint8mf2_t vs2, int8_t rs1,
                                            size_t vl);
vint8m1_t __riscv_vslide1down_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                          vint8m1_t vs2, int8_t rs1,
                                          size_t vl);
vint8m2_t __riscv_vslide1down_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                          vint8m2_t vs2, int8_t rs1,
                                          size_t vl);
```

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vint8m4_t __riscv_vslide1down_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                           vint8m4_t vs2, int8_t rs1,
                                           size_t vl);
vint8m8_t __riscv_vslide1down_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd,
                                           vint8m8_t vs2, int8_t rs1,
                                           size_t vl);
vint16mf4_t __riscv_vslide1down_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                               vint16mf4_t vs2, int16_t rs1,
                                               size_t vl);
vint16mf2_t __riscv_vslide1down_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                               vint16mf2_t vs2, int16_t rs1,
                                               size_t vl);
vint16m1_t __riscv_vslide1down_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                             vint16m1_t vs2, int16_t rs1,
                                             size_t vl);
vint16m2_t __riscv_vslide1down_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                             vint16m2_t vs2, int16_t rs1,
                                             size_t vl);
vint16m4_t __riscv_vslide1down_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                             vint16m4_t vs2, int16_t rs1,
                                             size_t vl);
vint16m8_t __riscv_vslide1down_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                             vint16m8_t vs2, int16_t rs1,
                                             size_t vl);
vint32mf2_t __riscv_vslide1down_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                               vint32mf2_t vs2, int32_t rs1,
                                               size_t vl);
vint32m1_t __riscv_vslide1down_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                             vint32m1_t vs2, int32_t rs1,
                                             size_t vl);
vint32m2_t __riscv_vslide1down_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                             vint32m2_t vs2, int32_t rs1,
                                             size_t vl);
vint32m4_t __riscv_vslide1down_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                             vint32m4_t vs2, int32_t rs1,
                                             size_t vl);
vint32m8_t __riscv_vslide1down_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                             vint32m8_t vs2, int32_t rs1,
                                             size_t vl);
vint64m1_t __riscv_vslide1down_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                             vint64m1_t vs2, int64_t rs1,
                                             size_t vl);
vint64m2_t __riscv_vslide1down_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                             vint64m2_t vs2, int64_t rs1,
                                             size_t vl);
vint64m4_t __riscv_vslide1down_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                             vint64m4_t vs2, int64_t rs1,
                                             size_t vl);
vint64m8_t __riscv_vslide1down_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                             vint64m8_t vs2, int64_t rs1,
                                             size_t vl);
vuint8mf8_t __riscv_vslide1up_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                            vuint8mf8_t vs2, uint8_t rs1,
                                            size_t vl);
vuint8mf4_t __riscv_vslide1up_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                            vuint8mf4_t vs2, uint8_t rs1,
                                            size_t vl);
vuint8mf2_t __riscv_vslide1up_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                            vuint8mf2_t vs2, uint8_t rs1,
                                            size_t vl);
vuint8m1_t __riscv_vslide1up_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                          vuint8m1_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8m2_t __riscv_vslide1up_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                          vuint8m2_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8m4_t __riscv_vslide1up_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
```

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                                        vuint8m4_t vs2, uint8_t rs1,
                                        size_t vl);
vuint8m8_t __riscv_vslide1up_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                        vuint8m8_t vs2, uint8_t rs1,
                                        size_t vl);
vuint16mf4_t __riscv_vslide1up_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                            vuint16mf4_t vs2, uint16_t rs1,
                                            size_t vl);
vuint16mf2_t __riscv_vslide1up_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                            vuint16mf2_t vs2, uint16_t rs1,
                                            size_t vl);
vuint16m1_t __riscv_vslide1up_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                          vuint16m1_t vs2, uint16_t rs1,
                                          size_t vl);
vuint16m2_t __riscv_vslide1up_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                          vuint16m2_t vs2, uint16_t rs1,
                                          size_t vl);
vuint16m4_t __riscv_vslide1up_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                          vuint16m4_t vs2, uint16_t rs1,
                                          size_t vl);
vuint16m8_t __riscv_vslide1up_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                          vuint16m8_t vs2, uint16_t rs1,
                                          size_t vl);
vuint32mf2_t __riscv_vslide1up_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                            vuint32mf2_t vs2, uint32_t rs1,
                                            size_t vl);
vuint32m1_t __riscv_vslide1up_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                          vuint32m1_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m2_t __riscv_vslide1up_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                          vuint32m2_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m4_t __riscv_vslide1up_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                          vuint32m4_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m8_t __riscv_vslide1up_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                          vuint32m8_t vs2, uint32_t rs1,
                                          size_t vl);
vuint64m1_t __riscv_vslide1up_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                          vuint64m1_t vs2, uint64_t rs1,
                                          size_t vl);
vuint64m2_t __riscv_vslide1up_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                          vuint64m2_t vs2, uint64_t rs1,
                                          size_t vl);
vuint64m4_t __riscv_vslide1up_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                          vuint64m4_t vs2, uint64_t rs1,
                                          size_t vl);
vuint64m8_t __riscv_vslide1up_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                          vuint64m8_t vs2, uint64_t rs1,
                                          size_t vl);
vuint8mf8_t __riscv_vslide1down_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                            vuint8mf8_t vs2, uint8_t rs1,
                                            size_t vl);
vuint8mf4_t __riscv_vslide1down_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                            vuint8mf4_t vs2, uint8_t rs1,
                                            size_t vl);
vuint8mf2_t __riscv_vslide1down_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                            vuint8mf2_t vs2, uint8_t rs1,
                                            size_t vl);
vuint8m1_t __riscv_vslide1down_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                          vuint8m1_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8m2_t __riscv_vslide1down_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                          vuint8m2_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8m4_t __riscv_vslide1down_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                          vuint8m4_t vs2, uint8_t rs1,
```

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                                          size_t vl);
vuint8m8_t __riscv_vslide1down_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                          vuint8m8_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf4_t __riscv_vslide1down_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                            vuint16mf4_t vs2, uint16_t rs1,
                                            size_t vl);
vuint16mf2_t __riscv_vslide1down_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                            vuint16mf2_t vs2, uint16_t rs1,
                                            size_t vl);
vuint16m1_t __riscv_vslide1down_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                           vuint16m1_t vs2, uint16_t rs1,
                                           size_t vl);
vuint16m2_t __riscv_vslide1down_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                           vuint16m2_t vs2, uint16_t rs1,
                                           size_t vl);
vuint16m4_t __riscv_vslide1down_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                           vuint16m4_t vs2, uint16_t rs1,
                                           size_t vl);
vuint16m8_t __riscv_vslide1down_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                           vuint16m8_t vs2, uint16_t rs1,
                                           size_t vl);
vuint32mf2_t __riscv_vslide1down_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                            vuint32mf2_t vs2, uint32_t rs1,
                                            size_t vl);
vuint32m1_t __riscv_vslide1down_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                           vuint32m1_t vs2, uint32_t rs1,
                                           size_t vl);
vuint32m2_t __riscv_vslide1down_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                           vuint32m2_t vs2, uint32_t rs1,
                                           size_t vl);
vuint32m4_t __riscv_vslide1down_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                           vuint32m4_t vs2, uint32_t rs1,
                                           size_t vl);
vuint32m8_t __riscv_vslide1down_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                           vuint32m8_t vs2, uint32_t rs1,
                                           size_t vl);
vuint64m1_t __riscv_vslide1down_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                           vuint64m1_t vs2, uint64_t rs1,
                                           size_t vl);
vuint64m2_t __riscv_vslide1down_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                           vuint64m2_t vs2, uint64_t rs1,
                                           size_t vl);
vuint64m4_t __riscv_vslide1down_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                           vuint64m4_t vs2, uint64_t rs1,
                                           size_t vl);
vuint64m8_t __riscv_vslide1down_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                           vuint64m8_t vs2, uint64_t rs1,
                                           size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfslide1up_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vfslide1up_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                           vfloat16mf2_t vs2, _Float16 rs1,
                                           size_t vl);
vfloat16m1_t __riscv_vfslide1up_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m2_t __riscv_vfslide1up_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m4_t __riscv_vfslide1up_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, _Float16 rs1,
                                          size_t vl);
vfloat16m8_t __riscv_vfslide1up_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, _Float16 rs1,
```

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                                          size_t vl);
vfloat32mf2_t __riscv_vfslide1up_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, float rs1,
                                            size_t vl);
vfloat32m1_t __riscv_vfslide1up_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, float rs1,
                                          size_t vl);
vfloat32m2_t __riscv_vfslide1up_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, float rs1,
                                          size_t vl);
vfloat32m4_t __riscv_vfslide1up_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, float rs1,
                                          size_t vl);
vfloat32m8_t __riscv_vfslide1up_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, float rs1,
                                          size_t vl);
vfloat64m1_t __riscv_vfslide1up_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, double rs1,
                                          size_t vl);
vfloat64m2_t __riscv_vfslide1up_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, double rs1,
                                          size_t vl);
vfloat64m4_t __riscv_vfslide1up_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, double rs1,
                                          size_t vl);
vfloat64m8_t __riscv_vfslide1up_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, double rs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vfslide1down_vf_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2, _Float16 rs1,
                                              size_t vl);
vfloat16mf2_t __riscv_vfslide1down_vf_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2, _Float16 rs1,
                                              size_t vl);
vfloat16m1_t __riscv_vfslide1down_vf_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs2, _Float16 rs1,
                                            size_t vl);
vfloat16m2_t __riscv_vfslide1down_vf_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs2, _Float16 rs1,
                                            size_t vl);
vfloat16m4_t __riscv_vfslide1down_vf_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                            vfloat16m4_t vs2, _Float16 rs1,
                                            size_t vl);
vfloat16m8_t __riscv_vfslide1down_vf_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                            vfloat16m8_t vs2, _Float16 rs1,
                                            size_t vl);
vfloat32mf2_t __riscv_vfslide1down_vf_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                              vfloat32mf2_t vs2, float rs1,
                                              size_t vl);
vfloat32m1_t __riscv_vfslide1down_vf_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                            vfloat32m1_t vs2, float rs1,
                                            size_t vl);
vfloat32m2_t __riscv_vfslide1down_vf_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                            vfloat32m2_t vs2, float rs1,
                                            size_t vl);
vfloat32m4_t __riscv_vfslide1down_vf_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                            vfloat32m4_t vs2, float rs1,
                                            size_t vl);
vfloat32m8_t __riscv_vfslide1down_vf_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                            vfloat32m8_t vs2, float rs1,
                                            size_t vl);
vfloat64m1_t __riscv_vfslide1down_vf_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                            vfloat64m1_t vs2, double rs1,
                                            size_t vl);
vfloat64m2_t __riscv_vfslide1down_vf_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                            vfloat64m2_t vs2, double rs1,
                                            size_t vl);
```

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vfloat64m4_t __riscv_vfslide1down_vf_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                              vfloat64m4_t vs2, double rs1,
                                              size_t vl);
vfloat64m8_t __riscv_vfslide1down_vf_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                              vfloat64m8_t vs2, double rs1,
                                              size_t vl);
vint8mf8_t __riscv_vslide1up_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                         vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1up_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                         vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1up_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                         vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1up_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                       int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1up_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                       int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1up_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                       int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1up_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                       int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1up_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                           vint16mf4_t vs2, int16_t rs1,
                                           size_t vl);
vint16mf2_t __riscv_vslide1up_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                           vint16mf2_t vs2, int16_t rs1,
                                           size_t vl);
vint16m1_t __riscv_vslide1up_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                         vint16m1_t vs2, int16_t rs1,
                                         size_t vl);
vint16m2_t __riscv_vslide1up_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                         vint16m2_t vs2, int16_t rs1,
                                         size_t vl);
vint16m4_t __riscv_vslide1up_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                         vint16m4_t vs2, int16_t rs1,
                                         size_t vl);
vint16m8_t __riscv_vslide1up_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                         vint16m8_t vs2, int16_t rs1,
                                         size_t vl);
vint32mf2_t __riscv_vslide1up_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                           vint32mf2_t vs2, int32_t rs1,
                                           size_t vl);
vint32m1_t __riscv_vslide1up_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                         vint32m1_t vs2, int32_t rs1,
                                         size_t vl);
vint32m2_t __riscv_vslide1up_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                         vint32m2_t vs2, int32_t rs1,
                                         size_t vl);
vint32m4_t __riscv_vslide1up_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                         vint32m4_t vs2, int32_t rs1,
                                         size_t vl);
vint32m8_t __riscv_vslide1up_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                         vint32m8_t vs2, int32_t rs1,
                                         size_t vl);
vint64m1_t __riscv_vslide1up_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                         vint64m1_t vs2, int64_t rs1,
                                         size_t vl);
vint64m2_t __riscv_vslide1up_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                         vint64m2_t vs2, int64_t rs1,
                                         size_t vl);
vint64m4_t __riscv_vslide1up_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                         vint64m4_t vs2, int64_t rs1,
                                         size_t vl);
vint64m8_t __riscv_vslide1up_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                         vint64m8_t vs2, int64_t rs1,
                                         size_t vl);
vint8mf8_t __riscv_vslide1down_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                           vint8mf8_t vs2, int8_t rs1,
```

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                                          size_t vl);
vint8mf4_t __riscv_vslide1down_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                           vint8mf4_t vs2, int8_t rs1,
                                           size_t vl);
vint8mf2_t __riscv_vslide1down_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                           vint8mf2_t vs2, int8_t rs1,
                                           size_t vl);
vint8m1_t __riscv_vslide1down_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                         vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1down_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd,
                                         vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1down_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd,
                                         vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1down_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd,
                                         vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1down_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                             vint16mf4_t vs2, int16_t rs1,
                                             size_t vl);
vint16mf2_t __riscv_vslide1down_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                             vint16mf2_t vs2, int16_t rs1,
                                             size_t vl);
vint16m1_t __riscv_vslide1down_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                           vint16m1_t vs2, int16_t rs1,
                                           size_t vl);
vint16m2_t __riscv_vslide1down_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                           vint16m2_t vs2, int16_t rs1,
                                           size_t vl);
vint16m4_t __riscv_vslide1down_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                           vint16m4_t vs2, int16_t rs1,
                                           size_t vl);
vint16m8_t __riscv_vslide1down_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                           vint16m8_t vs2, int16_t rs1,
                                           size_t vl);
vint32mf2_t __riscv_vslide1down_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                             vint32mf2_t vs2, int32_t rs1,
                                             size_t vl);
vint32m1_t __riscv_vslide1down_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                           vint32m1_t vs2, int32_t rs1,
                                           size_t vl);
vint32m2_t __riscv_vslide1down_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                           vint32m2_t vs2, int32_t rs1,
                                           size_t vl);
vint32m4_t __riscv_vslide1down_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                           vint32m4_t vs2, int32_t rs1,
                                           size_t vl);
vint32m8_t __riscv_vslide1down_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                           vint32m8_t vs2, int32_t rs1,
                                           size_t vl);
vint64m1_t __riscv_vslide1down_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                           vint64m1_t vs2, int64_t rs1,
                                           size_t vl);
vint64m2_t __riscv_vslide1down_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                           vint64m2_t vs2, int64_t rs1,
                                           size_t vl);
vint64m4_t __riscv_vslide1down_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                           vint64m4_t vs2, int64_t rs1,
                                           size_t vl);
vint64m8_t __riscv_vslide1down_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                           vint64m8_t vs2, int64_t rs1,
                                           size_t vl);
vuint8mf8_t __riscv_vslide1up_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                          vuint8mf8_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8mf4_t __riscv_vslide1up_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                          vuint8mf4_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8mf2_t __riscv_vslide1up_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
```

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                                        vuint8mf2_t vs2, uint8_t rs1,
                                        size_t vl);
vuint8m1_t __riscv_vslide1up_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                       vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1up_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                       vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1up_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                       vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1up_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd,
                                       vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1up_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                          vuint16mf4_t vs2, uint16_t rs1,
                                          size_t vl);
vuint16mf2_t __riscv_vslide1up_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                          vuint16mf2_t vs2, uint16_t rs1,
                                          size_t vl);
vuint16m1_t __riscv_vslide1up_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                        vuint16m1_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m2_t __riscv_vslide1up_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                        vuint16m2_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m4_t __riscv_vslide1up_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                        vuint16m4_t vs2, uint16_t rs1,
                                        size_t vl);
vuint16m8_t __riscv_vslide1up_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, uint16_t rs1,
                                        size_t vl);
vuint32mf2_t __riscv_vslide1up_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, uint32_t rs1,
                                          size_t vl);
vuint32m1_t __riscv_vslide1up_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m2_t __riscv_vslide1up_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m4_t __riscv_vslide1up_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, uint32_t rs1,
                                        size_t vl);
vuint32m8_t __riscv_vslide1up_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, uint32_t rs1,
                                        size_t vl);
vuint64m1_t __riscv_vslide1up_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m2_t __riscv_vslide1up_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m4_t __riscv_vslide1up_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, uint64_t rs1,
                                        size_t vl);
vuint64m8_t __riscv_vslide1up_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, uint64_t rs1,
                                        size_t vl);
vuint8mf8_t __riscv_vslide1down_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                          vuint8mf8_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8mf4_t __riscv_vslide1down_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                          vuint8mf4_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8mf2_t __riscv_vslide1down_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                          vuint8mf2_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8m1_t __riscv_vslide1down_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                        vuint8m1_t vs2, uint8_t rs1,
                                        size_t vl);
```

```
vuint8m2_t __riscv_vslide1down_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                          vuint8m2_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8m4_t __riscv_vslide1down_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                          vuint8m4_t vs2, uint8_t rs1,
                                          size_t vl);
vuint8m8_t __riscv_vslide1down_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd,
                                          vuint8m8_t vs2, uint8_t rs1,
                                          size_t vl);
vuint16mf4_t __riscv_vslide1down_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                              vuint16mf4_t vs2, uint16_t rs1,
                                              size_t vl);
vuint16mf2_t __riscv_vslide1down_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                              vuint16mf2_t vs2, uint16_t rs1,
                                              size_t vl);
vuint16m1_t __riscv_vslide1down_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                            vuint16m1_t vs2, uint16_t rs1,
                                            size_t vl);
vuint16m2_t __riscv_vslide1down_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                            vuint16m2_t vs2, uint16_t rs1,
                                            size_t vl);
vuint16m4_t __riscv_vslide1down_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                            vuint16m4_t vs2, uint16_t rs1,
                                            size_t vl);
vuint16m8_t __riscv_vslide1down_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                            vuint16m8_t vs2, uint16_t rs1,
                                            size_t vl);
vuint32mf2_t __riscv_vslide1down_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                              vuint32mf2_t vs2, uint32_t rs1,
                                              size_t vl);
vuint32m1_t __riscv_vslide1down_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                            vuint32m1_t vs2, uint32_t rs1,
                                            size_t vl);
vuint32m2_t __riscv_vslide1down_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                            vuint32m2_t vs2, uint32_t rs1,
                                            size_t vl);
vuint32m4_t __riscv_vslide1down_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                            vuint32m4_t vs2, uint32_t rs1,
                                            size_t vl);
vuint32m8_t __riscv_vslide1down_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                            vuint32m8_t vs2, uint32_t rs1,
                                            size_t vl);
vuint64m1_t __riscv_vslide1down_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                            vuint64m1_t vs2, uint64_t rs1,
                                            size_t vl);
vuint64m2_t __riscv_vslide1down_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                            vuint64m2_t vs2, uint64_t rs1,
                                            size_t vl);
vuint64m4_t __riscv_vslide1down_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                            vuint64m4_t vs2, uint64_t rs1,
                                            size_t vl);
vuint64m8_t __riscv_vslide1down_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                            vuint64m8_t vs2, uint64_t rs1,
                                            size_t vl);
```

B.8.5. Vector Register Gather Intrinsics

```
vfloat16mf4_t __riscv_vrgather_vv_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                            vuint16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgather_vx_f16mf4_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                            size_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather_vv_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                            vuint16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather_vx_f16mf2_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                            size_t vs1, size_t vl);
```

```
vfloat16m1_t __riscv_vrgather_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                          vuint16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather_vx_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                          size_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                          vuint16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather_vx_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                          size_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                          vuint16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather_vx_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                          size_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                          vuint16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather_vx_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                          size_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather_vv_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                            vuint32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather_vx_f32mf2_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                            size_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                          vuint32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather_vx_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                          size_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                          vuint32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather_vx_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                          size_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                          vuint32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather_vx_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                          size_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          vuint32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather_vx_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                          size_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          vuint64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather_vx_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                          size_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          vuint64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather_vx_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                          size_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          vuint64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather_vx_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                          size_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                          vuint64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather_vx_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                          size_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgatherei16_vv_f16mf4_tu(vfloat16mf4_t vd,
                                                vfloat16mf4_t vs2,
                                                vuint16mf4_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgatherei16_vv_f16mf2_tu(vfloat16mf2_t vd,
                                                vfloat16mf2_t vs2,
                                                vuint16mf2_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgatherei16_vv_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgatherei16_vv_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                              vuint16m2_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgatherei16_vv_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                              vuint16m4_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgatherei16_vv_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                              vuint16m8_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgatherei16_vv_f32mf2_tu(vfloat32mf2_t vd,
```

```
                                                vfloat32mf2_t vs2,
                                                vuint16mf4_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgatherei16_vv_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                              vuint16mf2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgatherei16_vv_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgatherei16_vv_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                              vuint16m2_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgatherei16_vv_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                              vuint16m4_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgatherei16_vv_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                              vuint16mf4_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgatherei16_vv_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                              vuint16mf2_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgatherei16_vv_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                              vuint16m1_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgatherei16_vv_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                              vuint16m2_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                        vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather_vx_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                        size_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                        vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_vx_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                        size_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                        vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_vx_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                        size_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2,
                                      vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_vx_i8m1_tu(vint8m1_t vd, vint8m1_t vs2, size_t vs1,
                                      size_t vl);
vint8m2_t __riscv_vrgather_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2,
                                      vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_vx_i8m2_tu(vint8m2_t vd, vint8m2_t vs2, size_t vs1,
                                      size_t vl);
vint8m4_t __riscv_vrgather_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2,
                                      vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_vx_i8m4_tu(vint8m4_t vd, vint8m4_t vs2, size_t vs1,
                                      size_t vl);
vint8m8_t __riscv_vrgather_vv_i8m8_tu(vint8m8_t vd, vint8m8_t vs2,
                                      vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_vx_i8m8_tu(vint8m8_t vd, vint8m8_t vs2, size_t vs1,
                                      size_t vl);
vint16mf4_t __riscv_vrgather_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                          vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_vx_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                          size_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                          vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_vx_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                          size_t vs1, size_t vl);
vint16m1_t __riscv_vrgather_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                        vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrgather_vx_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                        size_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                        vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_vx_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                        size_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                        vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_vx_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                        size_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
```

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                                        vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_vx_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                        size_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                          vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_vx_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                          size_t vs1, size_t vl);
vint32m1_t __riscv_vrgather_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                        vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrgather_vx_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                        size_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                        vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_vx_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                        size_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                        vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_vx_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                        size_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                        vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_vx_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                        size_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                        vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_vx_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                        size_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                        vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_vx_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                        size_t vs1, size_t vl);
vint64m4_t __riscv_vrgather_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                        vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrgather_vx_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                        size_t vs1, size_t vl);
vint64m8_t __riscv_vrgather_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                        vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrgather_vx_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                        size_t vs1, size_t vl);
vint8mf8_t __riscv_vrgatherei16_vv_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                            vuint16mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgatherei16_vv_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                            vuint16mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgatherei16_vv_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgatherei16_vv_i8m1_tu(vint8m1_t vd, vint8m1_t vs2,
                                          vuint16m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgatherei16_vv_i8m2_tu(vint8m2_t vd, vint8m2_t vs2,
                                          vuint16m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgatherei16_vv_i8m4_tu(vint8m4_t vd, vint8m4_t vs2,
                                          vuint16m8_t vs1, size_t vl);
vint16mf4_t __riscv_vrgatherei16_vv_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                              vuint16mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vrgatherei16_vv_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                              vuint16mf2_t vs1, size_t vl);
vint16m1_t __riscv_vrgatherei16_vv_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vint16m2_t __riscv_vrgatherei16_vv_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                            vuint16m2_t vs1, size_t vl);
vint16m4_t __riscv_vrgatherei16_vv_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                            vuint16m4_t vs1, size_t vl);
vint16m8_t __riscv_vrgatherei16_vv_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                            vuint16m8_t vs1, size_t vl);
vint32mf2_t __riscv_vrgatherei16_vv_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                              vuint16mf4_t vs1, size_t vl);
vint32m1_t __riscv_vrgatherei16_vv_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                            vuint16mf2_t vs1, size_t vl);
```

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vint32m2_t __riscv_vrgatherei16_vv_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vint32m4_t __riscv_vrgatherei16_vv_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                            vuint16m2_t vs1, size_t vl);
vint32m8_t __riscv_vrgatherei16_vv_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                            vuint16m4_t vs1, size_t vl);
vint64m1_t __riscv_vrgatherei16_vv_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                            vuint16mf4_t vs1, size_t vl);
vint64m2_t __riscv_vrgatherei16_vv_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                            vuint16mf2_t vs1, size_t vl);
vint64m4_t __riscv_vrgatherei16_vv_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vint64m8_t __riscv_vrgatherei16_vv_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                            vuint16m2_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                         vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_vx_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                         size_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                         vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_vx_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                         size_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                         vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_vx_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                         size_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                       vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather_vx_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                       size_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                       vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_vx_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                       size_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                       vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_vx_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                       size_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_vv_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                       vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_vx_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                       size_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_vv_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                           vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_vx_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                           size_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgather_vv_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                           vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgather_vx_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                           size_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                         vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather_vx_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                         size_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                         vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_vx_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                         size_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                         vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_vx_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                         size_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                         vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_vx_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                         size_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgather_vv_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
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                                          vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgather_vx_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                          size_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                         vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather_vx_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                         size_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                         vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_vx_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                         size_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                         vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_vx_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                         size_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                         vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_vx_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                         size_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                         vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_vx_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                         size_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                         vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_vx_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                         size_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                         vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_vx_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                         size_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                         vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather_vx_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                         size_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgatherei16_vv_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                             vuint16mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgatherei16_vv_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                             vuint16mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgatherei16_vv_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint8m1_t __riscv_vrgatherei16_vv_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                           vuint16m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgatherei16_vv_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                           vuint16m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgatherei16_vv_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                           vuint16m8_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgatherei16_vv_u16mf4_tu(vuint16mf4_t vd,
                                               vuint16mf4_t vs2,
                                               vuint16mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgatherei16_vv_u16mf2_tu(vuint16mf2_t vd,
                                               vuint16mf2_t vs2,
                                               vuint16mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vrgatherei16_vv_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                             vuint16m1_t vs1, size_t vl);
vuint16m2_t __riscv_vrgatherei16_vv_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                             vuint16m2_t vs1, size_t vl);
vuint16m4_t __riscv_vrgatherei16_vv_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                             vuint16m4_t vs1, size_t vl);
vuint16m8_t __riscv_vrgatherei16_vv_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                             vuint16m8_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgatherei16_vv_u32mf2_tu(vuint32mf2_t vd,
                                               vuint32mf2_t vs2,
                                               vuint16mf4_t vs1, size_t vl);
vuint32m1_t __riscv_vrgatherei16_vv_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                             vuint16mf2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgatherei16_vv_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
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                                            vuint16m1_t vs1, size_t vl);
vuint32m4_t __riscv_vrgatherei16_vv_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                            vuint16m2_t vs1, size_t vl);
vuint32m8_t __riscv_vrgatherei16_vv_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                            vuint16m4_t vs1, size_t vl);
vuint64m1_t __riscv_vrgatherei16_vv_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                            vuint16mf4_t vs1, size_t vl);
vuint64m2_t __riscv_vrgatherei16_vv_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                            vuint16mf2_t vs1, size_t vl);
vuint64m4_t __riscv_vrgatherei16_vv_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                            vuint16m1_t vs1, size_t vl);
vuint64m8_t __riscv_vrgatherei16_vv_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                            vuint16m2_t vs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vrgather_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2,
                                            vuint16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgather_vx_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, size_t vs1,
                                            size_t vl);
vfloat16mf2_t __riscv_vrgather_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2,
                                            vuint16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather_vx_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, size_t vs1,
                                            size_t vl);
vfloat16m1_t __riscv_vrgather_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vfloat16m1_t __riscv_vrgather_vx_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, size_t vs1,
                                          size_t vl);
vfloat16m2_t __riscv_vrgather_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vfloat16m2_t __riscv_vrgather_vx_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, size_t vs1,
                                          size_t vl);
vfloat16m4_t __riscv_vrgather_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vfloat16m4_t __riscv_vrgather_vx_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, size_t vs1,
                                          size_t vl);
vfloat16m8_t __riscv_vrgather_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, vuint16m8_t vs1,
                                          size_t vl);
vfloat16m8_t __riscv_vrgather_vx_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, size_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vrgather_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            vuint32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather_vx_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, size_t vs1,
                                            size_t vl);
vfloat32m1_t __riscv_vrgather_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, vuint32m1_t vs1,
                                          size_t vl);
vfloat32m1_t __riscv_vrgather_vx_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, size_t vs1,
                                          size_t vl);
vfloat32m2_t __riscv_vrgather_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, vuint32m2_t vs1,
                                          size_t vl);
vfloat32m2_t __riscv_vrgather_vx_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, size_t vs1,
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                                          size_t vl);
vfloat32m4_t __riscv_vrgather_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, vuint32m4_t vs1,
                                          size_t vl);
vfloat32m4_t __riscv_vrgather_vx_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, size_t vs1,
                                          size_t vl);
vfloat32m8_t __riscv_vrgather_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, vuint32m8_t vs1,
                                          size_t vl);
vfloat32m8_t __riscv_vrgather_vx_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, size_t vs1,
                                          size_t vl);
vfloat64m1_t __riscv_vrgather_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, vuint64m1_t vs1,
                                          size_t vl);
vfloat64m1_t __riscv_vrgather_vx_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, size_t vs1,
                                          size_t vl);
vfloat64m2_t __riscv_vrgather_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, vuint64m2_t vs1,
                                          size_t vl);
vfloat64m2_t __riscv_vrgather_vx_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, size_t vs1,
                                          size_t vl);
vfloat64m4_t __riscv_vrgather_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, vuint64m4_t vs1,
                                          size_t vl);
vfloat64m4_t __riscv_vrgather_vx_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, size_t vs1,
                                          size_t vl);
vfloat64m8_t __riscv_vrgather_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, vuint64m8_t vs1,
                                          size_t vl);
vfloat64m8_t __riscv_vrgather_vx_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, size_t vs1,
                                          size_t vl);
vfloat16mf4_t __riscv_vrgatherei16_vv_f16mf4_tum(vbool64_t vm, vfloat16mf4_t vd,
                                                 vfloat16mf4_t vs2,
                                                 vuint16mf4_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgatherei16_vv_f16mf2_tum(vbool32_t vm, vfloat16mf2_t vd,
                                                 vfloat16mf2_t vs2,
                                                 vuint16mf2_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgatherei16_vv_f16m1_tum(vbool16_t vm, vfloat16m1_t vd,
                                               vfloat16m1_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgatherei16_vv_f16m2_tum(vbool8_t vm, vfloat16m2_t vd,
                                               vfloat16m2_t vs2,
                                               vuint16m2_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgatherei16_vv_f16m4_tum(vbool4_t vm, vfloat16m4_t vd,
                                               vfloat16m4_t vs2,
                                               vuint16m4_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgatherei16_vv_f16m8_tum(vbool2_t vm, vfloat16m8_t vd,
                                               vfloat16m8_t vs2,
                                               vuint16m8_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgatherei16_vv_f32mf2_tum(vbool64_t vm, vfloat32mf2_t vd,
                                                 vfloat32mf2_t vs2,
                                                 vuint16mf4_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgatherei16_vv_f32m1_tum(vbool32_t vm, vfloat32m1_t vd,
                                               vfloat32m1_t vs2,
                                               vuint16mf2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgatherei16_vv_f32m2_tum(vbool16_t vm, vfloat32m2_t vd,
                                               vfloat32m2_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgatherei16_vv_f32m4_tum(vbool8_t vm, vfloat32m4_t vd,
                                               vfloat32m4_t vs2,
                                               vuint16m2_t vs1, size_t vl);
```

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vfloat32m8_t __riscv_vrgatherei16_vv_f32m8_tum(vbool4_t vm, vfloat32m8_t vd,
                                               vfloat32m8_t vs2,
                                               vuint16m4_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgatherei16_vv_f64m1_tum(vbool64_t vm, vfloat64m1_t vd,
                                               vfloat64m1_t vs2,
                                               vuint16mf4_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgatherei16_vv_f64m2_tum(vbool32_t vm, vfloat64m2_t vd,
                                               vfloat64m2_t vs2,
                                               vuint16mf2_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgatherei16_vv_f64m4_tum(vbool16_t vm, vfloat64m4_t vd,
                                               vfloat64m4_t vs2,
                                               vuint16m1_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgatherei16_vv_f64m8_tum(vbool8_t vm, vfloat64m8_t vd,
                                               vfloat64m8_t vs2,
                                               vuint16m2_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                         vint8mf8_t vs2, vuint8mf8_t vs1,
                                         size_t vl);
vint8mf8_t __riscv_vrgather_vx_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                         vint8mf8_t vs2, size_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                         vint8mf4_t vs2, vuint8mf4_t vs1,
                                         size_t vl);
vint8mf4_t __riscv_vrgather_vx_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                         vint8mf4_t vs2, size_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                         vint8mf2_t vs2, vuint8mf2_t vs1,
                                         size_t vl);
vint8mf2_t __riscv_vrgather_vx_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                         vint8mf2_t vs2, size_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                       vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_vx_i8m1_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                       size_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                       vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_vx_i8m2_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                       size_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                       vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_vx_i8m4_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                       size_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_vv_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                       vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_vx_i8m8_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                       size_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                           vint16mf4_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vint16mf4_t __riscv_vrgather_vx_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                           vint16mf4_t vs2, size_t vs1,
                                           size_t vl);
vint16mf2_t __riscv_vrgather_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                           vint16mf2_t vs2, vuint16mf2_t vs1,
                                           size_t vl);
vint16mf2_t __riscv_vrgather_vx_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                           vint16mf2_t vs2, size_t vs1,
                                           size_t vl);
vint16m1_t __riscv_vrgather_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                         vint16m1_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vint16m1_t __riscv_vrgather_vx_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                         vint16m1_t vs2, size_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                         vint16m2_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vint16m2_t __riscv_vrgather_vx_i16m2_tum(vbool8_t vm, vint16m2_t vd,
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                                        vint16m2_t vs2, size_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                        vint16m4_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vint16m4_t __riscv_vrgather_vx_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                        vint16m4_t vs2, size_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                        vint16m8_t vs2, vuint16m8_t vs1,
                                        size_t vl);
vint16m8_t __riscv_vrgather_vx_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                        vint16m8_t vs2, size_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                          vint32mf2_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vint32mf2_t __riscv_vrgather_vx_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                          vint32mf2_t vs2, size_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vrgather_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                        vint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vrgather_vx_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                        vint32m1_t vs2, size_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                        vint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vint32m2_t __riscv_vrgather_vx_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                        vint32m2_t vs2, size_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                        vint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vint32m4_t __riscv_vrgather_vx_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                        vint32m4_t vs2, size_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                        vint32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vint32m8_t __riscv_vrgather_vx_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                        vint32m8_t vs2, size_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                        vint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vrgather_vx_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                        vint64m1_t vs2, size_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                        vint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vint64m2_t __riscv_vrgather_vx_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                        vint64m2_t vs2, size_t vs1, size_t vl);
vint64m4_t __riscv_vrgather_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                        vint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vint64m4_t __riscv_vrgather_vx_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                        vint64m4_t vs2, size_t vs1, size_t vl);
vint64m8_t __riscv_vrgather_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                        vint64m8_t vs2, vuint64m8_t vs1,
                                        size_t vl);
vint64m8_t __riscv_vrgather_vx_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                        vint64m8_t vs2, size_t vs1, size_t vl);
vint8mf8_t __riscv_vrgatherei16_vv_i8mf8_tum(vbool64_t vm, vint8mf8_t vd,
                                            vint8mf8_t vs2, vuint16mf4_t vs1,
                                            size_t vl);
vint8mf4_t __riscv_vrgatherei16_vv_i8mf4_tum(vbool32_t vm, vint8mf4_t vd,
                                            vint8mf4_t vs2, vuint16mf2_t vs1,
                                            size_t vl);
vint8mf2_t __riscv_vrgatherei16_vv_i8mf2_tum(vbool16_t vm, vint8mf2_t vd,
                                            vint8mf2_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vint8m1_t __riscv_vrgatherei16_vv_i8m1_tum(vbool8_t vm, vint8m1_t vd,
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                                        vint8m1_t vs2, vuint16m2_t vs1,
                                        size_t vl);
vint8m2_t __riscv_vrgatherei16_vv_i8m2_tum(vbool4_t vm, vint8m2_t vd,
                                        vint8m2_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vint8m4_t __riscv_vrgatherei16_vv_i8m4_tum(vbool2_t vm, vint8m4_t vd,
                                        vint8m4_t vs2, vuint16m8_t vs1,
                                        size_t vl);
vint16mf4_t __riscv_vrgatherei16_vv_i16mf4_tum(vbool64_t vm, vint16mf4_t vd,
                                           vint16mf4_t vs2,
                                           vuint16mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vrgatherei16_vv_i16mf2_tum(vbool32_t vm, vint16mf2_t vd,
                                           vint16mf2_t vs2,
                                           vuint16mf2_t vs1, size_t vl);
vint16m1_t __riscv_vrgatherei16_vv_i16m1_tum(vbool16_t vm, vint16m1_t vd,
                                          vint16m1_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vint16m2_t __riscv_vrgatherei16_vv_i16m2_tum(vbool8_t vm, vint16m2_t vd,
                                          vint16m2_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vint16m4_t __riscv_vrgatherei16_vv_i16m4_tum(vbool4_t vm, vint16m4_t vd,
                                          vint16m4_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vint16m8_t __riscv_vrgatherei16_vv_i16m8_tum(vbool2_t vm, vint16m8_t vd,
                                          vint16m8_t vs2, vuint16m8_t vs1,
                                          size_t vl);
vint32mf2_t __riscv_vrgatherei16_vv_i32mf2_tum(vbool64_t vm, vint32mf2_t vd,
                                           vint32mf2_t vs2,
                                           vuint16mf4_t vs1, size_t vl);
vint32m1_t __riscv_vrgatherei16_vv_i32m1_tum(vbool32_t vm, vint32m1_t vd,
                                          vint32m1_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vint32m2_t __riscv_vrgatherei16_vv_i32m2_tum(vbool16_t vm, vint32m2_t vd,
                                          vint32m2_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vint32m4_t __riscv_vrgatherei16_vv_i32m4_tum(vbool8_t vm, vint32m4_t vd,
                                          vint32m4_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vint32m8_t __riscv_vrgatherei16_vv_i32m8_tum(vbool4_t vm, vint32m8_t vd,
                                          vint32m8_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vrgatherei16_vv_i64m1_tum(vbool64_t vm, vint64m1_t vd,
                                          vint64m1_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vint64m2_t __riscv_vrgatherei16_vv_i64m2_tum(vbool32_t vm, vint64m2_t vd,
                                          vint64m2_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vint64m4_t __riscv_vrgatherei16_vv_i64m4_tum(vbool16_t vm, vint64m4_t vd,
                                          vint64m4_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vint64m8_t __riscv_vrgatherei16_vv_i64m8_tum(vbool8_t vm, vint64m8_t vd,
                                          vint64m8_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vuint8mf8_t __riscv_vrgather_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vrgather_vx_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, size_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vrgather_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vrgather_vx_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, size_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vrgather_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
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                                        size_t vl);
vuint8mf2_t __riscv_vrgather_vx_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                        vuint8mf2_t vs2, size_t vs1,
                                        size_t vl);
vuint8m1_t __riscv_vrgather_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vuint8m1_t __riscv_vrgather_vx_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                      vuint8m1_t vs2, size_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, vuint8m2_t vs1,
                                      size_t vl);
vuint8m2_t __riscv_vrgather_vx_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                      vuint8m2_t vs2, size_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint8m4_t __riscv_vrgather_vx_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, size_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_vv_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, vuint8m8_t vs1,
                                      size_t vl);
vuint8m8_t __riscv_vrgather_vx_u8m8_tum(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, size_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vrgather_vx_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, size_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vrgather_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vrgather_vx_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, size_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vrgather_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vrgather_vx_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, size_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vrgather_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vrgather_vx_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, size_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vrgather_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vrgather_vx_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, size_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vrgather_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vrgather_vx_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, size_t vs1,
                                       size_t vl);
vuint32mf2_t __riscv_vrgather_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vrgather_vx_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, size_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vrgather_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
```

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                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vrgather_vx_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, size_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vrgather_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vrgather_vx_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, size_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vrgather_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vrgather_vx_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, size_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vrgather_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vrgather_vx_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, size_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vrgather_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vrgather_vx_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, size_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vrgather_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vrgather_vx_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, size_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vrgather_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vrgather_vx_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, size_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vrgather_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint64m8_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vrgather_vx_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, size_t vs1,
                                        size_t vl);
vuint8mf8_t __riscv_vrgatherei16_vv_u8mf8_tum(vbool64_t vm, vuint8mf8_t vd,
                                            vuint8mf8_t vs2, vuint16mf4_t vs1,
                                            size_t vl);
vuint8mf4_t __riscv_vrgatherei16_vv_u8mf4_tum(vbool32_t vm, vuint8mf4_t vd,
                                            vuint8mf4_t vs2, vuint16mf2_t vs1,
                                            size_t vl);
vuint8mf2_t __riscv_vrgatherei16_vv_u8mf2_tum(vbool16_t vm, vuint8mf2_t vd,
                                            vuint8mf2_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vuint8m1_t __riscv_vrgatherei16_vv_u8m1_tum(vbool8_t vm, vuint8m1_t vd,
                                          vuint8m1_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vuint8m2_t __riscv_vrgatherei16_vv_u8m2_tum(vbool4_t vm, vuint8m2_t vd,
                                          vuint8m2_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vuint8m4_t __riscv_vrgatherei16_vv_u8m4_tum(vbool2_t vm, vuint8m4_t vd,
                                          vuint8m4_t vs2, vuint16m8_t vs1,
                                          size_t vl);
vuint16mf4_t __riscv_vrgatherei16_vv_u16mf4_tum(vbool64_t vm, vuint16mf4_t vd,
                                              vuint16mf4_t vs2,
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                                                vuint16mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgatherei16_vv_u16mf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                                vuint16mf2_t vs2,
                                                vuint16mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vrgatherei16_vv_u16m1_tum(vbool16_t vm, vuint16m1_t vd,
                                              vuint16m1_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vuint16m2_t __riscv_vrgatherei16_vv_u16m2_tum(vbool8_t vm, vuint16m2_t vd,
                                              vuint16m2_t vs2, vuint16m2_t vs1,
                                              size_t vl);
vuint16m4_t __riscv_vrgatherei16_vv_u16m4_tum(vbool4_t vm, vuint16m4_t vd,
                                              vuint16m4_t vs2, vuint16m4_t vs1,
                                              size_t vl);
vuint16m8_t __riscv_vrgatherei16_vv_u16m8_tum(vbool2_t vm, vuint16m8_t vd,
                                              vuint16m8_t vs2, vuint16m8_t vs1,
                                              size_t vl);
vuint32mf2_t __riscv_vrgatherei16_vv_u32mf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                                vuint32mf2_t vs2,
                                                vuint16mf4_t vs1, size_t vl);
vuint32m1_t __riscv_vrgatherei16_vv_u32m1_tum(vbool32_t vm, vuint32m1_t vd,
                                              vuint32m1_t vs2, vuint16mf2_t vs1,
                                              size_t vl);
vuint32m2_t __riscv_vrgatherei16_vv_u32m2_tum(vbool16_t vm, vuint32m2_t vd,
                                              vuint32m2_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vuint32m4_t __riscv_vrgatherei16_vv_u32m4_tum(vbool8_t vm, vuint32m4_t vd,
                                              vuint32m4_t vs2, vuint16m2_t vs1,
                                              size_t vl);
vuint32m8_t __riscv_vrgatherei16_vv_u32m8_tum(vbool4_t vm, vuint32m8_t vd,
                                              vuint32m8_t vs2, vuint16m4_t vs1,
                                              size_t vl);
vuint64m1_t __riscv_vrgatherei16_vv_u64m1_tum(vbool64_t vm, vuint64m1_t vd,
                                              vuint64m1_t vs2, vuint16mf4_t vs1,
                                              size_t vl);
vuint64m2_t __riscv_vrgatherei16_vv_u64m2_tum(vbool32_t vm, vuint64m2_t vd,
                                              vuint64m2_t vs2, vuint16mf2_t vs1,
                                              size_t vl);
vuint64m4_t __riscv_vrgatherei16_vv_u64m4_tum(vbool16_t vm, vuint64m4_t vd,
                                              vuint64m4_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vuint64m8_t __riscv_vrgatherei16_vv_u64m8_tum(vbool8_t vm, vuint64m8_t vd,
                                              vuint64m8_t vs2, vuint16m2_t vs1,
                                              size_t vl);
// masked functions
vfloat16mf4_t __riscv_vrgather_vv_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2,
                                              vuint16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgather_vx_f16mf4_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                              vfloat16mf4_t vs2, size_t vs1,
                                              size_t vl);
vfloat16mf2_t __riscv_vrgather_vv_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2,
                                              vuint16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather_vx_f16mf2_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                              vfloat16mf2_t vs2, size_t vs1,
                                              size_t vl);
vfloat16m1_t __riscv_vrgather_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vfloat16m1_t __riscv_vrgather_vx_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                            vfloat16m1_t vs2, size_t vs1,
                                            size_t vl);
vfloat16m2_t __riscv_vrgather_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs2, vuint16m2_t vs1,
                                            size_t vl);
vfloat16m2_t __riscv_vrgather_vx_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                            vfloat16m2_t vs2, size_t vs1,
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                                          size_t vl);
vfloat16m4_t __riscv_vrgather_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vfloat16m4_t __riscv_vrgather_vx_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, size_t vs1,
                                          size_t vl);
vfloat16m8_t __riscv_vrgather_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, vuint16m8_t vs1,
                                          size_t vl);
vfloat16m8_t __riscv_vrgather_vx_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, size_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vrgather_vv_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2,
                                            vuint32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather_vx_f32mf2_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, size_t vs1,
                                            size_t vl);
vfloat32m1_t __riscv_vrgather_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, vuint32m1_t vs1,
                                          size_t vl);
vfloat32m1_t __riscv_vrgather_vx_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                          vfloat32m1_t vs2, size_t vs1,
                                          size_t vl);
vfloat32m2_t __riscv_vrgather_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, vuint32m2_t vs1,
                                          size_t vl);
vfloat32m2_t __riscv_vrgather_vx_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                          vfloat32m2_t vs2, size_t vs1,
                                          size_t vl);
vfloat32m4_t __riscv_vrgather_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, vuint32m4_t vs1,
                                          size_t vl);
vfloat32m4_t __riscv_vrgather_vx_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                          vfloat32m4_t vs2, size_t vs1,
                                          size_t vl);
vfloat32m8_t __riscv_vrgather_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, vuint32m8_t vs1,
                                          size_t vl);
vfloat32m8_t __riscv_vrgather_vx_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                          vfloat32m8_t vs2, size_t vs1,
                                          size_t vl);
vfloat64m1_t __riscv_vrgather_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, vuint64m1_t vs1,
                                          size_t vl);
vfloat64m1_t __riscv_vrgather_vx_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                          vfloat64m1_t vs2, size_t vs1,
                                          size_t vl);
vfloat64m2_t __riscv_vrgather_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, vuint64m2_t vs1,
                                          size_t vl);
vfloat64m2_t __riscv_vrgather_vx_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                          vfloat64m2_t vs2, size_t vs1,
                                          size_t vl);
vfloat64m4_t __riscv_vrgather_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, vuint64m4_t vs1,
                                          size_t vl);
vfloat64m4_t __riscv_vrgather_vx_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                          vfloat64m4_t vs2, size_t vs1,
                                          size_t vl);
vfloat64m8_t __riscv_vrgather_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, vuint64m8_t vs1,
                                          size_t vl);
vfloat64m8_t __riscv_vrgather_vx_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                          vfloat64m8_t vs2, size_t vs1,
                                          size_t vl);
```

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vfloat16mf4_t __riscv_vrgatherei16_vv_f16mf4_tumu(vbool64_t vm,
                                                  vfloat16mf4_t vd,
                                                  vfloat16mf4_t vs2,
                                                  vuint16mf4_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgatherei16_vv_f16mf2_tumu(vbool32_t vm,
                                                  vfloat16mf2_t vd,
                                                  vfloat16mf2_t vs2,
                                                  vuint16mf2_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgatherei16_vv_f16m1_tumu(vbool16_t vm, vfloat16m1_t vd,
                                                vfloat16m1_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgatherei16_vv_f16m2_tumu(vbool8_t vm, vfloat16m2_t vd,
                                                vfloat16m2_t vs2,
                                                vuint16m2_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgatherei16_vv_f16m4_tumu(vbool4_t vm, vfloat16m4_t vd,
                                                vfloat16m4_t vs2,
                                                vuint16m4_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgatherei16_vv_f16m8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                                vfloat16m8_t vs2,
                                                vuint16m8_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgatherei16_vv_f32mf2_tumu(vbool64_t vm,
                                                  vfloat32mf2_t vd,
                                                  vfloat32mf2_t vs2,
                                                  vuint16mf4_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgatherei16_vv_f32m1_tumu(vbool32_t vm, vfloat32m1_t vd,
                                                vfloat32m1_t vs2,
                                                vuint16mf2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgatherei16_vv_f32m2_tumu(vbool16_t vm, vfloat32m2_t vd,
                                                vfloat32m2_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgatherei16_vv_f32m4_tumu(vbool8_t vm, vfloat32m4_t vd,
                                                vfloat32m4_t vs2,
                                                vuint16m2_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgatherei16_vv_f32m8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                                vfloat32m8_t vs2,
                                                vuint16m4_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgatherei16_vv_f64m1_tumu(vbool64_t vm, vfloat64m1_t vd,
                                                vfloat64m1_t vs2,
                                                vuint16mf4_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgatherei16_vv_f64m2_tumu(vbool32_t vm, vfloat64m2_t vd,
                                                vfloat64m2_t vs2,
                                                vuint16mf2_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgatherei16_vv_f64m4_tumu(vbool16_t vm, vfloat64m4_t vd,
                                                vfloat64m4_t vs2,
                                                vuint16m1_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgatherei16_vv_f64m8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                                vfloat64m8_t vs2,
                                                vuint16m2_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                          vint8mf8_t vs2, vuint8mf8_t vs1,
                                          size_t vl);
vint8mf8_t __riscv_vrgather_vx_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                          vint8mf8_t vs2, size_t vs1,
                                          size_t vl);
vint8mf4_t __riscv_vrgather_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                          vint8mf4_t vs2, vuint8mf4_t vs1,
                                          size_t vl);
vint8mf4_t __riscv_vrgather_vx_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                          vint8mf4_t vs2, size_t vs1,
                                          size_t vl);
vint8mf2_t __riscv_vrgather_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                          vint8mf2_t vs2, vuint8mf2_t vs1,
                                          size_t vl);
vint8mf2_t __riscv_vrgather_vx_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                          vint8mf2_t vs2, size_t vs1,
                                          size_t vl);
vint8m1_t __riscv_vrgather_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
```

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                                      vint8m1_t vs2, vuint8m1_t vs1,
                                      size_t vl);
vint8m1_t __riscv_vrgather_vx_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                      vint8m1_t vs2, size_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                      vint8m2_t vs2, vuint8m2_t vs1,
                                      size_t vl);
vint8m2_t __riscv_vrgather_vx_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                      vint8m2_t vs2, size_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                      vint8m4_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vint8m4_t __riscv_vrgather_vx_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                      vint8m4_t vs2, size_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_vv_i8m8_tumu(vbool1_t vm, vint8m8_t vd,
                                      vint8m8_t vs2, vuint8m8_t vs1,
                                      size_t vl);
vint8m8_t __riscv_vrgather_vx_i8m8_tumu(vbool1_t vm, vint8m8_t vd,
                                      vint8m8_t vs2, size_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vint16mf4_t __riscv_vrgather_vx_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                         vint16mf4_t vs2, size_t vs1,
                                         size_t vl);
vint16mf2_t __riscv_vrgather_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vint16mf2_t __riscv_vrgather_vx_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                         vint16mf2_t vs2, size_t vs1,
                                         size_t vl);
vint16m1_t __riscv_vrgather_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vint16m1_t __riscv_vrgather_vx_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
                                       vint16m1_t vs2, size_t vs1,
                                       size_t vl);
vint16m2_t __riscv_vrgather_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vint16m2_t __riscv_vrgather_vx_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                       vint16m2_t vs2, size_t vs1,
                                       size_t vl);
vint16m4_t __riscv_vrgather_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vint16m4_t __riscv_vrgather_vx_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                       vint16m4_t vs2, size_t vs1,
                                       size_t vl);
vint16m8_t __riscv_vrgather_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vint16m8_t __riscv_vrgather_vx_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                       vint16m8_t vs2, size_t vs1,
                                       size_t vl);
vint32mf2_t __riscv_vrgather_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vint32mf2_t __riscv_vrgather_vx_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                         vint32mf2_t vs2, size_t vs1,
                                         size_t vl);
vint32m1_t __riscv_vrgather_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vint32m1_t __riscv_vrgather_vx_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                       vint32m1_t vs2, size_t vs1,
                                       size_t vl);
```

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vint32m2_t __riscv_vrgather_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                          vint32m2_t vs2, vuint32m2_t vs1,
                                          size_t vl);
vint32m2_t __riscv_vrgather_vx_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                          vint32m2_t vs2, size_t vs1,
                                          size_t vl);
vint32m4_t __riscv_vrgather_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                          vint32m4_t vs2, vuint32m4_t vs1,
                                          size_t vl);
vint32m4_t __riscv_vrgather_vx_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                          vint32m4_t vs2, size_t vs1,
                                          size_t vl);
vint32m8_t __riscv_vrgather_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                          vint32m8_t vs2, vuint32m8_t vs1,
                                          size_t vl);
vint32m8_t __riscv_vrgather_vx_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                          vint32m8_t vs2, size_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vrgather_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                          vint64m1_t vs2, vuint64m1_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vrgather_vx_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                          vint64m1_t vs2, size_t vs1,
                                          size_t vl);
vint64m2_t __riscv_vrgather_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                          vint64m2_t vs2, vuint64m2_t vs1,
                                          size_t vl);
vint64m2_t __riscv_vrgather_vx_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                          vint64m2_t vs2, size_t vs1,
                                          size_t vl);
vint64m4_t __riscv_vrgather_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                          vint64m4_t vs2, vuint64m4_t vs1,
                                          size_t vl);
vint64m4_t __riscv_vrgather_vx_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                          vint64m4_t vs2, size_t vs1,
                                          size_t vl);
vint64m8_t __riscv_vrgather_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                          vint64m8_t vs2, vuint64m8_t vs1,
                                          size_t vl);
vint64m8_t __riscv_vrgather_vx_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                          vint64m8_t vs2, size_t vs1,
                                          size_t vl);
vint8mf8_t __riscv_vrgatherei16_vv_i8mf8_tumu(vbool64_t vm, vint8mf8_t vd,
                                              vint8mf8_t vs2, vuint16mf4_t vs1,
                                              size_t vl);
vint8mf4_t __riscv_vrgatherei16_vv_i8mf4_tumu(vbool32_t vm, vint8mf4_t vd,
                                              vint8mf4_t vs2, vuint16mf2_t vs1,
                                              size_t vl);
vint8mf2_t __riscv_vrgatherei16_vv_i8mf2_tumu(vbool16_t vm, vint8mf2_t vd,
                                              vint8mf2_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vint8m1_t __riscv_vrgatherei16_vv_i8m1_tumu(vbool8_t vm, vint8m1_t vd,
                                            vint8m1_t vs2, vuint16m2_t vs1,
                                            size_t vl);
vint8m2_t __riscv_vrgatherei16_vv_i8m2_tumu(vbool4_t vm, vint8m2_t vd,
                                            vint8m2_t vs2, vuint16m4_t vs1,
                                            size_t vl);
vint8m4_t __riscv_vrgatherei16_vv_i8m4_tumu(vbool2_t vm, vint8m4_t vd,
                                            vint8m4_t vs2, vuint16m8_t vs1,
                                            size_t vl);
vint16mf4_t __riscv_vrgatherei16_vv_i16mf4_tumu(vbool64_t vm, vint16mf4_t vd,
                                                vint16mf4_t vs2,
                                                vuint16mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vrgatherei16_vv_i16mf2_tumu(vbool32_t vm, vint16mf2_t vd,
                                                vint16mf2_t vs2,
                                                vuint16mf2_t vs1, size_t vl);
vint16m1_t __riscv_vrgatherei16_vv_i16m1_tumu(vbool16_t vm, vint16m1_t vd,
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                                          vint16m1_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vint16m2_t __riscv_vrgatherei16_vv_i16m2_tumu(vbool8_t vm, vint16m2_t vd,
                                          vint16m2_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vint16m4_t __riscv_vrgatherei16_vv_i16m4_tumu(vbool4_t vm, vint16m4_t vd,
                                          vint16m4_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vint16m8_t __riscv_vrgatherei16_vv_i16m8_tumu(vbool2_t vm, vint16m8_t vd,
                                          vint16m8_t vs2, vuint16m8_t vs1,
                                          size_t vl);
vint32mf2_t __riscv_vrgatherei16_vv_i32mf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                            vint32mf2_t vs2,
                                            vuint16mf4_t vs1, size_t vl);
vint32m1_t __riscv_vrgatherei16_vv_i32m1_tumu(vbool32_t vm, vint32m1_t vd,
                                          vint32m1_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vint32m2_t __riscv_vrgatherei16_vv_i32m2_tumu(vbool16_t vm, vint32m2_t vd,
                                          vint32m2_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vint32m4_t __riscv_vrgatherei16_vv_i32m4_tumu(vbool8_t vm, vint32m4_t vd,
                                          vint32m4_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vint32m8_t __riscv_vrgatherei16_vv_i32m8_tumu(vbool4_t vm, vint32m8_t vd,
                                          vint32m8_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vint64m1_t __riscv_vrgatherei16_vv_i64m1_tumu(vbool64_t vm, vint64m1_t vd,
                                          vint64m1_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vint64m2_t __riscv_vrgatherei16_vv_i64m2_tumu(vbool32_t vm, vint64m2_t vd,
                                          vint64m2_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vint64m4_t __riscv_vrgatherei16_vv_i64m4_tumu(vbool16_t vm, vint64m4_t vd,
                                          vint64m4_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vint64m8_t __riscv_vrgatherei16_vv_i64m8_tumu(vbool8_t vm, vint64m8_t vd,
                                          vint64m8_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vuint8mf8_t __riscv_vrgather_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, vuint8mf8_t vs1,
                                       size_t vl);
vuint8mf8_t __riscv_vrgather_vx_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vuint8mf8_t vs2, size_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vrgather_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, vuint8mf4_t vs1,
                                       size_t vl);
vuint8mf4_t __riscv_vrgather_vx_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vuint8mf4_t vs2, size_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vrgather_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, vuint8mf2_t vs1,
                                       size_t vl);
vuint8mf2_t __riscv_vrgather_vx_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vuint8mf2_t vs2, size_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vrgather_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                     vuint8m1_t vs2, vuint8m1_t vs1,
                                     size_t vl);
vuint8m1_t __riscv_vrgather_vx_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                     vuint8m1_t vs2, size_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                     vuint8m2_t vs2, vuint8m2_t vs1,
                                     size_t vl);
vuint8m2_t __riscv_vrgather_vx_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                     vuint8m2_t vs2, size_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
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                                      vuint8m4_t vs2, vuint8m4_t vs1,
                                      size_t vl);
vuint8m4_t __riscv_vrgather_vx_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                      vuint8m4_t vs2, size_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_vv_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, vuint8m8_t vs1,
                                      size_t vl);
vuint8m8_t __riscv_vrgather_vx_u8m8_tumu(vbool1_t vm, vuint8m8_t vd,
                                      vuint8m8_t vs2, size_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, vuint16mf4_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vrgather_vx_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                         vuint16mf4_t vs2, size_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vrgather_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, vuint16mf2_t vs1,
                                         size_t vl);
vuint16mf2_t __riscv_vrgather_vx_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                         vuint16mf2_t vs2, size_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vrgather_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, vuint16m1_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vrgather_vx_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vuint16m1_t vs2, size_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vrgather_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, vuint16m2_t vs1,
                                       size_t vl);
vuint16m2_t __riscv_vrgather_vx_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vuint16m2_t vs2, size_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vrgather_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, vuint16m4_t vs1,
                                       size_t vl);
vuint16m4_t __riscv_vrgather_vx_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vuint16m4_t vs2, size_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vrgather_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, vuint16m8_t vs1,
                                       size_t vl);
vuint16m8_t __riscv_vrgather_vx_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                       vuint16m8_t vs2, size_t vs1,
                                       size_t vl);
vuint32mf2_t __riscv_vrgather_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, vuint32mf2_t vs1,
                                         size_t vl);
vuint32mf2_t __riscv_vrgather_vx_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                         vuint32mf2_t vs2, size_t vs1,
                                         size_t vl);
vuint32m1_t __riscv_vrgather_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, vuint32m1_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vrgather_vx_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vuint32m1_t vs2, size_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vrgather_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, vuint32m2_t vs1,
                                       size_t vl);
vuint32m2_t __riscv_vrgather_vx_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vuint32m2_t vs2, size_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vrgather_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vuint32m4_t vs2, vuint32m4_t vs1,
                                       size_t vl);
vuint32m4_t __riscv_vrgather_vx_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
```

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                                        vuint32m4_t vs2, size_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vrgather_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vrgather_vx_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, size_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vrgather_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vrgather_vx_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, size_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vrgather_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vrgather_vx_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, size_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vrgather_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vrgather_vx_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, size_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vrgather_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint64m8_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vrgather_vx_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, size_t vs1,
                                        size_t vl);
vuint8mf8_t __riscv_vrgatherei16_vv_u8mf8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                           vuint8mf8_t vs2,
                                           vuint16mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgatherei16_vv_u8mf4_tumu(vbool32_t vm, vuint8mf4_t vd,
                                           vuint8mf4_t vs2,
                                           vuint16mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgatherei16_vv_u8mf2_tumu(vbool16_t vm, vuint8mf2_t vd,
                                           vuint8mf2_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vuint8m1_t __riscv_vrgatherei16_vv_u8m1_tumu(vbool8_t vm, vuint8m1_t vd,
                                          vuint8m1_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vuint8m2_t __riscv_vrgatherei16_vv_u8m2_tumu(vbool4_t vm, vuint8m2_t vd,
                                          vuint8m2_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vuint8m4_t __riscv_vrgatherei16_vv_u8m4_tumu(vbool2_t vm, vuint8m4_t vd,
                                          vuint8m4_t vs2, vuint16m8_t vs1,
                                          size_t vl);
vuint16mf4_t __riscv_vrgatherei16_vv_u16mf4_tumu(vbool64_t vm, vuint16mf4_t vd,
                                             vuint16mf4_t vs2,
                                             vuint16mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgatherei16_vv_u16mf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                             vuint16mf2_t vs2,
                                             vuint16mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vrgatherei16_vv_u16m1_tumu(vbool16_t vm, vuint16m1_t vd,
                                           vuint16m1_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vuint16m2_t __riscv_vrgatherei16_vv_u16m2_tumu(vbool8_t vm, vuint16m2_t vd,
                                           vuint16m2_t vs2, vuint16m2_t vs1,
                                           size_t vl);
vuint16m4_t __riscv_vrgatherei16_vv_u16m4_tumu(vbool4_t vm, vuint16m4_t vd,
                                           vuint16m4_t vs2, vuint16m4_t vs1,
                                           size_t vl);
vuint16m8_t __riscv_vrgatherei16_vv_u16m8_tumu(vbool2_t vm, vuint16m8_t vd,
                                           vuint16m8_t vs2, vuint16m8_t vs1,
```

```
                                                size_t vl);
vuint32mf2_t __riscv_vrgatherei16_vv_u32mf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                                 vuint32mf2_t vs2,
                                                 vuint16mf4_t vs1, size_t vl);
vuint32m1_t __riscv_vrgatherei16_vv_u32m1_tumu(vbool32_t vm, vuint32m1_t vd,
                                               vuint32m1_t vs2,
                                               vuint16mf2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgatherei16_vv_u32m2_tumu(vbool16_t vm, vuint32m2_t vd,
                                               vuint32m2_t vs2, vuint16m1_t vs1,
                                               size_t vl);
vuint32m4_t __riscv_vrgatherei16_vv_u32m4_tumu(vbool8_t vm, vuint32m4_t vd,
                                               vuint32m4_t vs2, vuint16m2_t vs1,
                                               size_t vl);
vuint32m8_t __riscv_vrgatherei16_vv_u32m8_tumu(vbool4_t vm, vuint32m8_t vd,
                                               vuint32m8_t vs2, vuint16m4_t vs1,
                                               size_t vl);
vuint64m1_t __riscv_vrgatherei16_vv_u64m1_tumu(vbool64_t vm, vuint64m1_t vd,
                                               vuint64m1_t vs2,
                                               vuint16mf4_t vs1, size_t vl);
vuint64m2_t __riscv_vrgatherei16_vv_u64m2_tumu(vbool32_t vm, vuint64m2_t vd,
                                               vuint64m2_t vs2,
                                               vuint16mf2_t vs1, size_t vl);
vuint64m4_t __riscv_vrgatherei16_vv_u64m4_tumu(vbool16_t vm, vuint64m4_t vd,
                                               vuint64m4_t vs2, vuint16m1_t vs1,
                                               size_t vl);
vuint64m8_t __riscv_vrgatherei16_vv_u64m8_tumu(vbool8_t vm, vuint64m8_t vd,
                                               vuint64m8_t vs2, vuint16m2_t vs1,
                                               size_t vl);
// masked functions
vfloat16mf4_t __riscv_vrgather_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, vuint16mf4_t vs1,
                                            size_t vl);
vfloat16mf4_t __riscv_vrgather_vx_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2, size_t vs1,
                                            size_t vl);
vfloat16mf2_t __riscv_vrgather_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, vuint16mf2_t vs1,
                                            size_t vl);
vfloat16mf2_t __riscv_vrgather_vx_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2, size_t vs1,
                                            size_t vl);
vfloat16m1_t __riscv_vrgather_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vfloat16m1_t __riscv_vrgather_vx_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, size_t vs1,
                                          size_t vl);
vfloat16m2_t __riscv_vrgather_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vfloat16m2_t __riscv_vrgather_vx_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, size_t vs1,
                                          size_t vl);
vfloat16m4_t __riscv_vrgather_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vfloat16m4_t __riscv_vrgather_vx_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, size_t vs1,
                                          size_t vl);
vfloat16m8_t __riscv_vrgather_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, vuint16m8_t vs1,
                                          size_t vl);
vfloat16m8_t __riscv_vrgather_vx_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                          vfloat16m8_t vs2, size_t vs1,
                                          size_t vl);
vfloat32mf2_t __riscv_vrgather_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                            vfloat32mf2_t vs2, vuint32mf2_t vs1,
```

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                                          size_t vl);
vfloat32mf2_t __riscv_vrgather_vx_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                          vfloat32mf2_t vs2, size_t vs1,
                                          size_t vl);
vfloat32m1_t __riscv_vrgather_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vfloat32m1_t __riscv_vrgather_vx_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                        vfloat32m1_t vs2, size_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vrgather_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vfloat32m2_t __riscv_vrgather_vx_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                        vfloat32m2_t vs2, size_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vrgather_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vfloat32m4_t __riscv_vrgather_vx_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                        vfloat32m4_t vs2, size_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vrgather_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vfloat32m8_t __riscv_vrgather_vx_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                        vfloat32m8_t vs2, size_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vrgather_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vfloat64m1_t __riscv_vrgather_vx_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                        vfloat64m1_t vs2, size_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vrgather_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vfloat64m2_t __riscv_vrgather_vx_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                        vfloat64m2_t vs2, size_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vrgather_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vfloat64m4_t __riscv_vrgather_vx_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                        vfloat64m4_t vs2, size_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vrgather_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, vuint64m8_t vs1,
                                        size_t vl);
vfloat64m8_t __riscv_vrgather_vx_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                        vfloat64m8_t vs2, size_t vs1,
                                        size_t vl);
vfloat16mf4_t __riscv_vrgatherei16_vv_f16mf4_mu(vbool64_t vm, vfloat16mf4_t vd,
                                            vfloat16mf4_t vs2,
                                            vuint16mf4_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgatherei16_vv_f16mf2_mu(vbool32_t vm, vfloat16mf2_t vd,
                                            vfloat16mf2_t vs2,
                                            vuint16mf2_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgatherei16_vv_f16m1_mu(vbool16_t vm, vfloat16m1_t vd,
                                          vfloat16m1_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vfloat16m2_t __riscv_vrgatherei16_vv_f16m2_mu(vbool8_t vm, vfloat16m2_t vd,
                                          vfloat16m2_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vfloat16m4_t __riscv_vrgatherei16_vv_f16m4_mu(vbool4_t vm, vfloat16m4_t vd,
                                          vfloat16m4_t vs2, vuint16m4_t vs1,
                                          size_t vl);
```

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vfloat16m8_t __riscv_vrgatherei16_vv_f16m8_mu(vbool2_t vm, vfloat16m8_t vd,
                                              vfloat16m8_t vs2, vuint16m8_t vs1,
                                              size_t vl);
vfloat32mf2_t __riscv_vrgatherei16_vv_f32mf2_mu(vbool64_t vm, vfloat32mf2_t vd,
                                                vfloat32mf2_t vs2,
                                                vuint16mf4_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgatherei16_vv_f32m1_mu(vbool32_t vm, vfloat32m1_t vd,
                                              vfloat32m1_t vs2,
                                              vuint16mf2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgatherei16_vv_f32m2_mu(vbool16_t vm, vfloat32m2_t vd,
                                              vfloat32m2_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vfloat32m4_t __riscv_vrgatherei16_vv_f32m4_mu(vbool8_t vm, vfloat32m4_t vd,
                                              vfloat32m4_t vs2, vuint16m2_t vs1,
                                              size_t vl);
vfloat32m8_t __riscv_vrgatherei16_vv_f32m8_mu(vbool4_t vm, vfloat32m8_t vd,
                                              vfloat32m8_t vs2, vuint16m4_t vs1,
                                              size_t vl);
vfloat64m1_t __riscv_vrgatherei16_vv_f64m1_mu(vbool64_t vm, vfloat64m1_t vd,
                                              vfloat64m1_t vs2,
                                              vuint16mf4_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgatherei16_vv_f64m2_mu(vbool32_t vm, vfloat64m2_t vd,
                                              vfloat64m2_t vs2,
                                              vuint16mf2_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgatherei16_vv_f64m4_mu(vbool16_t vm, vfloat64m4_t vd,
                                              vfloat64m4_t vs2, vuint16m1_t vs1,
                                              size_t vl);
vfloat64m8_t __riscv_vrgatherei16_vv_f64m8_mu(vbool8_t vm, vfloat64m8_t vd,
                                              vfloat64m8_t vs2, vuint16m2_t vs1,
                                              size_t vl);
vint8mf8_t __riscv_vrgather_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                        vint8mf8_t vs2, vuint8mf8_t vs1,
                                        size_t vl);
vint8mf8_t __riscv_vrgather_vx_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                        vint8mf8_t vs2, size_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                        vint8mf4_t vs2, vuint8mf4_t vs1,
                                        size_t vl);
vint8mf4_t __riscv_vrgather_vx_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                        vint8mf4_t vs2, size_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                        vint8mf2_t vs2, vuint8mf2_t vs1,
                                        size_t vl);
vint8mf2_t __riscv_vrgather_vx_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                        vint8mf2_t vs2, size_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                      vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_vx_i8m1_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                      size_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                      vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_vx_i8m2_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                      size_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                      vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_vx_i8m4_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                      size_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_vv_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                      vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_vx_i8m8_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                      size_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                          vint16mf4_t vs2, vuint16mf4_t vs1,
                                          size_t vl);
vint16mf4_t __riscv_vrgather_vx_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                          vint16mf4_t vs2, size_t vs1,
                                          size_t vl);
```

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vint16mf2_t __riscv_vrgather_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                          vint16mf2_t vs2, vuint16mf2_t vs1,
                                          size_t vl);
vint16mf2_t __riscv_vrgather_vx_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                          vint16mf2_t vs2, size_t vs1,
                                          size_t vl);
vint16m1_t __riscv_vrgather_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                        vint16m1_t vs2, vuint16m1_t vs1,
                                        size_t vl);
vint16m1_t __riscv_vrgather_vx_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                        vint16m1_t vs2, size_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                        vint16m2_t vs2, vuint16m2_t vs1,
                                        size_t vl);
vint16m2_t __riscv_vrgather_vx_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                        vint16m2_t vs2, size_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                        vint16m4_t vs2, vuint16m4_t vs1,
                                        size_t vl);
vint16m4_t __riscv_vrgather_vx_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                        vint16m4_t vs2, size_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                        vint16m8_t vs2, vuint16m8_t vs1,
                                        size_t vl);
vint16m8_t __riscv_vrgather_vx_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                        vint16m8_t vs2, size_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                          vint32mf2_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vint32mf2_t __riscv_vrgather_vx_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                          vint32mf2_t vs2, size_t vs1,
                                          size_t vl);
vint32m1_t __riscv_vrgather_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                        vint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vint32m1_t __riscv_vrgather_vx_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                        vint32m1_t vs2, size_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                        vint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vint32m2_t __riscv_vrgather_vx_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                        vint32m2_t vs2, size_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                        vint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vint32m4_t __riscv_vrgather_vx_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                        vint32m4_t vs2, size_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                        vint32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vint32m8_t __riscv_vrgather_vx_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                        vint32m8_t vs2, size_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                        vint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vint64m1_t __riscv_vrgather_vx_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                        vint64m1_t vs2, size_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                        vint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vint64m2_t __riscv_vrgather_vx_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                        vint64m2_t vs2, size_t vs1, size_t vl);
vint64m4_t __riscv_vrgather_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                        vint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vint64m4_t __riscv_vrgather_vx_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                        vint64m4_t vs2, size_t vs1, size_t vl);
```

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vint64m8_t __riscv_vrgather_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                        vint64m8_t vs2, vuint64m8_t vs1,
                                        size_t vl);
vint64m8_t __riscv_vrgather_vx_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                        vint64m8_t vs2, size_t vs1, size_t vl);
vint8mf8_t __riscv_vrgatherei16_vv_i8mf8_mu(vbool64_t vm, vint8mf8_t vd,
                                            vint8mf8_t vs2, vuint16mf4_t vs1,
                                            size_t vl);
vint8mf4_t __riscv_vrgatherei16_vv_i8mf4_mu(vbool32_t vm, vint8mf4_t vd,
                                            vint8mf4_t vs2, vuint16mf2_t vs1,
                                            size_t vl);
vint8mf2_t __riscv_vrgatherei16_vv_i8mf2_mu(vbool16_t vm, vint8mf2_t vd,
                                            vint8mf2_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vint8m1_t __riscv_vrgatherei16_vv_i8m1_mu(vbool8_t vm, vint8m1_t vd,
                                          vint8m1_t vs2, vuint16m2_t vs1,
                                          size_t vl);
vint8m2_t __riscv_vrgatherei16_vv_i8m2_mu(vbool4_t vm, vint8m2_t vd,
                                          vint8m2_t vs2, vuint16m4_t vs1,
                                          size_t vl);
vint8m4_t __riscv_vrgatherei16_vv_i8m4_mu(vbool2_t vm, vint8m4_t vd,
                                          vint8m4_t vs2, vuint16m8_t vs1,
                                          size_t vl);
vint16mf4_t __riscv_vrgatherei16_vv_i16mf4_mu(vbool64_t vm, vint16mf4_t vd,
                                              vint16mf4_t vs2, vuint16mf4_t vs1,
                                              size_t vl);
vint16mf2_t __riscv_vrgatherei16_vv_i16mf2_mu(vbool32_t vm, vint16mf2_t vd,
                                              vint16mf2_t vs2, vuint16mf2_t vs1,
                                              size_t vl);
vint16m1_t __riscv_vrgatherei16_vv_i16m1_mu(vbool16_t vm, vint16m1_t vd,
                                            vint16m1_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vint16m2_t __riscv_vrgatherei16_vv_i16m2_mu(vbool8_t vm, vint16m2_t vd,
                                            vint16m2_t vs2, vuint16m2_t vs1,
                                            size_t vl);
vint16m4_t __riscv_vrgatherei16_vv_i16m4_mu(vbool4_t vm, vint16m4_t vd,
                                            vint16m4_t vs2, vuint16m4_t vs1,
                                            size_t vl);
vint16m8_t __riscv_vrgatherei16_vv_i16m8_mu(vbool2_t vm, vint16m8_t vd,
                                            vint16m8_t vs2, vuint16m8_t vs1,
                                            size_t vl);
vint32mf2_t __riscv_vrgatherei16_vv_i32mf2_mu(vbool64_t vm, vint32mf2_t vd,
                                              vint32mf2_t vs2, vuint16mf4_t vs1,
                                              size_t vl);
vint32m1_t __riscv_vrgatherei16_vv_i32m1_mu(vbool32_t vm, vint32m1_t vd,
                                            vint32m1_t vs2, vuint16mf2_t vs1,
                                            size_t vl);
vint32m2_t __riscv_vrgatherei16_vv_i32m2_mu(vbool16_t vm, vint32m2_t vd,
                                            vint32m2_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vint32m4_t __riscv_vrgatherei16_vv_i32m4_mu(vbool8_t vm, vint32m4_t vd,
                                            vint32m4_t vs2, vuint16m2_t vs1,
                                            size_t vl);
vint32m8_t __riscv_vrgatherei16_vv_i32m8_mu(vbool4_t vm, vint32m8_t vd,
                                            vint32m8_t vs2, vuint16m4_t vs1,
                                            size_t vl);
vint64m1_t __riscv_vrgatherei16_vv_i64m1_mu(vbool64_t vm, vint64m1_t vd,
                                            vint64m1_t vs2, vuint16mf4_t vs1,
                                            size_t vl);
vint64m2_t __riscv_vrgatherei16_vv_i64m2_mu(vbool32_t vm, vint64m2_t vd,
                                            vint64m2_t vs2, vuint16mf2_t vs1,
                                            size_t vl);
vint64m4_t __riscv_vrgatherei16_vv_i64m4_mu(vbool16_t vm, vint64m4_t vd,
                                            vint64m4_t vs2, vuint16m1_t vs1,
                                            size_t vl);
vint64m8_t __riscv_vrgatherei16_vv_i64m8_mu(vbool8_t vm, vint64m8_t vd,
                                            vint64m8_t vs2, vuint16m2_t vs1,
```

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                                          size_t vl);
vuint8mf8_t __riscv_vrgather_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                         vuint8mf8_t vs2, vuint8mf8_t vs1,
                                         size_t vl);
vuint8mf8_t __riscv_vrgather_vx_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                         vuint8mf8_t vs2, size_t vs1,
                                         size_t vl);
vuint8mf4_t __riscv_vrgather_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                         vuint8mf4_t vs2, vuint8mf4_t vs1,
                                         size_t vl);
vuint8mf4_t __riscv_vrgather_vx_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                         vuint8mf4_t vs2, size_t vs1,
                                         size_t vl);
vuint8mf2_t __riscv_vrgather_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                         vuint8mf2_t vs2, vuint8mf2_t vs1,
                                         size_t vl);
vuint8mf2_t __riscv_vrgather_vx_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                         vuint8mf2_t vs2, size_t vs1,
                                         size_t vl);
vuint8m1_t __riscv_vrgather_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                       vuint8m1_t vs2, vuint8m1_t vs1,
                                       size_t vl);
vuint8m1_t __riscv_vrgather_vx_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                       vuint8m1_t vs2, size_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                       vuint8m2_t vs2, vuint8m2_t vs1,
                                       size_t vl);
vuint8m2_t __riscv_vrgather_vx_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                       vuint8m2_t vs2, size_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                       vuint8m4_t vs2, vuint8m4_t vs1,
                                       size_t vl);
vuint8m4_t __riscv_vrgather_vx_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                       vuint8m4_t vs2, size_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_vv_u8m8_mu(vbool1_t vm, vuint8m8_t vd,
                                       vuint8m8_t vs2, vuint8m8_t vs1,
                                       size_t vl);
vuint8m8_t __riscv_vrgather_vx_u8m8_mu(vbool1_t vm, vuint8m8_t vd,
                                       vuint8m8_t vs2, size_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                           vuint16mf4_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vuint16mf4_t __riscv_vrgather_vx_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                           vuint16mf4_t vs2, size_t vs1,
                                           size_t vl);
vuint16mf2_t __riscv_vrgather_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                           vuint16mf2_t vs2, vuint16mf2_t vs1,
                                           size_t vl);
vuint16mf2_t __riscv_vrgather_vx_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                           vuint16mf2_t vs2, size_t vs1,
                                           size_t vl);
vuint16m1_t __riscv_vrgather_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs2, vuint16m1_t vs1,
                                         size_t vl);
vuint16m1_t __riscv_vrgather_vx_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                         vuint16m1_t vs2, size_t vs1,
                                         size_t vl);
vuint16m2_t __riscv_vrgather_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vuint16m2_t __riscv_vrgather_vx_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                         vuint16m2_t vs2, size_t vs1,
                                         size_t vl);
vuint16m4_t __riscv_vrgather_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                         vuint16m4_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vuint16m4_t __riscv_vrgather_vx_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
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                                        vuint16m4_t vs2, size_t vs1,
                                        size_t vl);
vuint16m8_t __riscv_vrgather_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, vuint16m8_t vs1,
                                        size_t vl);
vuint16m8_t __riscv_vrgather_vx_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                        vuint16m8_t vs2, size_t vs1,
                                        size_t vl);
vuint32mf2_t __riscv_vrgather_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, vuint32mf2_t vs1,
                                          size_t vl);
vuint32mf2_t __riscv_vrgather_vx_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                          vuint32mf2_t vs2, size_t vs1,
                                          size_t vl);
vuint32m1_t __riscv_vrgather_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, vuint32m1_t vs1,
                                        size_t vl);
vuint32m1_t __riscv_vrgather_vx_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                        vuint32m1_t vs2, size_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vrgather_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, vuint32m2_t vs1,
                                        size_t vl);
vuint32m2_t __riscv_vrgather_vx_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                        vuint32m2_t vs2, size_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vrgather_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, vuint32m4_t vs1,
                                        size_t vl);
vuint32m4_t __riscv_vrgather_vx_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                        vuint32m4_t vs2, size_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vrgather_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, vuint32m8_t vs1,
                                        size_t vl);
vuint32m8_t __riscv_vrgather_vx_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                        vuint32m8_t vs2, size_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vrgather_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, vuint64m1_t vs1,
                                        size_t vl);
vuint64m1_t __riscv_vrgather_vx_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                        vuint64m1_t vs2, size_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vrgather_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, vuint64m2_t vs1,
                                        size_t vl);
vuint64m2_t __riscv_vrgather_vx_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                        vuint64m2_t vs2, size_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vrgather_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, vuint64m4_t vs1,
                                        size_t vl);
vuint64m4_t __riscv_vrgather_vx_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                        vuint64m4_t vs2, size_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vrgather_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, vuint64m8_t vs1,
                                        size_t vl);
vuint64m8_t __riscv_vrgather_vx_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                        vuint64m8_t vs2, size_t vs1,
                                        size_t vl);
vuint8mf8_t __riscv_vrgatherei16_vv_u8mf8_mu(vbool64_t vm, vuint8mf8_t vd,
                                            vuint8mf8_t vs2, vuint16mf4_t vs1,
                                            size_t vl);
vuint8mf4_t __riscv_vrgatherei16_vv_u8mf4_mu(vbool32_t vm, vuint8mf4_t vd,
                                            vuint8mf4_t vs2, vuint16mf2_t vs1,
```

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                                          size_t vl);
vuint8mf2_t __riscv_vrgatherei16_vv_u8mf2_mu(vbool16_t vm, vuint8mf2_t vd,
                                          vuint8mf2_t vs2, vuint16m1_t vs1,
                                          size_t vl);
vuint8m1_t __riscv_vrgatherei16_vv_u8m1_mu(vbool8_t vm, vuint8m1_t vd,
                                         vuint8m1_t vs2, vuint16m2_t vs1,
                                         size_t vl);
vuint8m2_t __riscv_vrgatherei16_vv_u8m2_mu(vbool4_t vm, vuint8m2_t vd,
                                         vuint8m2_t vs2, vuint16m4_t vs1,
                                         size_t vl);
vuint8m4_t __riscv_vrgatherei16_vv_u8m4_mu(vbool2_t vm, vuint8m4_t vd,
                                         vuint8m4_t vs2, vuint16m8_t vs1,
                                         size_t vl);
vuint16mf4_t __riscv_vrgatherei16_vv_u16mf4_mu(vbool64_t vm, vuint16mf4_t vd,
                                            vuint16mf4_t vs2,
                                            vuint16mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgatherei16_vv_u16mf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                            vuint16mf2_t vs2,
                                            vuint16mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vrgatherei16_vv_u16m1_mu(vbool16_t vm, vuint16m1_t vd,
                                           vuint16m1_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vuint16m2_t __riscv_vrgatherei16_vv_u16m2_mu(vbool8_t vm, vuint16m2_t vd,
                                           vuint16m2_t vs2, vuint16m2_t vs1,
                                           size_t vl);
vuint16m4_t __riscv_vrgatherei16_vv_u16m4_mu(vbool4_t vm, vuint16m4_t vd,
                                           vuint16m4_t vs2, vuint16m4_t vs1,
                                           size_t vl);
vuint16m8_t __riscv_vrgatherei16_vv_u16m8_mu(vbool2_t vm, vuint16m8_t vd,
                                           vuint16m8_t vs2, vuint16m8_t vs1,
                                           size_t vl);
vuint32mf2_t __riscv_vrgatherei16_vv_u32mf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                            vuint32mf2_t vs2,
                                            vuint16mf4_t vs1, size_t vl);
vuint32m1_t __riscv_vrgatherei16_vv_u32m1_mu(vbool32_t vm, vuint32m1_t vd,
                                           vuint32m1_t vs2, vuint16mf2_t vs1,
                                           size_t vl);
vuint32m2_t __riscv_vrgatherei16_vv_u32m2_mu(vbool16_t vm, vuint32m2_t vd,
                                           vuint32m2_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vuint32m4_t __riscv_vrgatherei16_vv_u32m4_mu(vbool8_t vm, vuint32m4_t vd,
                                           vuint32m4_t vs2, vuint16m2_t vs1,
                                           size_t vl);
vuint32m8_t __riscv_vrgatherei16_vv_u32m8_mu(vbool4_t vm, vuint32m8_t vd,
                                           vuint32m8_t vs2, vuint16m4_t vs1,
                                           size_t vl);
vuint64m1_t __riscv_vrgatherei16_vv_u64m1_mu(vbool64_t vm, vuint64m1_t vd,
                                           vuint64m1_t vs2, vuint16mf4_t vs1,
                                           size_t vl);
vuint64m2_t __riscv_vrgatherei16_vv_u64m2_mu(vbool32_t vm, vuint64m2_t vd,
                                           vuint64m2_t vs2, vuint16mf2_t vs1,
                                           size_t vl);
vuint64m4_t __riscv_vrgatherei16_vv_u64m4_mu(vbool16_t vm, vuint64m4_t vd,
                                           vuint64m4_t vs2, vuint16m1_t vs1,
                                           size_t vl);
vuint64m8_t __riscv_vrgatherei16_vv_u64m8_mu(vbool8_t vm, vuint64m8_t vd,
                                           vuint64m8_t vs2, vuint16m2_t vs1,
                                           size_t vl);
```

B.8.6. Vector Compress Intrinsics

```
vfloat16mf4_t __riscv_vcompress_vm_f16mf4_tu(vfloat16mf4_t vd,
                                           vfloat16mf4_t vs2, vbool64_t vs1,
                                           size_t vl);
vfloat16mf2_t __riscv_vcompress_vm_f16mf2_tu(vfloat16mf2_t vd,
```

```
                                          vfloat16mf2_t vs2, vbool32_t vs1,
                                          size_t vl);
vfloat16m1_t __riscv_vcompress_vm_f16m1_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                           vbool16_t vs1, size_t vl);
vfloat16m2_t __riscv_vcompress_vm_f16m2_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                           vbool8_t vs1, size_t vl);
vfloat16m4_t __riscv_vcompress_vm_f16m4_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                           vbool4_t vs1, size_t vl);
vfloat16m8_t __riscv_vcompress_vm_f16m8_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                           vbool2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vcompress_vm_f32mf2_tu(vfloat32mf2_t vd,
                                           vfloat32mf2_t vs2, vbool64_t vs1,
                                           size_t vl);
vfloat32m1_t __riscv_vcompress_vm_f32m1_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                           vbool32_t vs1, size_t vl);
vfloat32m2_t __riscv_vcompress_vm_f32m2_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                           vbool16_t vs1, size_t vl);
vfloat32m4_t __riscv_vcompress_vm_f32m4_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                           vbool8_t vs1, size_t vl);
vfloat32m8_t __riscv_vcompress_vm_f32m8_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                           vbool4_t vs1, size_t vl);
vfloat64m1_t __riscv_vcompress_vm_f64m1_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                           vbool64_t vs1, size_t vl);
vfloat64m2_t __riscv_vcompress_vm_f64m2_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                           vbool32_t vs1, size_t vl);
vfloat64m4_t __riscv_vcompress_vm_f64m4_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                           vbool16_t vs1, size_t vl);
vfloat64m8_t __riscv_vcompress_vm_f64m8_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                           vbool8_t vs1, size_t vl);
vint8mf8_t __riscv_vcompress_vm_i8mf8_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                         vbool64_t vs1, size_t vl);
vint8mf4_t __riscv_vcompress_vm_i8mf4_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                         vbool32_t vs1, size_t vl);
vint8mf2_t __riscv_vcompress_vm_i8mf2_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                         vbool16_t vs1, size_t vl);
vint8m1_t __riscv_vcompress_vm_i8m1_tu(vint8m1_t vd, vint8m1_t vs2,
                                       vbool8_t vs1, size_t vl);
vint8m2_t __riscv_vcompress_vm_i8m2_tu(vint8m2_t vd, vint8m2_t vs2,
                                       vbool4_t vs1, size_t vl);
vint8m4_t __riscv_vcompress_vm_i8m4_tu(vint8m4_t vd, vint8m4_t vs2,
                                       vbool2_t vs1, size_t vl);
vint8m8_t __riscv_vcompress_vm_i8m8_tu(vint8m8_t vd, vint8m8_t vs2,
                                       vbool1_t vs1, size_t vl);
vint16mf4_t __riscv_vcompress_vm_i16mf4_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                           vbool64_t vs1, size_t vl);
vint16mf2_t __riscv_vcompress_vm_i16mf2_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                           vbool32_t vs1, size_t vl);
vint16m1_t __riscv_vcompress_vm_i16m1_tu(vint16m1_t vd, vint16m1_t vs2,
                                         vbool16_t vs1, size_t vl);
vint16m2_t __riscv_vcompress_vm_i16m2_tu(vint16m2_t vd, vint16m2_t vs2,
                                         vbool8_t vs1, size_t vl);
vint16m4_t __riscv_vcompress_vm_i16m4_tu(vint16m4_t vd, vint16m4_t vs2,
                                         vbool4_t vs1, size_t vl);
vint16m8_t __riscv_vcompress_vm_i16m8_tu(vint16m8_t vd, vint16m8_t vs2,
                                         vbool2_t vs1, size_t vl);
vint32mf2_t __riscv_vcompress_vm_i32mf2_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                           vbool64_t vs1, size_t vl);
vint32m1_t __riscv_vcompress_vm_i32m1_tu(vint32m1_t vd, vint32m1_t vs2,
                                         vbool32_t vs1, size_t vl);
vint32m2_t __riscv_vcompress_vm_i32m2_tu(vint32m2_t vd, vint32m2_t vs2,
                                         vbool16_t vs1, size_t vl);
vint32m4_t __riscv_vcompress_vm_i32m4_tu(vint32m4_t vd, vint32m4_t vs2,
                                         vbool8_t vs1, size_t vl);
vint32m8_t __riscv_vcompress_vm_i32m8_tu(vint32m8_t vd, vint32m8_t vs2,
                                         vbool4_t vs1, size_t vl);
vint64m1_t __riscv_vcompress_vm_i64m1_tu(vint64m1_t vd, vint64m1_t vs2,
                                         vbool64_t vs1, size_t vl);
```

```
vint64m2_t __riscv_vcompress_vm_i64m2_tu(vint64m2_t vd, vint64m2_t vs2,
                                         vbool32_t vs1, size_t vl);
vint64m4_t __riscv_vcompress_vm_i64m4_tu(vint64m4_t vd, vint64m4_t vs2,
                                         vbool16_t vs1, size_t vl);
vint64m8_t __riscv_vcompress_vm_i64m8_tu(vint64m8_t vd, vint64m8_t vs2,
                                         vbool8_t vs1, size_t vl);
vuint8mf8_t __riscv_vcompress_vm_u8mf8_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                          vbool64_t vs1, size_t vl);
vuint8mf4_t __riscv_vcompress_vm_u8mf4_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                          vbool32_t vs1, size_t vl);
vuint8mf2_t __riscv_vcompress_vm_u8mf2_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                          vbool16_t vs1, size_t vl);
vuint8m1_t __riscv_vcompress_vm_u8m1_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                        vbool8_t vs1, size_t vl);
vuint8m2_t __riscv_vcompress_vm_u8m2_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                        vbool4_t vs1, size_t vl);
vuint8m4_t __riscv_vcompress_vm_u8m4_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                        vbool2_t vs1, size_t vl);
vuint8m8_t __riscv_vcompress_vm_u8m8_tu(vuint8m8_t vd, vuint8m8_t vs2,
                                        vbool1_t vs1, size_t vl);
vuint16mf4_t __riscv_vcompress_vm_u16mf4_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                            vbool64_t vs1, size_t vl);
vuint16mf2_t __riscv_vcompress_vm_u16mf2_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                            vbool32_t vs1, size_t vl);
vuint16m1_t __riscv_vcompress_vm_u16m1_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                          vbool16_t vs1, size_t vl);
vuint16m2_t __riscv_vcompress_vm_u16m2_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                          vbool8_t vs1, size_t vl);
vuint16m4_t __riscv_vcompress_vm_u16m4_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                          vbool4_t vs1, size_t vl);
vuint16m8_t __riscv_vcompress_vm_u16m8_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                          vbool2_t vs1, size_t vl);
vuint32mf2_t __riscv_vcompress_vm_u32mf2_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                            vbool64_t vs1, size_t vl);
vuint32m1_t __riscv_vcompress_vm_u32m1_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                          vbool32_t vs1, size_t vl);
vuint32m2_t __riscv_vcompress_vm_u32m2_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                          vbool16_t vs1, size_t vl);
vuint32m4_t __riscv_vcompress_vm_u32m4_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                          vbool8_t vs1, size_t vl);
vuint32m8_t __riscv_vcompress_vm_u32m8_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                          vbool4_t vs1, size_t vl);
vuint64m1_t __riscv_vcompress_vm_u64m1_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                          vbool64_t vs1, size_t vl);
vuint64m2_t __riscv_vcompress_vm_u64m2_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                          vbool32_t vs1, size_t vl);
vuint64m4_t __riscv_vcompress_vm_u64m4_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                          vbool16_t vs1, size_t vl);
vuint64m8_t __riscv_vcompress_vm_u64m8_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                          vbool8_t vs1, size_t vl);
```

B.9. Miscellaneous Vector Utility Intrinsics

B.9.1. Get `vl` with specific vtype

Intrinsics here don't have a policy variant.

B.9.2. Get `VLMAX` with specific vtype

Intrinsics here don't have a policy variant.

B.9.3. Reinterpret Cast Conversion Intrinsics

Intrinsics here don't have a policy variant.

B.9.4. Vector LMUL Extension Intrinsics

Intrinsics here don't have a policy variant.

B.9.5. Vector LMUL Truncation Intrinsics

Intrinsics here don't have a policy variant.

B.9.6. Vector Initialization Intrinsics

Intrinsics here don't have a policy variant.

B.9.7. Vector Insertion Intrinsics

Intrinsics here don't have a policy variant.

B.9.8. Vector Extraction Intrinsics

Intrinsics here don't have a policy variant.

B.9.9. Vector Creation Intrinsics

Intrinsics here don't have a policy variant.

Appendix C: Implicit (Overloaded) intrinsics

C.1. Vector Loads and Stores Intrinsics

C.1.1. Vector Unit-Stride Load Intrinsics

```
// masked functions
vfloat16mf4_t __riscv_vle16(vbool64_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf2_t __riscv_vle16(vbool32_t vm, const _Float16 *rs1, size_t vl);
vfloat16m1_t __riscv_vle16(vbool16_t vm, const _Float16 *rs1, size_t vl);
vfloat16m2_t __riscv_vle16(vbool8_t vm, const _Float16 *rs1, size_t vl);
vfloat16m4_t __riscv_vle16(vbool4_t vm, const _Float16 *rs1, size_t vl);
vfloat16m8_t __riscv_vle16(vbool2_t vm, const _Float16 *rs1, size_t vl);
vfloat32mf2_t __riscv_vle32(vbool64_t vm, const float *rs1, size_t vl);
vfloat32m1_t __riscv_vle32(vbool32_t vm, const float *rs1, size_t vl);
vfloat32m2_t __riscv_vle32(vbool16_t vm, const float *rs1, size_t vl);
vfloat32m4_t __riscv_vle32(vbool8_t vm, const float *rs1, size_t vl);
vfloat32m8_t __riscv_vle32(vbool4_t vm, const float *rs1, size_t vl);
vfloat64m1_t __riscv_vle64(vbool64_t vm, const double *rs1, size_t vl);
vfloat64m2_t __riscv_vle64(vbool32_t vm, const double *rs1, size_t vl);
vfloat64m4_t __riscv_vle64(vbool16_t vm, const double *rs1, size_t vl);
vfloat64m8_t __riscv_vle64(vbool8_t vm, const double *rs1, size_t vl);
vint8mf8_t __riscv_vle8(vbool64_t vm, const int8_t *rs1, size_t vl);
vint8mf4_t __riscv_vle8(vbool32_t vm, const int8_t *rs1, size_t vl);
vint8mf2_t __riscv_vle8(vbool16_t vm, const int8_t *rs1, size_t vl);
vint8m1_t __riscv_vle8(vbool8_t vm, const int8_t *rs1, size_t vl);
vint8m2_t __riscv_vle8(vbool4_t vm, const int8_t *rs1, size_t vl);
vint8m4_t __riscv_vle8(vbool2_t vm, const int8_t *rs1, size_t vl);
vint8m8_t __riscv_vle8(vbool1_t vm, const int8_t *rs1, size_t vl);
vint16mf4_t __riscv_vle16(vbool64_t vm, const int16_t *rs1, size_t vl);
vint16mf2_t __riscv_vle16(vbool32_t vm, const int16_t *rs1, size_t vl);
vint16m1_t __riscv_vle16(vbool16_t vm, const int16_t *rs1, size_t vl);
vint16m2_t __riscv_vle16(vbool8_t vm, const int16_t *rs1, size_t vl);
vint16m4_t __riscv_vle16(vbool4_t vm, const int16_t *rs1, size_t vl);
vint16m8_t __riscv_vle16(vbool2_t vm, const int16_t *rs1, size_t vl);
vint32mf2_t __riscv_vle32(vbool64_t vm, const int32_t *rs1, size_t vl);
vint32m1_t __riscv_vle32(vbool32_t vm, const int32_t *rs1, size_t vl);
vint32m2_t __riscv_vle32(vbool16_t vm, const int32_t *rs1, size_t vl);
vint32m4_t __riscv_vle32(vbool8_t vm, const int32_t *rs1, size_t vl);
vint32m8_t __riscv_vle32(vbool4_t vm, const int32_t *rs1, size_t vl);
vint64m1_t __riscv_vle64(vbool64_t vm, const int64_t *rs1, size_t vl);
vint64m2_t __riscv_vle64(vbool32_t vm, const int64_t *rs1, size_t vl);
vint64m4_t __riscv_vle64(vbool16_t vm, const int64_t *rs1, size_t vl);
vint64m8_t __riscv_vle64(vbool8_t vm, const int64_t *rs1, size_t vl);
vuint8mf8_t __riscv_vle8(vbool64_t vm, const uint8_t *rs1, size_t vl);
vuint8mf4_t __riscv_vle8(vbool32_t vm, const uint8_t *rs1, size_t vl);
vuint8mf2_t __riscv_vle8(vbool16_t vm, const uint8_t *rs1, size_t vl);
vuint8m1_t __riscv_vle8(vbool8_t vm, const uint8_t *rs1, size_t vl);
vuint8m2_t __riscv_vle8(vbool4_t vm, const uint8_t *rs1, size_t vl);
vuint8m4_t __riscv_vle8(vbool2_t vm, const uint8_t *rs1, size_t vl);
vuint8m8_t __riscv_vle8(vbool1_t vm, const uint8_t *rs1, size_t vl);
vuint16mf4_t __riscv_vle16(vbool64_t vm, const uint16_t *rs1, size_t vl);
vuint16mf2_t __riscv_vle16(vbool32_t vm, const uint16_t *rs1, size_t vl);
vuint16m1_t __riscv_vle16(vbool16_t vm, const uint16_t *rs1, size_t vl);
vuint16m2_t __riscv_vle16(vbool8_t vm, const uint16_t *rs1, size_t vl);
vuint16m4_t __riscv_vle16(vbool4_t vm, const uint16_t *rs1, size_t vl);
vuint16m8_t __riscv_vle16(vbool2_t vm, const uint16_t *rs1, size_t vl);
vuint32mf2_t __riscv_vle32(vbool64_t vm, const uint32_t *rs1, size_t vl);
vuint32m1_t __riscv_vle32(vbool32_t vm, const uint32_t *rs1, size_t vl);
vuint32m2_t __riscv_vle32(vbool16_t vm, const uint32_t *rs1, size_t vl);
```

```
vuint32m4_t __riscv_vle32(vbool8_t vm, const uint32_t *rs1, size_t vl);
vuint32m8_t __riscv_vle32(vbool4_t vm, const uint32_t *rs1, size_t vl);
vuint64m1_t __riscv_vle64(vbool64_t vm, const uint64_t *rs1, size_t vl);
vuint64m2_t __riscv_vle64(vbool32_t vm, const uint64_t *rs1, size_t vl);
vuint64m4_t __riscv_vle64(vbool16_t vm, const uint64_t *rs1, size_t vl);
vuint64m8_t __riscv_vle64(vbool8_t vm, const uint64_t *rs1, size_t vl);
```

C.1.2. Vector Unit-Stride Store Intrinsics

```
void __riscv_vse16(_Float16 *rs1, vfloat16mf4_t vs3, size_t vl);
void __riscv_vse16(_Float16 *rs1, vfloat16mf2_t vs3, size_t vl);
void __riscv_vse16(_Float16 *rs1, vfloat16m1_t vs3, size_t vl);
void __riscv_vse16(_Float16 *rs1, vfloat16m2_t vs3, size_t vl);
void __riscv_vse16(_Float16 *rs1, vfloat16m4_t vs3, size_t vl);
void __riscv_vse16(_Float16 *rs1, vfloat16m8_t vs3, size_t vl);
void __riscv_vse32(float *rs1, vfloat32mf2_t vs3, size_t vl);
void __riscv_vse32(float *rs1, vfloat32m1_t vs3, size_t vl);
void __riscv_vse32(float *rs1, vfloat32m2_t vs3, size_t vl);
void __riscv_vse32(float *rs1, vfloat32m4_t vs3, size_t vl);
void __riscv_vse32(float *rs1, vfloat32m8_t vs3, size_t vl);
void __riscv_vse64(double *rs1, vfloat64m1_t vs3, size_t vl);
void __riscv_vse64(double *rs1, vfloat64m2_t vs3, size_t vl);
void __riscv_vse64(double *rs1, vfloat64m4_t vs3, size_t vl);
void __riscv_vse64(double *rs1, vfloat64m8_t vs3, size_t vl);
void __riscv_vse8(int8_t *rs1, vint8mf8_t vs3, size_t vl);
void __riscv_vse8(int8_t *rs1, vint8mf4_t vs3, size_t vl);
void __riscv_vse8(int8_t *rs1, vint8mf2_t vs3, size_t vl);
void __riscv_vse8(int8_t *rs1, vint8m1_t vs3, size_t vl);
void __riscv_vse8(int8_t *rs1, vint8m2_t vs3, size_t vl);
void __riscv_vse8(int8_t *rs1, vint8m4_t vs3, size_t vl);
void __riscv_vse8(int8_t *rs1, vint8m8_t vs3, size_t vl);
void __riscv_vse16(int16_t *rs1, vint16mf4_t vs3, size_t vl);
void __riscv_vse16(int16_t *rs1, vint16mf2_t vs3, size_t vl);
void __riscv_vse16(int16_t *rs1, vint16m1_t vs3, size_t vl);
void __riscv_vse16(int16_t *rs1, vint16m2_t vs3, size_t vl);
void __riscv_vse16(int16_t *rs1, vint16m4_t vs3, size_t vl);
void __riscv_vse16(int16_t *rs1, vint16m8_t vs3, size_t vl);
void __riscv_vse32(int32_t *rs1, vint32mf2_t vs3, size_t vl);
void __riscv_vse32(int32_t *rs1, vint32m1_t vs3, size_t vl);
void __riscv_vse32(int32_t *rs1, vint32m2_t vs3, size_t vl);
void __riscv_vse32(int32_t *rs1, vint32m4_t vs3, size_t vl);
void __riscv_vse32(int32_t *rs1, vint32m8_t vs3, size_t vl);
void __riscv_vse64(int64_t *rs1, vint64m1_t vs3, size_t vl);
void __riscv_vse64(int64_t *rs1, vint64m2_t vs3, size_t vl);
void __riscv_vse64(int64_t *rs1, vint64m4_t vs3, size_t vl);
void __riscv_vse64(int64_t *rs1, vint64m8_t vs3, size_t vl);
void __riscv_vse8(uint8_t *rs1, vuint8mf8_t vs3, size_t vl);
void __riscv_vse8(uint8_t *rs1, vuint8mf4_t vs3, size_t vl);
void __riscv_vse8(uint8_t *rs1, vuint8mf2_t vs3, size_t vl);
void __riscv_vse8(uint8_t *rs1, vuint8m1_t vs3, size_t vl);
void __riscv_vse8(uint8_t *rs1, vuint8m2_t vs3, size_t vl);
void __riscv_vse8(uint8_t *rs1, vuint8m4_t vs3, size_t vl);
void __riscv_vse8(uint8_t *rs1, vuint8m8_t vs3, size_t vl);
void __riscv_vse16(uint16_t *rs1, vuint16mf4_t vs3, size_t vl);
void __riscv_vse16(uint16_t *rs1, vuint16mf2_t vs3, size_t vl);
void __riscv_vse16(uint16_t *rs1, vuint16m1_t vs3, size_t vl);
void __riscv_vse16(uint16_t *rs1, vuint16m2_t vs3, size_t vl);
void __riscv_vse16(uint16_t *rs1, vuint16m4_t vs3, size_t vl);
void __riscv_vse16(uint16_t *rs1, vuint16m8_t vs3, size_t vl);
void __riscv_vse32(uint32_t *rs1, vuint32mf2_t vs3, size_t vl);
void __riscv_vse32(uint32_t *rs1, vuint32m1_t vs3, size_t vl);
void __riscv_vse32(uint32_t *rs1, vuint32m2_t vs3, size_t vl);
void __riscv_vse32(uint32_t *rs1, vuint32m4_t vs3, size_t vl);
void __riscv_vse32(uint32_t *rs1, vuint32m8_t vs3, size_t vl);
void __riscv_vse64(uint64_t *rs1, vuint64m1_t vs3, size_t vl);
```

```
void __riscv_vse64(uint64_t *rs1, vuint64m2_t vs3, size_t vl);
void __riscv_vse64(uint64_t *rs1, vuint64m4_t vs3, size_t vl);
void __riscv_vse64(uint64_t *rs1, vuint64m8_t vs3, size_t vl);
// masked functions
void __riscv_vse16(vbool64_t vm, _Float16 *rs1, vfloat16mf4_t vs3, size_t vl);
void __riscv_vse16(vbool32_t vm, _Float16 *rs1, vfloat16mf2_t vs3, size_t vl);
void __riscv_vse16(vbool16_t vm, _Float16 *rs1, vfloat16m1_t vs3, size_t vl);
void __riscv_vse16(vbool8_t vm, _Float16 *rs1, vfloat16m2_t vs3, size_t vl);
void __riscv_vse16(vbool4_t vm, _Float16 *rs1, vfloat16m4_t vs3, size_t vl);
void __riscv_vse16(vbool2_t vm, _Float16 *rs1, vfloat16m8_t vs3, size_t vl);
void __riscv_vse32(vbool64_t vm, float *rs1, vfloat32mf2_t vs3, size_t vl);
void __riscv_vse32(vbool32_t vm, float *rs1, vfloat32m1_t vs3, size_t vl);
void __riscv_vse32(vbool16_t vm, float *rs1, vfloat32m2_t vs3, size_t vl);
void __riscv_vse32(vbool8_t vm, float *rs1, vfloat32m4_t vs3, size_t vl);
void __riscv_vse32(vbool4_t vm, float *rs1, vfloat32m8_t vs3, size_t vl);
void __riscv_vse64(vbool64_t vm, double *rs1, vfloat64m1_t vs3, size_t vl);
void __riscv_vse64(vbool32_t vm, double *rs1, vfloat64m2_t vs3, size_t vl);
void __riscv_vse64(vbool16_t vm, double *rs1, vfloat64m4_t vs3, size_t vl);
void __riscv_vse64(vbool8_t vm, double *rs1, vfloat64m8_t vs3, size_t vl);
void __riscv_vse8(vbool64_t vm, int8_t *rs1, vint8mf8_t vs3, size_t vl);
void __riscv_vse8(vbool32_t vm, int8_t *rs1, vint8mf4_t vs3, size_t vl);
void __riscv_vse8(vbool16_t vm, int8_t *rs1, vint8mf2_t vs3, size_t vl);
void __riscv_vse8(vbool8_t vm, int8_t *rs1, vint8m1_t vs3, size_t vl);
void __riscv_vse8(vbool4_t vm, int8_t *rs1, vint8m2_t vs3, size_t vl);
void __riscv_vse8(vbool2_t vm, int8_t *rs1, vint8m4_t vs3, size_t vl);
void __riscv_vse8(vbool1_t vm, int8_t *rs1, vint8m8_t vs3, size_t vl);
void __riscv_vse16(vbool64_t vm, int16_t *rs1, vint16mf4_t vs3, size_t vl);
void __riscv_vse16(vbool32_t vm, int16_t *rs1, vint16mf2_t vs3, size_t vl);
void __riscv_vse16(vbool16_t vm, int16_t *rs1, vint16m1_t vs3, size_t vl);
void __riscv_vse16(vbool8_t vm, int16_t *rs1, vint16m2_t vs3, size_t vl);
void __riscv_vse16(vbool4_t vm, int16_t *rs1, vint16m4_t vs3, size_t vl);
void __riscv_vse16(vbool2_t vm, int16_t *rs1, vint16m8_t vs3, size_t vl);
void __riscv_vse32(vbool64_t vm, int32_t *rs1, vint32mf2_t vs3, size_t vl);
void __riscv_vse32(vbool32_t vm, int32_t *rs1, vint32m1_t vs3, size_t vl);
void __riscv_vse32(vbool16_t vm, int32_t *rs1, vint32m2_t vs3, size_t vl);
void __riscv_vse32(vbool8_t vm, int32_t *rs1, vint32m4_t vs3, size_t vl);
void __riscv_vse32(vbool4_t vm, int32_t *rs1, vint32m8_t vs3, size_t vl);
void __riscv_vse64(vbool64_t vm, int64_t *rs1, vint64m1_t vs3, size_t vl);
void __riscv_vse64(vbool32_t vm, int64_t *rs1, vint64m2_t vs3, size_t vl);
void __riscv_vse64(vbool16_t vm, int64_t *rs1, vint64m4_t vs3, size_t vl);
void __riscv_vse64(vbool8_t vm, int64_t *rs1, vint64m8_t vs3, size_t vl);
void __riscv_vse8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs3, size_t vl);
void __riscv_vse8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs3, size_t vl);
void __riscv_vse8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs3, size_t vl);
void __riscv_vse8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs3, size_t vl);
void __riscv_vse8(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs3, size_t vl);
void __riscv_vse8(vbool2_t vm, uint8_t *rs1, vuint8m4_t vs3, size_t vl);
void __riscv_vse8(vbool1_t vm, uint8_t *rs1, vuint8m8_t vs3, size_t vl);
void __riscv_vse16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs3, size_t vl);
void __riscv_vse16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs3, size_t vl);
void __riscv_vse16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs3, size_t vl);
void __riscv_vse16(vbool8_t vm, uint16_t *rs1, vuint16m2_t vs3, size_t vl);
void __riscv_vse16(vbool4_t vm, uint16_t *rs1, vuint16m4_t vs3, size_t vl);
void __riscv_vse16(vbool2_t vm, uint16_t *rs1, vuint16m8_t vs3, size_t vl);
void __riscv_vse32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs3, size_t vl);
void __riscv_vse32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs3, size_t vl);
void __riscv_vse32(vbool16_t vm, uint32_t *rs1, vuint32m2_t vs3, size_t vl);
void __riscv_vse32(vbool8_t vm, uint32_t *rs1, vuint32m4_t vs3, size_t vl);
void __riscv_vse32(vbool4_t vm, uint32_t *rs1, vuint32m8_t vs3, size_t vl);
void __riscv_vse64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs3, size_t vl);
void __riscv_vse64(vbool32_t vm, uint64_t *rs1, vuint64m2_t vs3, size_t vl);
void __riscv_vse64(vbool16_t vm, uint64_t *rs1, vuint64m4_t vs3, size_t vl);
void __riscv_vse64(vbool8_t vm, uint64_t *rs1, vuint64m8_t vs3, size_t vl);
```

C.1.3. Vector Mask Load/Store Intrinsics

```
void __riscv_vsm(uint8_t *rs1, vbool1_t vs3, size_t vl);
void __riscv_vsm(uint8_t *rs1, vbool2_t vs3, size_t vl);
void __riscv_vsm(uint8_t *rs1, vbool4_t vs3, size_t vl);
void __riscv_vsm(uint8_t *rs1, vbool8_t vs3, size_t vl);
void __riscv_vsm(uint8_t *rs1, vbool16_t vs3, size_t vl);
void __riscv_vsm(uint8_t *rs1, vbool32_t vs3, size_t vl);
void __riscv_vsm(uint8_t *rs1, vbool64_t vs3, size_t vl);
```

C.1.4. Vector Strided Load Intrinsics

```
// masked functions
vfloat16mf4_t __riscv_vlse16(vbool64_t vm, const _Float16 *rs1, ptrdiff_t rs2,
                             size_t vl);
vfloat16mf2_t __riscv_vlse16(vbool32_t vm, const _Float16 *rs1, ptrdiff_t rs2,
                             size_t vl);
vfloat16m1_t __riscv_vlse16(vbool16_t vm, const _Float16 *rs1, ptrdiff_t rs2,
                            size_t vl);
vfloat16m2_t __riscv_vlse16(vbool8_t vm, const _Float16 *rs1, ptrdiff_t rs2,
                            size_t vl);
vfloat16m4_t __riscv_vlse16(vbool4_t vm, const _Float16 *rs1, ptrdiff_t rs2,
                            size_t vl);
vfloat16m8_t __riscv_vlse16(vbool2_t vm, const _Float16 *rs1, ptrdiff_t rs2,
                            size_t vl);
vfloat32mf2_t __riscv_vlse32(vbool64_t vm, const float *rs1, ptrdiff_t rs2,
                             size_t vl);
vfloat32m1_t __riscv_vlse32(vbool32_t vm, const float *rs1, ptrdiff_t rs2,
                            size_t vl);
vfloat32m2_t __riscv_vlse32(vbool16_t vm, const float *rs1, ptrdiff_t rs2,
                            size_t vl);
vfloat32m4_t __riscv_vlse32(vbool8_t vm, const float *rs1, ptrdiff_t rs2,
                            size_t vl);
vfloat32m8_t __riscv_vlse32(vbool4_t vm, const float *rs1, ptrdiff_t rs2,
                            size_t vl);
vfloat64m1_t __riscv_vlse64(vbool64_t vm, const double *rs1, ptrdiff_t rs2,
                            size_t vl);
vfloat64m2_t __riscv_vlse64(vbool32_t vm, const double *rs1, ptrdiff_t rs2,
                            size_t vl);
vfloat64m4_t __riscv_vlse64(vbool16_t vm, const double *rs1, ptrdiff_t rs2,
                            size_t vl);
vfloat64m8_t __riscv_vlse64(vbool8_t vm, const double *rs1, ptrdiff_t rs2,
                            size_t vl);
vint8mf8_t __riscv_vlse8(vbool64_t vm, const int8_t *rs1, ptrdiff_t rs2,
                         size_t vl);
vint8mf4_t __riscv_vlse8(vbool32_t vm, const int8_t *rs1, ptrdiff_t rs2,
                         size_t vl);
vint8mf2_t __riscv_vlse8(vbool16_t vm, const int8_t *rs1, ptrdiff_t rs2,
                         size_t vl);
vint8m1_t __riscv_vlse8(vbool8_t vm, const int8_t *rs1, ptrdiff_t rs2,
                        size_t vl);
vint8m2_t __riscv_vlse8(vbool4_t vm, const int8_t *rs1, ptrdiff_t rs2,
                        size_t vl);
vint8m4_t __riscv_vlse8(vbool2_t vm, const int8_t *rs1, ptrdiff_t rs2,
                        size_t vl);
vint8m8_t __riscv_vlse8(vbool1_t vm, const int8_t *rs1, ptrdiff_t rs2,
                        size_t vl);
vint16mf4_t __riscv_vlse16(vbool64_t vm, const int16_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vint16mf2_t __riscv_vlse16(vbool32_t vm, const int16_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vint16m1_t __riscv_vlse16(vbool16_t vm, const int16_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vint16m2_t __riscv_vlse16(vbool8_t vm, const int16_t *rs1, ptrdiff_t rs2,
```

```
                          size_t vl);
vint16m4_t __riscv_vlse16(vbool4_t vm, const int16_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vint16m8_t __riscv_vlse16(vbool2_t vm, const int16_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vint32mf2_t __riscv_vlse32(vbool64_t vm, const int32_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vint32m1_t __riscv_vlse32(vbool32_t vm, const int32_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vint32m2_t __riscv_vlse32(vbool16_t vm, const int32_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vint32m4_t __riscv_vlse32(vbool8_t vm, const int32_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vint32m8_t __riscv_vlse32(vbool4_t vm, const int32_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vint64m1_t __riscv_vlse64(vbool64_t vm, const int64_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vint64m2_t __riscv_vlse64(vbool32_t vm, const int64_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vint64m4_t __riscv_vlse64(vbool16_t vm, const int64_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vint64m8_t __riscv_vlse64(vbool8_t vm, const int64_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vuint8mf8_t __riscv_vlse8(vbool64_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vuint8mf4_t __riscv_vlse8(vbool32_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vuint8mf2_t __riscv_vlse8(vbool16_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                          size_t vl);
vuint8m1_t __riscv_vlse8(vbool8_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                         size_t vl);
vuint8m2_t __riscv_vlse8(vbool4_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                         size_t vl);
vuint8m4_t __riscv_vlse8(vbool2_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                         size_t vl);
vuint8m8_t __riscv_vlse8(vbool1_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                         size_t vl);
vuint16mf4_t __riscv_vlse16(vbool64_t vm, const uint16_t *rs1, ptrdiff_t rs2,
                            size_t vl);
vuint16mf2_t __riscv_vlse16(vbool32_t vm, const uint16_t *rs1, ptrdiff_t rs2,
                            size_t vl);
vuint16m1_t __riscv_vlse16(vbool16_t vm, const uint16_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vuint16m2_t __riscv_vlse16(vbool8_t vm, const uint16_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vuint16m4_t __riscv_vlse16(vbool4_t vm, const uint16_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vuint16m8_t __riscv_vlse16(vbool2_t vm, const uint16_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vuint32mf2_t __riscv_vlse32(vbool64_t vm, const uint32_t *rs1, ptrdiff_t rs2,
                            size_t vl);
vuint32m1_t __riscv_vlse32(vbool32_t vm, const uint32_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vuint32m2_t __riscv_vlse32(vbool16_t vm, const uint32_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vuint32m4_t __riscv_vlse32(vbool8_t vm, const uint32_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vuint32m8_t __riscv_vlse32(vbool4_t vm, const uint32_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vuint64m1_t __riscv_vlse64(vbool64_t vm, const uint64_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vuint64m2_t __riscv_vlse64(vbool32_t vm, const uint64_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vuint64m4_t __riscv_vlse64(vbool16_t vm, const uint64_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vuint64m8_t __riscv_vlse64(vbool8_t vm, const uint64_t *rs1, ptrdiff_t rs2,
                           size_t vl);
```

C.1.5. Vector Strided Store Intrinsics

```
void __riscv_vsse16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf4_t vs3, size_t vl);
void __riscv_vsse16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf2_t vs3, size_t vl);
void __riscv_vsse16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m1_t vs3, size_t vl);
void __riscv_vsse16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m2_t vs3, size_t vl);
void __riscv_vsse16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m4_t vs3, size_t vl);
void __riscv_vsse16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m8_t vs3, size_t vl);
void __riscv_vsse32(float *rs1, ptrdiff_t rs2, vfloat32mf2_t vs3, size_t vl);
void __riscv_vsse32(float *rs1, ptrdiff_t rs2, vfloat32m1_t vs3, size_t vl);
void __riscv_vsse32(float *rs1, ptrdiff_t rs2, vfloat32m2_t vs3, size_t vl);
void __riscv_vsse32(float *rs1, ptrdiff_t rs2, vfloat32m4_t vs3, size_t vl);
void __riscv_vsse32(float *rs1, ptrdiff_t rs2, vfloat32m8_t vs3, size_t vl);
void __riscv_vsse64(double *rs1, ptrdiff_t rs2, vfloat64m1_t vs3, size_t vl);
void __riscv_vsse64(double *rs1, ptrdiff_t rs2, vfloat64m2_t vs3, size_t vl);
void __riscv_vsse64(double *rs1, ptrdiff_t rs2, vfloat64m4_t vs3, size_t vl);
void __riscv_vsse64(double *rs1, ptrdiff_t rs2, vfloat64m8_t vs3, size_t vl);
void __riscv_vsse8(int8_t *rs1, ptrdiff_t rs2, vint8mf8_t vs3, size_t vl);
void __riscv_vsse8(int8_t *rs1, ptrdiff_t rs2, vint8mf4_t vs3, size_t vl);
void __riscv_vsse8(int8_t *rs1, ptrdiff_t rs2, vint8mf2_t vs3, size_t vl);
void __riscv_vsse8(int8_t *rs1, ptrdiff_t rs2, vint8m1_t vs3, size_t vl);
void __riscv_vsse8(int8_t *rs1, ptrdiff_t rs2, vint8m2_t vs3, size_t vl);
void __riscv_vsse8(int8_t *rs1, ptrdiff_t rs2, vint8m4_t vs3, size_t vl);
void __riscv_vsse8(int8_t *rs1, ptrdiff_t rs2, vint8m8_t vs3, size_t vl);
void __riscv_vsse16(int16_t *rs1, ptrdiff_t rs2, vint16mf4_t vs3, size_t vl);
void __riscv_vsse16(int16_t *rs1, ptrdiff_t rs2, vint16mf2_t vs3, size_t vl);
void __riscv_vsse16(int16_t *rs1, ptrdiff_t rs2, vint16m1_t vs3, size_t vl);
void __riscv_vsse16(int16_t *rs1, ptrdiff_t rs2, vint16m2_t vs3, size_t vl);
void __riscv_vsse16(int16_t *rs1, ptrdiff_t rs2, vint16m4_t vs3, size_t vl);
void __riscv_vsse16(int16_t *rs1, ptrdiff_t rs2, vint16m8_t vs3, size_t vl);
void __riscv_vsse32(int32_t *rs1, ptrdiff_t rs2, vint32mf2_t vs3, size_t vl);
void __riscv_vsse32(int32_t *rs1, ptrdiff_t rs2, vint32m1_t vs3, size_t vl);
void __riscv_vsse32(int32_t *rs1, ptrdiff_t rs2, vint32m2_t vs3, size_t vl);
void __riscv_vsse32(int32_t *rs1, ptrdiff_t rs2, vint32m4_t vs3, size_t vl);
void __riscv_vsse32(int32_t *rs1, ptrdiff_t rs2, vint32m8_t vs3, size_t vl);
void __riscv_vsse64(int64_t *rs1, ptrdiff_t rs2, vint64m1_t vs3, size_t vl);
void __riscv_vsse64(int64_t *rs1, ptrdiff_t rs2, vint64m2_t vs3, size_t vl);
void __riscv_vsse64(int64_t *rs1, ptrdiff_t rs2, vint64m4_t vs3, size_t vl);
void __riscv_vsse64(int64_t *rs1, ptrdiff_t rs2, vint64m8_t vs3, size_t vl);
void __riscv_vsse8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8_t vs3, size_t vl);
void __riscv_vsse8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4_t vs3, size_t vl);
void __riscv_vsse8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2_t vs3, size_t vl);
void __riscv_vsse8(uint8_t *rs1, ptrdiff_t rs2, vuint8m1_t vs3, size_t vl);
void __riscv_vsse8(uint8_t *rs1, ptrdiff_t rs2, vuint8m2_t vs3, size_t vl);
void __riscv_vsse8(uint8_t *rs1, ptrdiff_t rs2, vuint8m4_t vs3, size_t vl);
void __riscv_vsse8(uint8_t *rs1, ptrdiff_t rs2, vuint8m8_t vs3, size_t vl);
void __riscv_vsse16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf4_t vs3, size_t vl);
void __riscv_vsse16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf2_t vs3, size_t vl);
void __riscv_vsse16(uint16_t *rs1, ptrdiff_t rs2, vuint16m1_t vs3, size_t vl);
void __riscv_vsse16(uint16_t *rs1, ptrdiff_t rs2, vuint16m2_t vs3, size_t vl);
void __riscv_vsse16(uint16_t *rs1, ptrdiff_t rs2, vuint16m4_t vs3, size_t vl);
void __riscv_vsse16(uint16_t *rs1, ptrdiff_t rs2, vuint16m8_t vs3, size_t vl);
void __riscv_vsse32(uint32_t *rs1, ptrdiff_t rs2, vuint32mf2_t vs3, size_t vl);
void __riscv_vsse32(uint32_t *rs1, ptrdiff_t rs2, vuint32m1_t vs3, size_t vl);
void __riscv_vsse32(uint32_t *rs1, ptrdiff_t rs2, vuint32m2_t vs3, size_t vl);
void __riscv_vsse32(uint32_t *rs1, ptrdiff_t rs2, vuint32m4_t vs3, size_t vl);
void __riscv_vsse32(uint32_t *rs1, ptrdiff_t rs2, vuint32m8_t vs3, size_t vl);
void __riscv_vsse64(uint64_t *rs1, ptrdiff_t rs2, vuint64m1_t vs3, size_t vl);
void __riscv_vsse64(uint64_t *rs1, ptrdiff_t rs2, vuint64m2_t vs3, size_t vl);
void __riscv_vsse64(uint64_t *rs1, ptrdiff_t rs2, vuint64m4_t vs3, size_t vl);
void __riscv_vsse64(uint64_t *rs1, ptrdiff_t rs2, vuint64m8_t vs3, size_t vl);
// masked functions
void __riscv_vsse16(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                    vfloat16mf4_t vs3, size_t vl);
void __riscv_vsse16(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                    vfloat16mf2_t vs3, size_t vl);
```

```
void __riscv_vsse16(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                    vfloat16m1_t vs3, size_t vl);
void __riscv_vsse16(vbool8_t vm, _Float16 *rs1, ptrdiff_t rs2, vfloat16m2_t vs3,
                    size_t vl);
void __riscv_vsse16(vbool4_t vm, _Float16 *rs1, ptrdiff_t rs2, vfloat16m4_t vs3,
                    size_t vl);
void __riscv_vsse16(vbool2_t vm, _Float16 *rs1, ptrdiff_t rs2, vfloat16m8_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool64_t vm, float *rs1, ptrdiff_t rs2, vfloat32mf2_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool32_t vm, float *rs1, ptrdiff_t rs2, vfloat32m1_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool16_t vm, float *rs1, ptrdiff_t rs2, vfloat32m2_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool8_t vm, float *rs1, ptrdiff_t rs2, vfloat32m4_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool4_t vm, float *rs1, ptrdiff_t rs2, vfloat32m8_t vs3,
                    size_t vl);
void __riscv_vsse64(vbool64_t vm, double *rs1, ptrdiff_t rs2, vfloat64m1_t vs3,
                    size_t vl);
void __riscv_vsse64(vbool32_t vm, double *rs1, ptrdiff_t rs2, vfloat64m2_t vs3,
                    size_t vl);
void __riscv_vsse64(vbool16_t vm, double *rs1, ptrdiff_t rs2, vfloat64m4_t vs3,
                    size_t vl);
void __riscv_vsse64(vbool8_t vm, double *rs1, ptrdiff_t rs2, vfloat64m8_t vs3,
                    size_t vl);
void __riscv_vsse8(vbool64_t vm, int8_t *rs1, ptrdiff_t rs2, vint8mf8_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool32_t vm, int8_t *rs1, ptrdiff_t rs2, vint8mf4_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool16_t vm, int8_t *rs1, ptrdiff_t rs2, vint8mf2_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool8_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m1_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool4_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m2_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool2_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m4_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool1_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m8_t vs3,
                   size_t vl);
void __riscv_vsse16(vbool64_t vm, int16_t *rs1, ptrdiff_t rs2, vint16mf4_t vs3,
                    size_t vl);
void __riscv_vsse16(vbool32_t vm, int16_t *rs1, ptrdiff_t rs2, vint16mf2_t vs3,
                    size_t vl);
void __riscv_vsse16(vbool16_t vm, int16_t *rs1, ptrdiff_t rs2, vint16m1_t vs3,
                    size_t vl);
void __riscv_vsse16(vbool8_t vm, int16_t *rs1, ptrdiff_t rs2, vint16m2_t vs3,
                    size_t vl);
void __riscv_vsse16(vbool4_t vm, int16_t *rs1, ptrdiff_t rs2, vint16m4_t vs3,
                    size_t vl);
void __riscv_vsse16(vbool2_t vm, int16_t *rs1, ptrdiff_t rs2, vint16m8_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool64_t vm, int32_t *rs1, ptrdiff_t rs2, vint32mf2_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool32_t vm, int32_t *rs1, ptrdiff_t rs2, vint32m1_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool16_t vm, int32_t *rs1, ptrdiff_t rs2, vint32m2_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool8_t vm, int32_t *rs1, ptrdiff_t rs2, vint32m4_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool4_t vm, int32_t *rs1, ptrdiff_t rs2, vint32m8_t vs3,
                    size_t vl);
void __riscv_vsse64(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2, vint64m1_t vs3,
                    size_t vl);
void __riscv_vsse64(vbool32_t vm, int64_t *rs1, ptrdiff_t rs2, vint64m2_t vs3,
                    size_t vl);
void __riscv_vsse64(vbool16_t vm, int64_t *rs1, ptrdiff_t rs2, vint64m4_t vs3,
```

```
                    size_t vl);
void __riscv_vsse64(vbool8_t vm, int64_t *rs1, ptrdiff_t rs2, vint64m8_t vs3,
                    size_t vl);
void __riscv_vsse8(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2, vuint8mf8_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2, vuint8mf4_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2, vuint8mf2_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2, vuint8m1_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool4_t vm, uint8_t *rs1, ptrdiff_t rs2, vuint8m2_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool2_t vm, uint8_t *rs1, ptrdiff_t rs2, vuint8m4_t vs3,
                   size_t vl);
void __riscv_vsse8(vbool1_t vm, uint8_t *rs1, ptrdiff_t rs2, vuint8m8_t vs3,
                   size_t vl);
void __riscv_vsse16(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                    vuint16mf4_t vs3, size_t vl);
void __riscv_vsse16(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                    vuint16mf2_t vs3, size_t vl);
void __riscv_vsse16(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2, vuint16m1_t vs3,
                    size_t vl);
void __riscv_vsse16(vbool8_t vm, uint16_t *rs1, ptrdiff_t rs2, vuint16m2_t vs3,
                    size_t vl);
void __riscv_vsse16(vbool4_t vm, uint16_t *rs1, ptrdiff_t rs2, vuint16m4_t vs3,
                    size_t vl);
void __riscv_vsse16(vbool2_t vm, uint16_t *rs1, ptrdiff_t rs2, vuint16m8_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                    vuint32mf2_t vs3, size_t vl);
void __riscv_vsse32(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2, vuint32m1_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool16_t vm, uint32_t *rs1, ptrdiff_t rs2, vuint32m2_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool8_t vm, uint32_t *rs1, ptrdiff_t rs2, vuint32m4_t vs3,
                    size_t vl);
void __riscv_vsse32(vbool4_t vm, uint32_t *rs1, ptrdiff_t rs2, vuint32m8_t vs3,
                    size_t vl);
void __riscv_vsse64(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2, vuint64m1_t vs3,
                    size_t vl);
void __riscv_vsse64(vbool32_t vm, uint64_t *rs1, ptrdiff_t rs2, vuint64m2_t vs3,
                    size_t vl);
void __riscv_vsse64(vbool16_t vm, uint64_t *rs1, ptrdiff_t rs2, vuint64m4_t vs3,
                    size_t vl);
void __riscv_vsse64(vbool8_t vm, uint64_t *rs1, ptrdiff_t rs2, vuint64m8_t vs3,
                    size_t vl);
```

C.1.6. Vector Indexed Load Intrinsics

```
vfloat16mf4_t __riscv_vloxei8(const _Float16 *rs1, vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei8(const _Float16 *rs1, vuint8mf4_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei8(const _Float16 *rs1, vuint8mf2_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei8(const _Float16 *rs1, vuint8m1_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei8(const _Float16 *rs1, vuint8m2_t rs2, size_t vl);
vfloat16m8_t __riscv_vloxei8(const _Float16 *rs1, vuint8m4_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei16(const _Float16 *rs1, vuint16mf4_t rs2,
                               size_t vl);
vfloat16mf2_t __riscv_vloxei16(const _Float16 *rs1, vuint16mf2_t rs2,
                               size_t vl);
vfloat16m1_t __riscv_vloxei16(const _Float16 *rs1, vuint16m1_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei16(const _Float16 *rs1, vuint16m2_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei16(const _Float16 *rs1, vuint16m4_t rs2, size_t vl);
vfloat16m8_t __riscv_vloxei16(const _Float16 *rs1, vuint16m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei32(const _Float16 *rs1, vuint32mf2_t rs2,
```

```
                                size_t vl);
vfloat16mf2_t __riscv_vloxei32(const _Float16 *rs1, vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei32(const _Float16 *rs1, vuint32m2_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei32(const _Float16 *rs1, vuint32m4_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei32(const _Float16 *rs1, vuint32m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei64(const _Float16 *rs1, vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei64(const _Float16 *rs1, vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei64(const _Float16 *rs1, vuint64m4_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei64(const _Float16 *rs1, vuint64m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei8(const float *rs1, vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei8(const float *rs1, vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei8(const float *rs1, vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei8(const float *rs1, vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei8(const float *rs1, vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei16(const float *rs1, vuint16mf4_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei16(const float *rs1, vuint16mf2_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei16(const float *rs1, vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei16(const float *rs1, vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei16(const float *rs1, vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei32(const float *rs1, vuint32mf2_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei32(const float *rs1, vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei32(const float *rs1, vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei32(const float *rs1, vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei32(const float *rs1, vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei64(const float *rs1, vuint64m1_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei64(const float *rs1, vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei64(const float *rs1, vuint64m4_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei64(const float *rs1, vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei8(const double *rs1, vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei8(const double *rs1, vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei8(const double *rs1, vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei8(const double *rs1, vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei16(const double *rs1, vuint16mf4_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei16(const double *rs1, vuint16mf2_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei16(const double *rs1, vuint16m1_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei16(const double *rs1, vuint16m2_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei32(const double *rs1, vuint32mf2_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei32(const double *rs1, vuint32m1_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei32(const double *rs1, vuint32m2_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei32(const double *rs1, vuint32m4_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei64(const double *rs1, vuint64m1_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei64(const double *rs1, vuint64m2_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei64(const double *rs1, vuint64m4_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei64(const double *rs1, vuint64m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei8(const _Float16 *rs1, vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei8(const _Float16 *rs1, vuint8mf4_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei8(const _Float16 *rs1, vuint8mf2_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei8(const _Float16 *rs1, vuint8m1_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei8(const _Float16 *rs1, vuint8m2_t rs2, size_t vl);
vfloat16m8_t __riscv_vluxei8(const _Float16 *rs1, vuint8m4_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei16(const _Float16 *rs1, vuint16mf4_t rs2,
                               size_t vl);
vfloat16mf2_t __riscv_vluxei16(const _Float16 *rs1, vuint16mf2_t rs2,
                               size_t vl);
vfloat16m1_t __riscv_vluxei16(const _Float16 *rs1, vuint16m1_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei16(const _Float16 *rs1, vuint16m2_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei16(const _Float16 *rs1, vuint16m4_t rs2, size_t vl);
vfloat16m8_t __riscv_vluxei16(const _Float16 *rs1, vuint16m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei32(const _Float16 *rs1, vuint32mf2_t rs2,
                               size_t vl);
vfloat16mf2_t __riscv_vluxei32(const _Float16 *rs1, vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei32(const _Float16 *rs1, vuint32m2_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei32(const _Float16 *rs1, vuint32m4_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei32(const _Float16 *rs1, vuint32m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei64(const _Float16 *rs1, vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei64(const _Float16 *rs1, vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei64(const _Float16 *rs1, vuint64m4_t rs2, size_t vl);
```

```
vfloat16m2_t __riscv_vluxei64(const _Float16 *rs1, vuint64m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei8(const float *rs1, vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei8(const float *rs1, vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei8(const float *rs1, vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei8(const float *rs1, vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei8(const float *rs1, vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei16(const float *rs1, vuint16mf4_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei16(const float *rs1, vuint16mf2_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei16(const float *rs1, vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei16(const float *rs1, vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei16(const float *rs1, vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei32(const float *rs1, vuint32mf2_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei32(const float *rs1, vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei32(const float *rs1, vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei32(const float *rs1, vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei32(const float *rs1, vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei64(const float *rs1, vuint64m1_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei64(const float *rs1, vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei64(const float *rs1, vuint64m4_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei64(const float *rs1, vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei8(const double *rs1, vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei8(const double *rs1, vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei8(const double *rs1, vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei8(const double *rs1, vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei16(const double *rs1, vuint16mf4_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei16(const double *rs1, vuint16mf2_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei16(const double *rs1, vuint16m1_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei16(const double *rs1, vuint16m2_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei32(const double *rs1, vuint32mf2_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei32(const double *rs1, vuint32m1_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei32(const double *rs1, vuint32m2_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei32(const double *rs1, vuint32m4_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei64(const double *rs1, vuint64m1_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei64(const double *rs1, vuint64m2_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei64(const double *rs1, vuint64m4_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei64(const double *rs1, vuint64m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vloxei8(const int8_t *rs1, vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vloxei8(const int8_t *rs1, vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vloxei8(const int8_t *rs1, vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei16(const int8_t *rs1, vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei16(const int8_t *rs1, vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei16(const int8_t *rs1, vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vloxei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m2_t __riscv_vloxei16(const int8_t *rs1, vuint16m4_t rs2, size_t vl);
vint8m4_t __riscv_vloxei16(const int8_t *rs1, vuint16m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei32(const int8_t *rs1, vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei32(const int8_t *rs1, vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei32(const int8_t *rs1, vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m2_t __riscv_vloxei32(const int8_t *rs1, vuint32m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei64(const int8_t *rs1, vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei64(const int8_t *rs1, vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei64(const int8_t *rs1, vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vloxei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei8(const int16_t *rs1, vuint8mf8_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei8(const int16_t *rs1, vuint8mf4_t rs2, size_t vl);
vint16m1_t __riscv_vloxei8(const int16_t *rs1, vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei8(const int16_t *rs1, vuint8m1_t rs2, size_t vl);
vint16m4_t __riscv_vloxei8(const int16_t *rs1, vuint8m2_t rs2, size_t vl);
vint16m8_t __riscv_vloxei8(const int16_t *rs1, vuint8m4_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei16(const int16_t *rs1, vuint16mf4_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei16(const int16_t *rs1, vuint16mf2_t rs2, size_t vl);
vint16m1_t __riscv_vloxei16(const int16_t *rs1, vuint16m1_t rs2, size_t vl);
```

```
vint16m2_t __riscv_vloxei16(const int16_t *rs1, vuint16m2_t rs2, size_t vl);
vint16m4_t __riscv_vloxei16(const int16_t *rs1, vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vloxei16(const int16_t *rs1, vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei32(const int16_t *rs1, vuint32mf2_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei32(const int16_t *rs1, vuint32m1_t rs2, size_t vl);
vint16m1_t __riscv_vloxei32(const int16_t *rs1, vuint32m2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei32(const int16_t *rs1, vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vloxei32(const int16_t *rs1, vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei64(const int16_t *rs1, vuint64m1_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei64(const int16_t *rs1, vuint64m2_t rs2, size_t vl);
vint16m1_t __riscv_vloxei64(const int16_t *rs1, vuint64m4_t rs2, size_t vl);
vint16m2_t __riscv_vloxei64(const int16_t *rs1, vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei8(const int32_t *rs1, vuint8mf8_t rs2, size_t vl);
vint32m1_t __riscv_vloxei8(const int32_t *rs1, vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vloxei8(const int32_t *rs1, vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei8(const int32_t *rs1, vuint8m1_t rs2, size_t vl);
vint32m8_t __riscv_vloxei8(const int32_t *rs1, vuint8m2_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei16(const int32_t *rs1, vuint16mf4_t rs2, size_t vl);
vint32m1_t __riscv_vloxei16(const int32_t *rs1, vuint16mf2_t rs2, size_t vl);
vint32m2_t __riscv_vloxei16(const int32_t *rs1, vuint16m1_t rs2, size_t vl);
vint32m4_t __riscv_vloxei16(const int32_t *rs1, vuint16m2_t rs2, size_t vl);
vint32m8_t __riscv_vloxei16(const int32_t *rs1, vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei32(const int32_t *rs1, vuint32mf2_t rs2, size_t vl);
vint32m1_t __riscv_vloxei32(const int32_t *rs1, vuint32m1_t rs2, size_t vl);
vint32m2_t __riscv_vloxei32(const int32_t *rs1, vuint32m2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei32(const int32_t *rs1, vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vloxei32(const int32_t *rs1, vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei64(const int32_t *rs1, vuint64m1_t rs2, size_t vl);
vint32m1_t __riscv_vloxei64(const int32_t *rs1, vuint64m2_t rs2, size_t vl);
vint32m2_t __riscv_vloxei64(const int32_t *rs1, vuint64m4_t rs2, size_t vl);
vint32m4_t __riscv_vloxei64(const int32_t *rs1, vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vloxei8(const int64_t *rs1, vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vloxei8(const int64_t *rs1, vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vloxei8(const int64_t *rs1, vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vloxei8(const int64_t *rs1, vuint8m1_t rs2, size_t vl);
vint64m1_t __riscv_vloxei16(const int64_t *rs1, vuint16mf4_t rs2, size_t vl);
vint64m2_t __riscv_vloxei16(const int64_t *rs1, vuint16mf2_t rs2, size_t vl);
vint64m4_t __riscv_vloxei16(const int64_t *rs1, vuint16m1_t rs2, size_t vl);
vint64m8_t __riscv_vloxei16(const int64_t *rs1, vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vloxei32(const int64_t *rs1, vuint32mf2_t rs2, size_t vl);
vint64m2_t __riscv_vloxei32(const int64_t *rs1, vuint32m1_t rs2, size_t vl);
vint64m4_t __riscv_vloxei32(const int64_t *rs1, vuint32m2_t rs2, size_t vl);
vint64m8_t __riscv_vloxei32(const int64_t *rs1, vuint32m4_t rs2, size_t vl);
vint64m1_t __riscv_vloxei64(const int64_t *rs1, vuint64m1_t rs2, size_t vl);
vint64m2_t __riscv_vloxei64(const int64_t *rs1, vuint64m2_t rs2, size_t vl);
vint64m4_t __riscv_vloxei64(const int64_t *rs1, vuint64m4_t rs2, size_t vl);
vint64m8_t __riscv_vloxei64(const int64_t *rs1, vuint64m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vluxei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vluxei8(const int8_t *rs1, vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vluxei8(const int8_t *rs1, vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vluxei8(const int8_t *rs1, vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei16(const int8_t *rs1, vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei16(const int8_t *rs1, vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei16(const int8_t *rs1, vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vluxei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m2_t __riscv_vluxei16(const int8_t *rs1, vuint16m4_t rs2, size_t vl);
vint8m4_t __riscv_vluxei16(const int8_t *rs1, vuint16m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei32(const int8_t *rs1, vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei32(const int8_t *rs1, vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei32(const int8_t *rs1, vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vluxei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m2_t __riscv_vluxei32(const int8_t *rs1, vuint32m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei64(const int8_t *rs1, vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei64(const int8_t *rs1, vuint64m2_t rs2, size_t vl);
```

```
vint8mf2_t __riscv_vluxei64(const int8_t *rs1, vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vluxei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei8(const int16_t *rs1, vuint8mf8_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei8(const int16_t *rs1, vuint8mf4_t rs2, size_t vl);
vint16m1_t __riscv_vluxei8(const int16_t *rs1, vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vluxei8(const int16_t *rs1, vuint8m1_t rs2, size_t vl);
vint16m4_t __riscv_vluxei8(const int16_t *rs1, vuint8m2_t rs2, size_t vl);
vint16m8_t __riscv_vluxei8(const int16_t *rs1, vuint8m4_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei16(const int16_t *rs1, vuint16mf4_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei16(const int16_t *rs1, vuint16mf2_t rs2, size_t vl);
vint16m1_t __riscv_vluxei16(const int16_t *rs1, vuint16m1_t rs2, size_t vl);
vint16m2_t __riscv_vluxei16(const int16_t *rs1, vuint16m2_t rs2, size_t vl);
vint16m4_t __riscv_vluxei16(const int16_t *rs1, vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vluxei16(const int16_t *rs1, vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei32(const int16_t *rs1, vuint32mf2_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei32(const int16_t *rs1, vuint32m1_t rs2, size_t vl);
vint16m1_t __riscv_vluxei32(const int16_t *rs1, vuint32m2_t rs2, size_t vl);
vint16m2_t __riscv_vluxei32(const int16_t *rs1, vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vluxei32(const int16_t *rs1, vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei64(const int16_t *rs1, vuint64m1_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei64(const int16_t *rs1, vuint64m2_t rs2, size_t vl);
vint16m1_t __riscv_vluxei64(const int16_t *rs1, vuint64m4_t rs2, size_t vl);
vint16m2_t __riscv_vluxei64(const int16_t *rs1, vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei8(const int32_t *rs1, vuint8mf8_t rs2, size_t vl);
vint32m1_t __riscv_vluxei8(const int32_t *rs1, vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vluxei8(const int32_t *rs1, vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vluxei8(const int32_t *rs1, vuint8m1_t rs2, size_t vl);
vint32m8_t __riscv_vluxei8(const int32_t *rs1, vuint8m2_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei16(const int32_t *rs1, vuint16mf4_t rs2, size_t vl);
vint32m1_t __riscv_vluxei16(const int32_t *rs1, vuint16mf2_t rs2, size_t vl);
vint32m2_t __riscv_vluxei16(const int32_t *rs1, vuint16m1_t rs2, size_t vl);
vint32m4_t __riscv_vluxei16(const int32_t *rs1, vuint16m2_t rs2, size_t vl);
vint32m8_t __riscv_vluxei16(const int32_t *rs1, vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei32(const int32_t *rs1, vuint32mf2_t rs2, size_t vl);
vint32m1_t __riscv_vluxei32(const int32_t *rs1, vuint32m1_t rs2, size_t vl);
vint32m2_t __riscv_vluxei32(const int32_t *rs1, vuint32m2_t rs2, size_t vl);
vint32m4_t __riscv_vluxei32(const int32_t *rs1, vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vluxei32(const int32_t *rs1, vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei64(const int32_t *rs1, vuint64m1_t rs2, size_t vl);
vint32m1_t __riscv_vluxei64(const int32_t *rs1, vuint64m2_t rs2, size_t vl);
vint32m2_t __riscv_vluxei64(const int32_t *rs1, vuint64m4_t rs2, size_t vl);
vint32m4_t __riscv_vluxei64(const int32_t *rs1, vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vluxei8(const int64_t *rs1, vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vluxei8(const int64_t *rs1, vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vluxei8(const int64_t *rs1, vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vluxei8(const int64_t *rs1, vuint8m1_t rs2, size_t vl);
vint64m1_t __riscv_vluxei16(const int64_t *rs1, vuint16mf4_t rs2, size_t vl);
vint64m2_t __riscv_vluxei16(const int64_t *rs1, vuint16mf2_t rs2, size_t vl);
vint64m4_t __riscv_vluxei16(const int64_t *rs1, vuint16m1_t rs2, size_t vl);
vint64m8_t __riscv_vluxei16(const int64_t *rs1, vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vluxei32(const int64_t *rs1, vuint32mf2_t rs2, size_t vl);
vint64m2_t __riscv_vluxei32(const int64_t *rs1, vuint32m1_t rs2, size_t vl);
vint64m4_t __riscv_vluxei32(const int64_t *rs1, vuint32m2_t rs2, size_t vl);
vint64m8_t __riscv_vluxei32(const int64_t *rs1, vuint32m4_t rs2, size_t vl);
vint64m1_t __riscv_vluxei64(const int64_t *rs1, vuint64m1_t rs2, size_t vl);
vint64m2_t __riscv_vluxei64(const int64_t *rs1, vuint64m2_t rs2, size_t vl);
vint64m4_t __riscv_vluxei64(const int64_t *rs1, vuint64m4_t rs2, size_t vl);
vint64m8_t __riscv_vluxei64(const int64_t *rs1, vuint64m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei8(const uint8_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei8(const uint8_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei8(const uint8_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei8(const uint8_t *rs1, vuint8m2_t rs2, size_t vl);
vuint8m4_t __riscv_vloxei8(const uint8_t *rs1, vuint8m4_t rs2, size_t vl);
vuint8m8_t __riscv_vloxei8(const uint8_t *rs1, vuint8m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei16(const uint8_t *rs1, vuint16mf4_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei16(const uint8_t *rs1, vuint16mf2_t rs2, size_t vl);
```

```
vuint8mf2_t __riscv_vloxei16(const uint8_t *rs1, vuint16m1_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei16(const uint8_t *rs1, vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei16(const uint8_t *rs1, vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vloxei16(const uint8_t *rs1, vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei32(const uint8_t *rs1, vuint32mf2_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei32(const uint8_t *rs1, vuint32m1_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei32(const uint8_t *rs1, vuint32m2_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei32(const uint8_t *rs1, vuint32m4_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei32(const uint8_t *rs1, vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei64(const uint8_t *rs1, vuint64m1_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei64(const uint8_t *rs1, vuint64m2_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei64(const uint8_t *rs1, vuint64m4_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei64(const uint8_t *rs1, vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei8(const uint16_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei8(const uint16_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei8(const uint16_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei8(const uint16_t *rs1, vuint8m1_t rs2, size_t vl);
vuint16m4_t __riscv_vloxei8(const uint16_t *rs1, vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vloxei8(const uint16_t *rs1, vuint8m4_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei16(const uint16_t *rs1, vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei16(const uint16_t *rs1, vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei16(const uint16_t *rs1, vuint16m1_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei16(const uint16_t *rs1, vuint16m2_t rs2, size_t vl);
vuint16m4_t __riscv_vloxei16(const uint16_t *rs1, vuint16m4_t rs2, size_t vl);
vuint16m8_t __riscv_vloxei16(const uint16_t *rs1, vuint16m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei32(const uint16_t *rs1, vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei32(const uint16_t *rs1, vuint32m1_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei32(const uint16_t *rs1, vuint32m2_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei32(const uint16_t *rs1, vuint32m4_t rs2, size_t vl);
vuint16m4_t __riscv_vloxei32(const uint16_t *rs1, vuint32m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei64(const uint16_t *rs1, vuint64m1_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei64(const uint16_t *rs1, vuint64m2_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei64(const uint16_t *rs1, vuint64m4_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei64(const uint16_t *rs1, vuint64m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei8(const uint32_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei8(const uint32_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei8(const uint32_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei8(const uint32_t *rs1, vuint8m1_t rs2, size_t vl);
vuint32m8_t __riscv_vloxei8(const uint32_t *rs1, vuint8m2_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei16(const uint32_t *rs1, vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei16(const uint32_t *rs1, vuint16mf2_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei16(const uint32_t *rs1, vuint16m1_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei16(const uint32_t *rs1, vuint16m2_t rs2, size_t vl);
vuint32m8_t __riscv_vloxei16(const uint32_t *rs1, vuint16m4_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei32(const uint32_t *rs1, vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei32(const uint32_t *rs1, vuint32m1_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei32(const uint32_t *rs1, vuint32m2_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei32(const uint32_t *rs1, vuint32m4_t rs2, size_t vl);
vuint32m8_t __riscv_vloxei32(const uint32_t *rs1, vuint32m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei64(const uint32_t *rs1, vuint64m1_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei64(const uint32_t *rs1, vuint64m2_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei64(const uint32_t *rs1, vuint64m4_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei64(const uint32_t *rs1, vuint64m8_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei8(const uint64_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei8(const uint64_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei8(const uint64_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint64m8_t __riscv_vloxei8(const uint64_t *rs1, vuint8m1_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei16(const uint64_t *rs1, vuint16mf4_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei16(const uint64_t *rs1, vuint16mf2_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei16(const uint64_t *rs1, vuint16m1_t rs2, size_t vl);
vuint64m8_t __riscv_vloxei16(const uint64_t *rs1, vuint16m2_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei32(const uint64_t *rs1, vuint32mf2_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei32(const uint64_t *rs1, vuint32m1_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei32(const uint64_t *rs1, vuint32m2_t rs2, size_t vl);
vuint64m8_t __riscv_vloxei32(const uint64_t *rs1, vuint32m4_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei64(const uint64_t *rs1, vuint64m1_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei64(const uint64_t *rs1, vuint64m2_t rs2, size_t vl);
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```
vuint64m4_t __riscv_vloxei64(const uint64_t *rs1, vuint64m4_t rs2, size_t vl);
vuint64m8_t __riscv_vloxei64(const uint64_t *rs1, vuint64m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei8(const uint8_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei8(const uint8_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei8(const uint8_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei8(const uint8_t *rs1, vuint8m2_t rs2, size_t vl);
vuint8m4_t __riscv_vluxei8(const uint8_t *rs1, vuint8m4_t rs2, size_t vl);
vuint8m8_t __riscv_vluxei8(const uint8_t *rs1, vuint8m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei16(const uint8_t *rs1, vuint16mf4_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei16(const uint8_t *rs1, vuint16mf2_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei16(const uint8_t *rs1, vuint16m1_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei16(const uint8_t *rs1, vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei16(const uint8_t *rs1, vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vluxei16(const uint8_t *rs1, vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei32(const uint8_t *rs1, vuint32mf2_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei32(const uint8_t *rs1, vuint32m1_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei32(const uint8_t *rs1, vuint32m2_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei32(const uint8_t *rs1, vuint32m4_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei32(const uint8_t *rs1, vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei64(const uint8_t *rs1, vuint64m1_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei64(const uint8_t *rs1, vuint64m2_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei64(const uint8_t *rs1, vuint64m4_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei64(const uint8_t *rs1, vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei8(const uint16_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei8(const uint16_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei8(const uint16_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei8(const uint16_t *rs1, vuint8m1_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei8(const uint16_t *rs1, vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vluxei8(const uint16_t *rs1, vuint8m4_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei16(const uint16_t *rs1, vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei16(const uint16_t *rs1, vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei16(const uint16_t *rs1, vuint16m1_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei16(const uint16_t *rs1, vuint16m2_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei16(const uint16_t *rs1, vuint16m4_t rs2, size_t vl);
vuint16m8_t __riscv_vluxei16(const uint16_t *rs1, vuint16m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei32(const uint16_t *rs1, vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei32(const uint16_t *rs1, vuint32m1_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei32(const uint16_t *rs1, vuint32m2_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei32(const uint16_t *rs1, vuint32m4_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei32(const uint16_t *rs1, vuint32m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei64(const uint16_t *rs1, vuint64m1_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei64(const uint16_t *rs1, vuint64m2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei64(const uint16_t *rs1, vuint64m4_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei64(const uint16_t *rs1, vuint64m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei8(const uint32_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei8(const uint32_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei8(const uint32_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei8(const uint32_t *rs1, vuint8m1_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei8(const uint32_t *rs1, vuint8m2_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei16(const uint32_t *rs1, vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei16(const uint32_t *rs1, vuint16mf2_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei16(const uint32_t *rs1, vuint16m1_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei16(const uint32_t *rs1, vuint16m2_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei16(const uint32_t *rs1, vuint16m4_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei32(const uint32_t *rs1, vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei32(const uint32_t *rs1, vuint32m1_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei32(const uint32_t *rs1, vuint32m2_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei32(const uint32_t *rs1, vuint32m4_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei32(const uint32_t *rs1, vuint32m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei64(const uint32_t *rs1, vuint64m1_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei64(const uint32_t *rs1, vuint64m2_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei64(const uint32_t *rs1, vuint64m4_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei64(const uint32_t *rs1, vuint64m8_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei8(const uint64_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei8(const uint64_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei8(const uint64_t *rs1, vuint8mf2_t rs2, size_t vl);
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vuint64m8_t __riscv_vluxei8(const uint64_t *rs1, vuint8m1_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei16(const uint64_t *rs1, vuint16mf4_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei16(const uint64_t *rs1, vuint16mf2_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei16(const uint64_t *rs1, vuint16m1_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei16(const uint64_t *rs1, vuint16m2_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei32(const uint64_t *rs1, vuint32mf2_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei32(const uint64_t *rs1, vuint32m1_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei32(const uint64_t *rs1, vuint32m2_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei32(const uint64_t *rs1, vuint32m4_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei64(const uint64_t *rs1, vuint64m1_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei64(const uint64_t *rs1, vuint64m2_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei64(const uint64_t *rs1, vuint64m4_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei64(const uint64_t *rs1, vuint64m8_t rs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vloxei8(vbool64_t vm, const _Float16 *rs1,
                              vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei8(vbool32_t vm, const _Float16 *rs1,
                              vuint8mf4_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei8(vbool16_t vm, const _Float16 *rs1, vuint8mf2_t rs2,
                             size_t vl);
vfloat16m2_t __riscv_vloxei8(vbool8_t vm, const _Float16 *rs1, vuint8m1_t rs2,
                             size_t vl);
vfloat16m4_t __riscv_vloxei8(vbool4_t vm, const _Float16 *rs1, vuint8m2_t rs2,
                             size_t vl);
vfloat16m8_t __riscv_vloxei8(vbool2_t vm, const _Float16 *rs1, vuint8m4_t rs2,
                             size_t vl);
vfloat16mf4_t __riscv_vloxei16(vbool64_t vm, const _Float16 *rs1,
                               vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei16(vbool32_t vm, const _Float16 *rs1,
                               vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei16(vbool16_t vm, const _Float16 *rs1,
                              vuint16m1_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei16(vbool8_t vm, const _Float16 *rs1, vuint16m2_t rs2,
                              size_t vl);
vfloat16m4_t __riscv_vloxei16(vbool4_t vm, const _Float16 *rs1, vuint16m4_t rs2,
                              size_t vl);
vfloat16m8_t __riscv_vloxei16(vbool2_t vm, const _Float16 *rs1, vuint16m8_t rs2,
                              size_t vl);
vfloat16mf4_t __riscv_vloxei32(vbool64_t vm, const _Float16 *rs1,
                               vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei32(vbool32_t vm, const _Float16 *rs1,
                               vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei32(vbool16_t vm, const _Float16 *rs1,
                              vuint32m2_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei32(vbool8_t vm, const _Float16 *rs1, vuint32m4_t rs2,
                              size_t vl);
vfloat16m4_t __riscv_vloxei32(vbool4_t vm, const _Float16 *rs1, vuint32m8_t rs2,
                              size_t vl);
vfloat16mf4_t __riscv_vloxei64(vbool64_t vm, const _Float16 *rs1,
                               vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei64(vbool32_t vm, const _Float16 *rs1,
                               vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei64(vbool16_t vm, const _Float16 *rs1,
                              vuint64m4_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei64(vbool8_t vm, const _Float16 *rs1, vuint64m8_t rs2,
                              size_t vl);
vfloat32mf2_t __riscv_vloxei8(vbool64_t vm, const float *rs1, vuint8mf8_t rs2,
                              size_t vl);
vfloat32m1_t __riscv_vloxei8(vbool32_t vm, const float *rs1, vuint8mf4_t rs2,
                             size_t vl);
vfloat32m2_t __riscv_vloxei8(vbool16_t vm, const float *rs1, vuint8mf2_t rs2,
                             size_t vl);
vfloat32m4_t __riscv_vloxei8(vbool8_t vm, const float *rs1, vuint8m1_t rs2,
                             size_t vl);
vfloat32m8_t __riscv_vloxei8(vbool4_t vm, const float *rs1, vuint8m2_t rs2,
                             size_t vl);
vfloat32mf2_t __riscv_vloxei16(vbool64_t vm, const float *rs1, vuint16mf4_t rs2,
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                                size_t vl);
vfloat32m1_t __riscv_vloxei16(vbool32_t vm, const float *rs1, vuint16mf2_t rs2,
                              size_t vl);
vfloat32m2_t __riscv_vloxei16(vbool16_t vm, const float *rs1, vuint16m1_t rs2,
                              size_t vl);
vfloat32m4_t __riscv_vloxei16(vbool8_t vm, const float *rs1, vuint16m2_t rs2,
                              size_t vl);
vfloat32m8_t __riscv_vloxei16(vbool4_t vm, const float *rs1, vuint16m4_t rs2,
                              size_t vl);
vfloat32mf2_t __riscv_vloxei32(vbool64_t vm, const float *rs1, vuint32mf2_t rs2,
                               size_t vl);
vfloat32m1_t __riscv_vloxei32(vbool32_t vm, const float *rs1, vuint32m1_t rs2,
                              size_t vl);
vfloat32m2_t __riscv_vloxei32(vbool16_t vm, const float *rs1, vuint32m2_t rs2,
                              size_t vl);
vfloat32m4_t __riscv_vloxei32(vbool8_t vm, const float *rs1, vuint32m4_t rs2,
                              size_t vl);
vfloat32m8_t __riscv_vloxei32(vbool4_t vm, const float *rs1, vuint32m8_t rs2,
                              size_t vl);
vfloat32mf2_t __riscv_vloxei64(vbool64_t vm, const float *rs1, vuint64m1_t rs2,
                               size_t vl);
vfloat32m1_t __riscv_vloxei64(vbool32_t vm, const float *rs1, vuint64m2_t rs2,
                              size_t vl);
vfloat32m2_t __riscv_vloxei64(vbool16_t vm, const float *rs1, vuint64m4_t rs2,
                              size_t vl);
vfloat32m4_t __riscv_vloxei64(vbool8_t vm, const float *rs1, vuint64m8_t rs2,
                              size_t vl);
vfloat64m1_t __riscv_vloxei8(vbool64_t vm, const double *rs1, vuint8mf8_t rs2,
                             size_t vl);
vfloat64m2_t __riscv_vloxei8(vbool32_t vm, const double *rs1, vuint8mf4_t rs2,
                             size_t vl);
vfloat64m4_t __riscv_vloxei8(vbool16_t vm, const double *rs1, vuint8mf2_t rs2,
                             size_t vl);
vfloat64m8_t __riscv_vloxei8(vbool8_t vm, const double *rs1, vuint8m1_t rs2,
                             size_t vl);
vfloat64m1_t __riscv_vloxei16(vbool64_t vm, const double *rs1, vuint16mf4_t rs2,
                              size_t vl);
vfloat64m2_t __riscv_vloxei16(vbool32_t vm, const double *rs1, vuint16mf2_t rs2,
                              size_t vl);
vfloat64m4_t __riscv_vloxei16(vbool16_t vm, const double *rs1, vuint16m1_t rs2,
                              size_t vl);
vfloat64m8_t __riscv_vloxei16(vbool8_t vm, const double *rs1, vuint16m2_t rs2,
                              size_t vl);
vfloat64m1_t __riscv_vloxei32(vbool64_t vm, const double *rs1, vuint32mf2_t rs2,
                              size_t vl);
vfloat64m2_t __riscv_vloxei32(vbool32_t vm, const double *rs1, vuint32m1_t rs2,
                              size_t vl);
vfloat64m4_t __riscv_vloxei32(vbool16_t vm, const double *rs1, vuint32m2_t rs2,
                              size_t vl);
vfloat64m8_t __riscv_vloxei32(vbool8_t vm, const double *rs1, vuint32m4_t rs2,
                              size_t vl);
vfloat64m1_t __riscv_vloxei64(vbool64_t vm, const double *rs1, vuint64m1_t rs2,
                              size_t vl);
vfloat64m2_t __riscv_vloxei64(vbool32_t vm, const double *rs1, vuint64m2_t rs2,
                              size_t vl);
vfloat64m4_t __riscv_vloxei64(vbool16_t vm, const double *rs1, vuint64m4_t rs2,
                              size_t vl);
vfloat64m8_t __riscv_vloxei64(vbool8_t vm, const double *rs1, vuint64m8_t rs2,
                              size_t vl);
vfloat16mf4_t __riscv_vluxei8(vbool64_t vm, const _Float16 *rs1,
                              vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei8(vbool32_t vm, const _Float16 *rs1,
                              vuint8mf4_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei8(vbool16_t vm, const _Float16 *rs1, vuint8mf2_t rs2,
                             size_t vl);
vfloat16m2_t __riscv_vluxei8(vbool8_t vm, const _Float16 *rs1, vuint8m1_t rs2,
                             size_t vl);
```

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vfloat16m4_t __riscv_vluxei8(vbool4_t vm, const _Float16 *rs1, vuint8m2_t rs2,
                             size_t vl);
vfloat16m8_t __riscv_vluxei8(vbool2_t vm, const _Float16 *rs1, vuint8m4_t rs2,
                             size_t vl);
vfloat16mf4_t __riscv_vluxei16(vbool64_t vm, const _Float16 *rs1,
                               vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei16(vbool32_t vm, const _Float16 *rs1,
                               vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei16(vbool16_t vm, const _Float16 *rs1,
                              vuint16m1_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei16(vbool8_t vm, const _Float16 *rs1, vuint16m2_t rs2,
                              size_t vl);
vfloat16m4_t __riscv_vluxei16(vbool4_t vm, const _Float16 *rs1, vuint16m4_t rs2,
                              size_t vl);
vfloat16m8_t __riscv_vluxei16(vbool2_t vm, const _Float16 *rs1, vuint16m8_t rs2,
                              size_t vl);
vfloat16mf4_t __riscv_vluxei32(vbool64_t vm, const _Float16 *rs1,
                               vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei32(vbool32_t vm, const _Float16 *rs1,
                               vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei32(vbool16_t vm, const _Float16 *rs1,
                              vuint32m2_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei32(vbool8_t vm, const _Float16 *rs1, vuint32m4_t rs2,
                              size_t vl);
vfloat16m4_t __riscv_vluxei32(vbool4_t vm, const _Float16 *rs1, vuint32m8_t rs2,
                              size_t vl);
vfloat16mf4_t __riscv_vluxei64(vbool64_t vm, const _Float16 *rs1,
                               vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei64(vbool32_t vm, const _Float16 *rs1,
                               vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei64(vbool16_t vm, const _Float16 *rs1,
                              vuint64m4_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei64(vbool8_t vm, const _Float16 *rs1, vuint64m8_t rs2,
                              size_t vl);
vfloat32mf2_t __riscv_vluxei8(vbool64_t vm, const float *rs1, vuint8mf8_t rs2,
                              size_t vl);
vfloat32m1_t __riscv_vluxei8(vbool32_t vm, const float *rs1, vuint8mf4_t rs2,
                             size_t vl);
vfloat32m2_t __riscv_vluxei8(vbool16_t vm, const float *rs1, vuint8mf2_t rs2,
                             size_t vl);
vfloat32m4_t __riscv_vluxei8(vbool8_t vm, const float *rs1, vuint8m1_t rs2,
                             size_t vl);
vfloat32m8_t __riscv_vluxei8(vbool4_t vm, const float *rs1, vuint8m2_t rs2,
                             size_t vl);
vfloat32mf2_t __riscv_vluxei16(vbool64_t vm, const float *rs1, vuint16mf4_t rs2,
                               size_t vl);
vfloat32m1_t __riscv_vluxei16(vbool32_t vm, const float *rs1, vuint16mf2_t rs2,
                              size_t vl);
vfloat32m2_t __riscv_vluxei16(vbool16_t vm, const float *rs1, vuint16m1_t rs2,
                              size_t vl);
vfloat32m4_t __riscv_vluxei16(vbool8_t vm, const float *rs1, vuint16m2_t rs2,
                              size_t vl);
vfloat32m8_t __riscv_vluxei16(vbool4_t vm, const float *rs1, vuint16m4_t rs2,
                              size_t vl);
vfloat32mf2_t __riscv_vluxei32(vbool64_t vm, const float *rs1, vuint32mf2_t rs2,
                               size_t vl);
vfloat32m1_t __riscv_vluxei32(vbool32_t vm, const float *rs1, vuint32m1_t rs2,
                              size_t vl);
vfloat32m2_t __riscv_vluxei32(vbool16_t vm, const float *rs1, vuint32m2_t rs2,
                              size_t vl);
vfloat32m4_t __riscv_vluxei32(vbool8_t vm, const float *rs1, vuint32m4_t rs2,
                              size_t vl);
vfloat32m8_t __riscv_vluxei32(vbool4_t vm, const float *rs1, vuint32m8_t rs2,
                              size_t vl);
vfloat32mf2_t __riscv_vluxei64(vbool64_t vm, const float *rs1, vuint64m1_t rs2,
                               size_t vl);
vfloat32m1_t __riscv_vluxei64(vbool32_t vm, const float *rs1, vuint64m2_t rs2,
```

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                              size_t vl);
vfloat32m2_t __riscv_vluxei64(vbool16_t vm, const float *rs1, vuint64m4_t rs2,
                              size_t vl);
vfloat32m4_t __riscv_vluxei64(vbool8_t vm, const float *rs1, vuint64m8_t rs2,
                              size_t vl);
vfloat64m1_t __riscv_vluxei8(vbool64_t vm, const double *rs1, vuint8mf8_t rs2,
                             size_t vl);
vfloat64m2_t __riscv_vluxei8(vbool32_t vm, const double *rs1, vuint8mf4_t rs2,
                             size_t vl);
vfloat64m4_t __riscv_vluxei8(vbool16_t vm, const double *rs1, vuint8mf2_t rs2,
                             size_t vl);
vfloat64m8_t __riscv_vluxei8(vbool8_t vm, const double *rs1, vuint8m1_t rs2,
                             size_t vl);
vfloat64m1_t __riscv_vluxei16(vbool64_t vm, const double *rs1, vuint16mf4_t rs2,
                              size_t vl);
vfloat64m2_t __riscv_vluxei16(vbool32_t vm, const double *rs1, vuint16mf2_t rs2,
                              size_t vl);
vfloat64m4_t __riscv_vluxei16(vbool16_t vm, const double *rs1, vuint16m1_t rs2,
                              size_t vl);
vfloat64m8_t __riscv_vluxei16(vbool8_t vm, const double *rs1, vuint16m2_t rs2,
                              size_t vl);
vfloat64m1_t __riscv_vluxei32(vbool64_t vm, const double *rs1, vuint32mf2_t rs2,
                              size_t vl);
vfloat64m2_t __riscv_vluxei32(vbool32_t vm, const double *rs1, vuint32m1_t rs2,
                              size_t vl);
vfloat64m4_t __riscv_vluxei32(vbool16_t vm, const double *rs1, vuint32m2_t rs2,
                              size_t vl);
vfloat64m8_t __riscv_vluxei32(vbool8_t vm, const double *rs1, vuint32m4_t rs2,
                              size_t vl);
vfloat64m1_t __riscv_vluxei64(vbool64_t vm, const double *rs1, vuint64m1_t rs2,
                              size_t vl);
vfloat64m2_t __riscv_vluxei64(vbool32_t vm, const double *rs1, vuint64m2_t rs2,
                              size_t vl);
vfloat64m4_t __riscv_vluxei64(vbool16_t vm, const double *rs1, vuint64m4_t rs2,
                              size_t vl);
vfloat64m8_t __riscv_vluxei64(vbool8_t vm, const double *rs1, vuint64m8_t rs2,
                              size_t vl);
vint8mf8_t __riscv_vloxei8(vbool64_t vm, const int8_t *rs1, vuint8mf8_t rs2,
                           size_t vl);
vint8mf4_t __riscv_vloxei8(vbool32_t vm, const int8_t *rs1, vuint8mf4_t rs2,
                           size_t vl);
vint8mf2_t __riscv_vloxei8(vbool16_t vm, const int8_t *rs1, vuint8mf2_t rs2,
                           size_t vl);
vint8m1_t __riscv_vloxei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                          size_t vl);
vint8m2_t __riscv_vloxei8(vbool4_t vm, const int8_t *rs1, vuint8m2_t rs2,
                          size_t vl);
vint8m4_t __riscv_vloxei8(vbool2_t vm, const int8_t *rs1, vuint8m4_t rs2,
                          size_t vl);
vint8m8_t __riscv_vloxei8(vbool1_t vm, const int8_t *rs1, vuint8m8_t rs2,
                          size_t vl);
vint8mf8_t __riscv_vloxei16(vbool64_t vm, const int8_t *rs1, vuint16mf4_t rs2,
                            size_t vl);
vint8mf4_t __riscv_vloxei16(vbool32_t vm, const int8_t *rs1, vuint16mf2_t rs2,
                            size_t vl);
vint8mf2_t __riscv_vloxei16(vbool16_t vm, const int8_t *rs1, vuint16m1_t rs2,
                            size_t vl);
vint8m1_t __riscv_vloxei16(vbool8_t vm, const int8_t *rs1, vuint16m2_t rs2,
                           size_t vl);
vint8m2_t __riscv_vloxei16(vbool4_t vm, const int8_t *rs1, vuint16m4_t rs2,
                           size_t vl);
vint8m4_t __riscv_vloxei16(vbool2_t vm, const int8_t *rs1, vuint16m8_t rs2,
                           size_t vl);
vint8mf8_t __riscv_vloxei32(vbool64_t vm, const int8_t *rs1, vuint32mf2_t rs2,
                            size_t vl);
vint8mf4_t __riscv_vloxei32(vbool32_t vm, const int8_t *rs1, vuint32m1_t rs2,
                            size_t vl);
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vint8mf2_t __riscv_vloxei32(vbool16_t vm, const int8_t *rs1, vuint32m2_t rs2,
                            size_t vl);
vint8m1_t __riscv_vloxei32(vbool8_t vm, const int8_t *rs1, vuint32m4_t rs2,
                           size_t vl);
vint8m2_t __riscv_vloxei32(vbool4_t vm, const int8_t *rs1, vuint32m8_t rs2,
                           size_t vl);
vint8mf8_t __riscv_vloxei64(vbool64_t vm, const int8_t *rs1, vuint64m1_t rs2,
                            size_t vl);
vint8mf4_t __riscv_vloxei64(vbool32_t vm, const int8_t *rs1, vuint64m2_t rs2,
                            size_t vl);
vint8mf2_t __riscv_vloxei64(vbool16_t vm, const int8_t *rs1, vuint64m4_t rs2,
                            size_t vl);
vint8m1_t __riscv_vloxei64(vbool8_t vm, const int8_t *rs1, vuint64m8_t rs2,
                           size_t vl);
vint16mf4_t __riscv_vloxei8(vbool64_t vm, const int16_t *rs1, vuint8mf8_t rs2,
                            size_t vl);
vint16mf2_t __riscv_vloxei8(vbool32_t vm, const int16_t *rs1, vuint8mf4_t rs2,
                            size_t vl);
vint16m1_t __riscv_vloxei8(vbool16_t vm, const int16_t *rs1, vuint8mf2_t rs2,
                           size_t vl);
vint16m2_t __riscv_vloxei8(vbool8_t vm, const int16_t *rs1, vuint8m1_t rs2,
                           size_t vl);
vint16m4_t __riscv_vloxei8(vbool4_t vm, const int16_t *rs1, vuint8m2_t rs2,
                           size_t vl);
vint16m8_t __riscv_vloxei8(vbool2_t vm, const int16_t *rs1, vuint8m4_t rs2,
                           size_t vl);
vint16mf4_t __riscv_vloxei16(vbool64_t vm, const int16_t *rs1, vuint16mf4_t rs2,
                             size_t vl);
vint16mf2_t __riscv_vloxei16(vbool32_t vm, const int16_t *rs1, vuint16mf2_t rs2,
                             size_t vl);
vint16m1_t __riscv_vloxei16(vbool16_t vm, const int16_t *rs1, vuint16m1_t rs2,
                            size_t vl);
vint16m2_t __riscv_vloxei16(vbool8_t vm, const int16_t *rs1, vuint16m2_t rs2,
                            size_t vl);
vint16m4_t __riscv_vloxei16(vbool4_t vm, const int16_t *rs1, vuint16m4_t rs2,
                            size_t vl);
vint16m8_t __riscv_vloxei16(vbool2_t vm, const int16_t *rs1, vuint16m8_t rs2,
                            size_t vl);
vint16mf4_t __riscv_vloxei32(vbool64_t vm, const int16_t *rs1, vuint32mf2_t rs2,
                             size_t vl);
vint16mf2_t __riscv_vloxei32(vbool32_t vm, const int16_t *rs1, vuint32m1_t rs2,
                             size_t vl);
vint16m1_t __riscv_vloxei32(vbool16_t vm, const int16_t *rs1, vuint32m2_t rs2,
                            size_t vl);
vint16m2_t __riscv_vloxei32(vbool8_t vm, const int16_t *rs1, vuint32m4_t rs2,
                            size_t vl);
vint16m4_t __riscv_vloxei32(vbool4_t vm, const int16_t *rs1, vuint32m8_t rs2,
                            size_t vl);
vint16mf4_t __riscv_vloxei64(vbool64_t vm, const int16_t *rs1, vuint64m1_t rs2,
                             size_t vl);
vint16mf2_t __riscv_vloxei64(vbool32_t vm, const int16_t *rs1, vuint64m2_t rs2,
                             size_t vl);
vint16m1_t __riscv_vloxei64(vbool16_t vm, const int16_t *rs1, vuint64m4_t rs2,
                            size_t vl);
vint16m2_t __riscv_vloxei64(vbool8_t vm, const int16_t *rs1, vuint64m8_t rs2,
                            size_t vl);
vint32mf2_t __riscv_vloxei8(vbool64_t vm, const int32_t *rs1, vuint8mf8_t rs2,
                            size_t vl);
vint32m1_t __riscv_vloxei8(vbool32_t vm, const int32_t *rs1, vuint8mf4_t rs2,
                           size_t vl);
vint32m2_t __riscv_vloxei8(vbool16_t vm, const int32_t *rs1, vuint8mf2_t rs2,
                           size_t vl);
vint32m4_t __riscv_vloxei8(vbool8_t vm, const int32_t *rs1, vuint8m1_t rs2,
                           size_t vl);
vint32m8_t __riscv_vloxei8(vbool4_t vm, const int32_t *rs1, vuint8m2_t rs2,
                           size_t vl);
vint32mf2_t __riscv_vloxei16(vbool64_t vm, const int32_t *rs1, vuint16mf4_t rs2,
```

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                              size_t vl);
vint32m1_t __riscv_vloxei16(vbool32_t vm, const int32_t *rs1, vuint16mf2_t rs2,
                            size_t vl);
vint32m2_t __riscv_vloxei16(vbool16_t vm, const int32_t *rs1, vuint16m1_t rs2,
                            size_t vl);
vint32m4_t __riscv_vloxei16(vbool8_t vm, const int32_t *rs1, vuint16m2_t rs2,
                            size_t vl);
vint32m8_t __riscv_vloxei16(vbool4_t vm, const int32_t *rs1, vuint16m4_t rs2,
                            size_t vl);
vint32mf2_t __riscv_vloxei32(vbool64_t vm, const int32_t *rs1, vuint32mf2_t rs2,
                             size_t vl);
vint32m1_t __riscv_vloxei32(vbool32_t vm, const int32_t *rs1, vuint32m1_t rs2,
                            size_t vl);
vint32m2_t __riscv_vloxei32(vbool16_t vm, const int32_t *rs1, vuint32m2_t rs2,
                            size_t vl);
vint32m4_t __riscv_vloxei32(vbool8_t vm, const int32_t *rs1, vuint32m4_t rs2,
                            size_t vl);
vint32m8_t __riscv_vloxei32(vbool4_t vm, const int32_t *rs1, vuint32m8_t rs2,
                            size_t vl);
vint32mf2_t __riscv_vloxei64(vbool64_t vm, const int32_t *rs1, vuint64m1_t rs2,
                             size_t vl);
vint32m1_t __riscv_vloxei64(vbool32_t vm, const int32_t *rs1, vuint64m2_t rs2,
                            size_t vl);
vint32m2_t __riscv_vloxei64(vbool16_t vm, const int32_t *rs1, vuint64m4_t rs2,
                            size_t vl);
vint32m4_t __riscv_vloxei64(vbool8_t vm, const int32_t *rs1, vuint64m8_t rs2,
                            size_t vl);
vint64m1_t __riscv_vloxei8(vbool64_t vm, const int64_t *rs1, vuint8mf8_t rs2,
                           size_t vl);
vint64m2_t __riscv_vloxei8(vbool32_t vm, const int64_t *rs1, vuint8mf4_t rs2,
                           size_t vl);
vint64m4_t __riscv_vloxei8(vbool16_t vm, const int64_t *rs1, vuint8mf2_t rs2,
                           size_t vl);
vint64m8_t __riscv_vloxei8(vbool8_t vm, const int64_t *rs1, vuint8m1_t rs2,
                           size_t vl);
vint64m1_t __riscv_vloxei16(vbool64_t vm, const int64_t *rs1, vuint16mf4_t rs2,
                            size_t vl);
vint64m2_t __riscv_vloxei16(vbool32_t vm, const int64_t *rs1, vuint16mf2_t rs2,
                            size_t vl);
vint64m4_t __riscv_vloxei16(vbool16_t vm, const int64_t *rs1, vuint16m1_t rs2,
                            size_t vl);
vint64m8_t __riscv_vloxei16(vbool8_t vm, const int64_t *rs1, vuint16m2_t rs2,
                            size_t vl);
vint64m1_t __riscv_vloxei32(vbool64_t vm, const int64_t *rs1, vuint32mf2_t rs2,
                            size_t vl);
vint64m2_t __riscv_vloxei32(vbool32_t vm, const int64_t *rs1, vuint32m1_t rs2,
                            size_t vl);
vint64m4_t __riscv_vloxei32(vbool16_t vm, const int64_t *rs1, vuint32m2_t rs2,
                            size_t vl);
vint64m8_t __riscv_vloxei32(vbool8_t vm, const int64_t *rs1, vuint32m4_t rs2,
                            size_t vl);
vint64m1_t __riscv_vloxei64(vbool64_t vm, const int64_t *rs1, vuint64m1_t rs2,
                            size_t vl);
vint64m2_t __riscv_vloxei64(vbool32_t vm, const int64_t *rs1, vuint64m2_t rs2,
                            size_t vl);
vint64m4_t __riscv_vloxei64(vbool16_t vm, const int64_t *rs1, vuint64m4_t rs2,
                            size_t vl);
vint64m8_t __riscv_vloxei64(vbool8_t vm, const int64_t *rs1, vuint64m8_t rs2,
                            size_t vl);
vint8mf8_t __riscv_vluxei8(vbool64_t vm, const int8_t *rs1, vuint8mf8_t rs2,
                           size_t vl);
vint8mf4_t __riscv_vluxei8(vbool32_t vm, const int8_t *rs1, vuint8mf4_t rs2,
                           size_t vl);
vint8mf2_t __riscv_vluxei8(vbool16_t vm, const int8_t *rs1, vuint8mf2_t rs2,
                           size_t vl);
vint8m1_t __riscv_vluxei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                          size_t vl);
```

```
vint8m2_t __riscv_vluxei8(vbool4_t vm, const int8_t *rs1, vuint8m2_t rs2,
                          size_t vl);
vint8m4_t __riscv_vluxei8(vbool2_t vm, const int8_t *rs1, vuint8m4_t rs2,
                          size_t vl);
vint8m8_t __riscv_vluxei8(vbool1_t vm, const int8_t *rs1, vuint8m8_t rs2,
                          size_t vl);
vint8mf8_t __riscv_vluxei16(vbool64_t vm, const int8_t *rs1, vuint16mf4_t rs2,
                            size_t vl);
vint8mf4_t __riscv_vluxei16(vbool32_t vm, const int8_t *rs1, vuint16mf2_t rs2,
                            size_t vl);
vint8mf2_t __riscv_vluxei16(vbool16_t vm, const int8_t *rs1, vuint16m1_t rs2,
                            size_t vl);
vint8m1_t __riscv_vluxei16(vbool8_t vm, const int8_t *rs1, vuint16m2_t rs2,
                           size_t vl);
vint8m2_t __riscv_vluxei16(vbool4_t vm, const int8_t *rs1, vuint16m4_t rs2,
                           size_t vl);
vint8m4_t __riscv_vluxei16(vbool2_t vm, const int8_t *rs1, vuint16m8_t rs2,
                           size_t vl);
vint8mf8_t __riscv_vluxei32(vbool64_t vm, const int8_t *rs1, vuint32mf2_t rs2,
                            size_t vl);
vint8mf4_t __riscv_vluxei32(vbool32_t vm, const int8_t *rs1, vuint32m1_t rs2,
                            size_t vl);
vint8mf2_t __riscv_vluxei32(vbool16_t vm, const int8_t *rs1, vuint32m2_t rs2,
                            size_t vl);
vint8m1_t __riscv_vluxei32(vbool8_t vm, const int8_t *rs1, vuint32m4_t rs2,
                           size_t vl);
vint8m2_t __riscv_vluxei32(vbool4_t vm, const int8_t *rs1, vuint32m8_t rs2,
                           size_t vl);
vint8mf8_t __riscv_vluxei64(vbool64_t vm, const int8_t *rs1, vuint64m1_t rs2,
                            size_t vl);
vint8mf4_t __riscv_vluxei64(vbool32_t vm, const int8_t *rs1, vuint64m2_t rs2,
                            size_t vl);
vint8mf2_t __riscv_vluxei64(vbool16_t vm, const int8_t *rs1, vuint64m4_t rs2,
                            size_t vl);
vint8m1_t __riscv_vluxei64(vbool8_t vm, const int8_t *rs1, vuint64m8_t rs2,
                           size_t vl);
vint16mf4_t __riscv_vluxei8(vbool64_t vm, const int16_t *rs1, vuint8mf8_t rs2,
                            size_t vl);
vint16mf2_t __riscv_vluxei8(vbool32_t vm, const int16_t *rs1, vuint8mf4_t rs2,
                            size_t vl);
vint16m1_t __riscv_vluxei8(vbool16_t vm, const int16_t *rs1, vuint8mf2_t rs2,
                           size_t vl);
vint16m2_t __riscv_vluxei8(vbool8_t vm, const int16_t *rs1, vuint8m1_t rs2,
                           size_t vl);
vint16m4_t __riscv_vluxei8(vbool4_t vm, const int16_t *rs1, vuint8m2_t rs2,
                           size_t vl);
vint16m8_t __riscv_vluxei8(vbool2_t vm, const int16_t *rs1, vuint8m4_t rs2,
                           size_t vl);
vint16mf4_t __riscv_vluxei16(vbool64_t vm, const int16_t *rs1, vuint16mf4_t rs2,
                             size_t vl);
vint16mf2_t __riscv_vluxei16(vbool32_t vm, const int16_t *rs1, vuint16mf2_t rs2,
                             size_t vl);
vint16m1_t __riscv_vluxei16(vbool16_t vm, const int16_t *rs1, vuint16m1_t rs2,
                            size_t vl);
vint16m2_t __riscv_vluxei16(vbool8_t vm, const int16_t *rs1, vuint16m2_t rs2,
                            size_t vl);
vint16m4_t __riscv_vluxei16(vbool4_t vm, const int16_t *rs1, vuint16m4_t rs2,
                            size_t vl);
vint16m8_t __riscv_vluxei16(vbool2_t vm, const int16_t *rs1, vuint16m8_t rs2,
                            size_t vl);
vint16mf4_t __riscv_vluxei32(vbool64_t vm, const int16_t *rs1, vuint32mf2_t rs2,
                             size_t vl);
vint16mf2_t __riscv_vluxei32(vbool32_t vm, const int16_t *rs1, vuint32m1_t rs2,
                             size_t vl);
vint16m1_t __riscv_vluxei32(vbool16_t vm, const int16_t *rs1, vuint32m2_t rs2,
                            size_t vl);
vint16m2_t __riscv_vluxei32(vbool8_t vm, const int16_t *rs1, vuint32m4_t rs2,
```

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                              size_t vl);
vint16m4_t __riscv_vluxei32(vbool4_t vm, const int16_t *rs1, vuint32m8_t rs2,
                              size_t vl);
vint16mf4_t __riscv_vluxei64(vbool64_t vm, const int16_t *rs1, vuint64m1_t rs2,
                               size_t vl);
vint16mf2_t __riscv_vluxei64(vbool32_t vm, const int16_t *rs1, vuint64m2_t rs2,
                               size_t vl);
vint16m1_t __riscv_vluxei64(vbool16_t vm, const int16_t *rs1, vuint64m4_t rs2,
                              size_t vl);
vint16m2_t __riscv_vluxei64(vbool8_t vm, const int16_t *rs1, vuint64m8_t rs2,
                              size_t vl);
vint32mf2_t __riscv_vluxei8(vbool64_t vm, const int32_t *rs1, vuint8mf8_t rs2,
                              size_t vl);
vint32m1_t __riscv_vluxei8(vbool32_t vm, const int32_t *rs1, vuint8mf4_t rs2,
                             size_t vl);
vint32m2_t __riscv_vluxei8(vbool16_t vm, const int32_t *rs1, vuint8mf2_t rs2,
                             size_t vl);
vint32m4_t __riscv_vluxei8(vbool8_t vm, const int32_t *rs1, vuint8m1_t rs2,
                             size_t vl);
vint32m8_t __riscv_vluxei8(vbool4_t vm, const int32_t *rs1, vuint8m2_t rs2,
                             size_t vl);
vint32mf2_t __riscv_vluxei16(vbool64_t vm, const int32_t *rs1, vuint16mf4_t rs2,
                               size_t vl);
vint32m1_t __riscv_vluxei16(vbool32_t vm, const int32_t *rs1, vuint16mf2_t rs2,
                              size_t vl);
vint32m2_t __riscv_vluxei16(vbool16_t vm, const int32_t *rs1, vuint16m1_t rs2,
                              size_t vl);
vint32m4_t __riscv_vluxei16(vbool8_t vm, const int32_t *rs1, vuint16m2_t rs2,
                              size_t vl);
vint32m8_t __riscv_vluxei16(vbool4_t vm, const int32_t *rs1, vuint16m4_t rs2,
                              size_t vl);
vint32mf2_t __riscv_vluxei32(vbool64_t vm, const int32_t *rs1, vuint32mf2_t rs2,
                               size_t vl);
vint32m1_t __riscv_vluxei32(vbool32_t vm, const int32_t *rs1, vuint32m1_t rs2,
                              size_t vl);
vint32m2_t __riscv_vluxei32(vbool16_t vm, const int32_t *rs1, vuint32m2_t rs2,
                              size_t vl);
vint32m4_t __riscv_vluxei32(vbool8_t vm, const int32_t *rs1, vuint32m4_t rs2,
                              size_t vl);
vint32m8_t __riscv_vluxei32(vbool4_t vm, const int32_t *rs1, vuint32m8_t rs2,
                              size_t vl);
vint32mf2_t __riscv_vluxei64(vbool64_t vm, const int32_t *rs1, vuint64m1_t rs2,
                               size_t vl);
vint32m1_t __riscv_vluxei64(vbool32_t vm, const int32_t *rs1, vuint64m2_t rs2,
                              size_t vl);
vint32m2_t __riscv_vluxei64(vbool16_t vm, const int32_t *rs1, vuint64m4_t rs2,
                              size_t vl);
vint32m4_t __riscv_vluxei64(vbool8_t vm, const int32_t *rs1, vuint64m8_t rs2,
                              size_t vl);
vint64m1_t __riscv_vluxei8(vbool64_t vm, const int64_t *rs1, vuint8mf8_t rs2,
                             size_t vl);
vint64m2_t __riscv_vluxei8(vbool32_t vm, const int64_t *rs1, vuint8mf4_t rs2,
                             size_t vl);
vint64m4_t __riscv_vluxei8(vbool16_t vm, const int64_t *rs1, vuint8mf2_t rs2,
                             size_t vl);
vint64m8_t __riscv_vluxei8(vbool8_t vm, const int64_t *rs1, vuint8m1_t rs2,
                             size_t vl);
vint64m1_t __riscv_vluxei16(vbool64_t vm, const int64_t *rs1, vuint16mf4_t rs2,
                              size_t vl);
vint64m2_t __riscv_vluxei16(vbool32_t vm, const int64_t *rs1, vuint16mf2_t rs2,
                              size_t vl);
vint64m4_t __riscv_vluxei16(vbool16_t vm, const int64_t *rs1, vuint16m1_t rs2,
                              size_t vl);
vint64m8_t __riscv_vluxei16(vbool8_t vm, const int64_t *rs1, vuint16m2_t rs2,
                              size_t vl);
vint64m1_t __riscv_vluxei32(vbool64_t vm, const int64_t *rs1, vuint32mf2_t rs2,
                              size_t vl);
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vint64m2_t __riscv_vluxei32(vbool32_t vm, const int64_t *rs1, vuint32m1_t rs2,
                            size_t vl);
vint64m4_t __riscv_vluxei32(vbool16_t vm, const int64_t *rs1, vuint32m2_t rs2,
                            size_t vl);
vint64m8_t __riscv_vluxei32(vbool8_t vm, const int64_t *rs1, vuint32m4_t rs2,
                            size_t vl);
vint64m1_t __riscv_vluxei64(vbool64_t vm, const int64_t *rs1, vuint64m1_t rs2,
                            size_t vl);
vint64m2_t __riscv_vluxei64(vbool32_t vm, const int64_t *rs1, vuint64m2_t rs2,
                            size_t vl);
vint64m4_t __riscv_vluxei64(vbool16_t vm, const int64_t *rs1, vuint64m4_t rs2,
                            size_t vl);
vint64m8_t __riscv_vluxei64(vbool8_t vm, const int64_t *rs1, vuint64m8_t rs2,
                            size_t vl);
vuint8mf8_t __riscv_vloxei8(vbool64_t vm, const uint8_t *rs1, vuint8mf8_t rs2,
                            size_t vl);
vuint8mf4_t __riscv_vloxei8(vbool32_t vm, const uint8_t *rs1, vuint8mf4_t rs2,
                            size_t vl);
vuint8mf2_t __riscv_vloxei8(vbool16_t vm, const uint8_t *rs1, vuint8mf2_t rs2,
                            size_t vl);
vuint8m1_t __riscv_vloxei8(vbool8_t vm, const uint8_t *rs1, vuint8m1_t rs2,
                           size_t vl);
vuint8m2_t __riscv_vloxei8(vbool4_t vm, const uint8_t *rs1, vuint8m2_t rs2,
                           size_t vl);
vuint8m4_t __riscv_vloxei8(vbool2_t vm, const uint8_t *rs1, vuint8m4_t rs2,
                           size_t vl);
vuint8m8_t __riscv_vloxei8(vbool1_t vm, const uint8_t *rs1, vuint8m8_t rs2,
                           size_t vl);
vuint8mf8_t __riscv_vloxei16(vbool64_t vm, const uint8_t *rs1, vuint16mf4_t rs2,
                             size_t vl);
vuint8mf4_t __riscv_vloxei16(vbool32_t vm, const uint8_t *rs1, vuint16mf2_t rs2,
                             size_t vl);
vuint8mf2_t __riscv_vloxei16(vbool16_t vm, const uint8_t *rs1, vuint16m1_t rs2,
                             size_t vl);
vuint8m1_t __riscv_vloxei16(vbool8_t vm, const uint8_t *rs1, vuint16m2_t rs2,
                            size_t vl);
vuint8m2_t __riscv_vloxei16(vbool4_t vm, const uint8_t *rs1, vuint16m4_t rs2,
                            size_t vl);
vuint8m4_t __riscv_vloxei16(vbool2_t vm, const uint8_t *rs1, vuint16m8_t rs2,
                            size_t vl);
vuint8mf8_t __riscv_vloxei32(vbool64_t vm, const uint8_t *rs1, vuint32mf2_t rs2,
                             size_t vl);
vuint8mf4_t __riscv_vloxei32(vbool32_t vm, const uint8_t *rs1, vuint32m1_t rs2,
                             size_t vl);
vuint8mf2_t __riscv_vloxei32(vbool16_t vm, const uint8_t *rs1, vuint32m2_t rs2,
                             size_t vl);
vuint8m1_t __riscv_vloxei32(vbool8_t vm, const uint8_t *rs1, vuint32m4_t rs2,
                            size_t vl);
vuint8m2_t __riscv_vloxei32(vbool4_t vm, const uint8_t *rs1, vuint32m8_t rs2,
                            size_t vl);
vuint8mf8_t __riscv_vloxei64(vbool64_t vm, const uint8_t *rs1, vuint64m1_t rs2,
                             size_t vl);
vuint8mf4_t __riscv_vloxei64(vbool32_t vm, const uint8_t *rs1, vuint64m2_t rs2,
                             size_t vl);
vuint8mf2_t __riscv_vloxei64(vbool16_t vm, const uint8_t *rs1, vuint64m4_t rs2,
                             size_t vl);
vuint8m1_t __riscv_vloxei64(vbool8_t vm, const uint8_t *rs1, vuint64m8_t rs2,
                            size_t vl);
vuint16mf4_t __riscv_vloxei8(vbool64_t vm, const uint16_t *rs1, vuint8mf8_t rs2,
                             size_t vl);
vuint16mf2_t __riscv_vloxei8(vbool32_t vm, const uint16_t *rs1, vuint8mf4_t rs2,
                             size_t vl);
vuint16m1_t __riscv_vloxei8(vbool16_t vm, const uint16_t *rs1, vuint8mf2_t rs2,
                            size_t vl);
vuint16m2_t __riscv_vloxei8(vbool8_t vm, const uint16_t *rs1, vuint8m1_t rs2,
                            size_t vl);
vuint16m4_t __riscv_vloxei8(vbool4_t vm, const uint16_t *rs1, vuint8m2_t rs2,
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                             size_t vl);
vuint16m8_t __riscv_vloxei8(vbool2_t vm, const uint16_t *rs1, vuint8m4_t rs2,
                            size_t vl);
vuint16mf4_t __riscv_vloxei16(vbool64_t vm, const uint16_t *rs1,
                              vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei16(vbool32_t vm, const uint16_t *rs1,
                              vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei16(vbool16_t vm, const uint16_t *rs1, vuint16m1_t rs2,
                             size_t vl);
vuint16m2_t __riscv_vloxei16(vbool8_t vm, const uint16_t *rs1, vuint16m2_t rs2,
                             size_t vl);
vuint16m4_t __riscv_vloxei16(vbool4_t vm, const uint16_t *rs1, vuint16m4_t rs2,
                             size_t vl);
vuint16m8_t __riscv_vloxei16(vbool2_t vm, const uint16_t *rs1, vuint16m8_t rs2,
                             size_t vl);
vuint16mf4_t __riscv_vloxei32(vbool64_t vm, const uint16_t *rs1,
                              vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei32(vbool32_t vm, const uint16_t *rs1,
                              vuint32m1_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei32(vbool16_t vm, const uint16_t *rs1, vuint32m2_t rs2,
                             size_t vl);
vuint16m2_t __riscv_vloxei32(vbool8_t vm, const uint16_t *rs1, vuint32m4_t rs2,
                             size_t vl);
vuint16m4_t __riscv_vloxei32(vbool4_t vm, const uint16_t *rs1, vuint32m8_t rs2,
                             size_t vl);
vuint16mf4_t __riscv_vloxei64(vbool64_t vm, const uint16_t *rs1,
                              vuint64m1_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei64(vbool32_t vm, const uint16_t *rs1,
                              vuint64m2_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei64(vbool16_t vm, const uint16_t *rs1, vuint64m4_t rs2,
                             size_t vl);
vuint16m2_t __riscv_vloxei64(vbool8_t vm, const uint16_t *rs1, vuint64m8_t rs2,
                             size_t vl);
vuint32mf2_t __riscv_vloxei8(vbool64_t vm, const uint32_t *rs1, vuint8mf8_t rs2,
                             size_t vl);
vuint32m1_t __riscv_vloxei8(vbool32_t vm, const uint32_t *rs1, vuint8mf4_t rs2,
                            size_t vl);
vuint32m2_t __riscv_vloxei8(vbool16_t vm, const uint32_t *rs1, vuint8mf2_t rs2,
                            size_t vl);
vuint32m4_t __riscv_vloxei8(vbool8_t vm, const uint32_t *rs1, vuint8m1_t rs2,
                            size_t vl);
vuint32m8_t __riscv_vloxei8(vbool4_t vm, const uint32_t *rs1, vuint8m2_t rs2,
                            size_t vl);
vuint32mf2_t __riscv_vloxei16(vbool64_t vm, const uint32_t *rs1,
                              vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei16(vbool32_t vm, const uint32_t *rs1,
                             vuint16mf2_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei16(vbool16_t vm, const uint32_t *rs1, vuint16m1_t rs2,
                             size_t vl);
vuint32m4_t __riscv_vloxei16(vbool8_t vm, const uint32_t *rs1, vuint16m2_t rs2,
                             size_t vl);
vuint32m8_t __riscv_vloxei16(vbool4_t vm, const uint32_t *rs1, vuint16m4_t rs2,
                             size_t vl);
vuint32mf2_t __riscv_vloxei32(vbool64_t vm, const uint32_t *rs1,
                              vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei32(vbool32_t vm, const uint32_t *rs1, vuint32m1_t rs2,
                             size_t vl);
vuint32m2_t __riscv_vloxei32(vbool16_t vm, const uint32_t *rs1, vuint32m2_t rs2,
                             size_t vl);
vuint32m4_t __riscv_vloxei32(vbool8_t vm, const uint32_t *rs1, vuint32m4_t rs2,
                             size_t vl);
vuint32m8_t __riscv_vloxei32(vbool4_t vm, const uint32_t *rs1, vuint32m8_t rs2,
                             size_t vl);
vuint32mf2_t __riscv_vloxei64(vbool64_t vm, const uint32_t *rs1,
                              vuint64m1_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei64(vbool32_t vm, const uint32_t *rs1, vuint64m2_t rs2,
                             size_t vl);
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vuint32m2_t __riscv_vloxei64(vbool16_t vm, const uint32_t *rs1, vuint64m4_t rs2,
                             size_t vl);
vuint32m4_t __riscv_vloxei64(vbool8_t vm, const uint32_t *rs1, vuint64m8_t rs2,
                             size_t vl);
vuint64m1_t __riscv_vloxei8(vbool64_t vm, const uint64_t *rs1, vuint8mf8_t rs2,
                            size_t vl);
vuint64m2_t __riscv_vloxei8(vbool32_t vm, const uint64_t *rs1, vuint8mf4_t rs2,
                            size_t vl);
vuint64m4_t __riscv_vloxei8(vbool16_t vm, const uint64_t *rs1, vuint8mf2_t rs2,
                            size_t vl);
vuint64m8_t __riscv_vloxei8(vbool8_t vm, const uint64_t *rs1, vuint8m1_t rs2,
                            size_t vl);
vuint64m1_t __riscv_vloxei16(vbool64_t vm, const uint64_t *rs1,
                             vuint16mf4_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei16(vbool32_t vm, const uint64_t *rs1,
                             vuint16mf2_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei16(vbool16_t vm, const uint64_t *rs1, vuint16m1_t rs2,
                             size_t vl);
vuint64m8_t __riscv_vloxei16(vbool8_t vm, const uint64_t *rs1, vuint16m2_t rs2,
                             size_t vl);
vuint64m1_t __riscv_vloxei32(vbool64_t vm, const uint64_t *rs1,
                             vuint32mf2_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei32(vbool32_t vm, const uint64_t *rs1, vuint32m1_t rs2,
                             size_t vl);
vuint64m4_t __riscv_vloxei32(vbool16_t vm, const uint64_t *rs1, vuint32m2_t rs2,
                             size_t vl);
vuint64m8_t __riscv_vloxei32(vbool8_t vm, const uint64_t *rs1, vuint32m4_t rs2,
                             size_t vl);
vuint64m1_t __riscv_vloxei64(vbool64_t vm, const uint64_t *rs1, vuint64m1_t rs2,
                             size_t vl);
vuint64m2_t __riscv_vloxei64(vbool32_t vm, const uint64_t *rs1, vuint64m2_t rs2,
                             size_t vl);
vuint64m4_t __riscv_vloxei64(vbool16_t vm, const uint64_t *rs1, vuint64m4_t rs2,
                             size_t vl);
vuint64m8_t __riscv_vloxei64(vbool8_t vm, const uint64_t *rs1, vuint64m8_t rs2,
                             size_t vl);
vuint8mf8_t __riscv_vluxei8(vbool64_t vm, const uint8_t *rs1, vuint8mf8_t rs2,
                            size_t vl);
vuint8mf4_t __riscv_vluxei8(vbool32_t vm, const uint8_t *rs1, vuint8mf4_t rs2,
                            size_t vl);
vuint8mf2_t __riscv_vluxei8(vbool16_t vm, const uint8_t *rs1, vuint8mf2_t rs2,
                            size_t vl);
vuint8m1_t __riscv_vluxei8(vbool8_t vm, const uint8_t *rs1, vuint8m1_t rs2,
                           size_t vl);
vuint8m2_t __riscv_vluxei8(vbool4_t vm, const uint8_t *rs1, vuint8m2_t rs2,
                           size_t vl);
vuint8m4_t __riscv_vluxei8(vbool2_t vm, const uint8_t *rs1, vuint8m4_t rs2,
                           size_t vl);
vuint8m8_t __riscv_vluxei8(vbool1_t vm, const uint8_t *rs1, vuint8m8_t rs2,
                           size_t vl);
vuint8mf8_t __riscv_vluxei16(vbool64_t vm, const uint8_t *rs1, vuint16mf4_t rs2,
                             size_t vl);
vuint8mf4_t __riscv_vluxei16(vbool32_t vm, const uint8_t *rs1, vuint16mf2_t rs2,
                             size_t vl);
vuint8mf2_t __riscv_vluxei16(vbool16_t vm, const uint8_t *rs1, vuint16m1_t rs2,
                             size_t vl);
vuint8m1_t __riscv_vluxei16(vbool8_t vm, const uint8_t *rs1, vuint16m2_t rs2,
                            size_t vl);
vuint8m2_t __riscv_vluxei16(vbool4_t vm, const uint8_t *rs1, vuint16m4_t rs2,
                            size_t vl);
vuint8m4_t __riscv_vluxei16(vbool2_t vm, const uint8_t *rs1, vuint16m8_t rs2,
                            size_t vl);
vuint8mf8_t __riscv_vluxei32(vbool64_t vm, const uint8_t *rs1, vuint32mf2_t rs2,
                             size_t vl);
vuint8mf4_t __riscv_vluxei32(vbool32_t vm, const uint8_t *rs1, vuint32m1_t rs2,
                             size_t vl);
vuint8mf2_t __riscv_vluxei32(vbool16_t vm, const uint8_t *rs1, vuint32m2_t rs2,
```

```
                             size_t vl);
vuint8m1_t __riscv_vluxei32(vbool8_t vm, const uint8_t *rs1, vuint32m4_t rs2,
                            size_t vl);
vuint8m2_t __riscv_vluxei32(vbool4_t vm, const uint8_t *rs1, vuint32m8_t rs2,
                            size_t vl);
vuint8mf8_t __riscv_vluxei64(vbool64_t vm, const uint8_t *rs1, vuint64m1_t rs2,
                             size_t vl);
vuint8mf4_t __riscv_vluxei64(vbool32_t vm, const uint8_t *rs1, vuint64m2_t rs2,
                             size_t vl);
vuint8mf2_t __riscv_vluxei64(vbool16_t vm, const uint8_t *rs1, vuint64m4_t rs2,
                             size_t vl);
vuint8m1_t __riscv_vluxei64(vbool8_t vm, const uint8_t *rs1, vuint64m8_t rs2,
                            size_t vl);
vuint16mf4_t __riscv_vluxei8(vbool64_t vm, const uint16_t *rs1, vuint8mf8_t rs2,
                             size_t vl);
vuint16mf2_t __riscv_vluxei8(vbool32_t vm, const uint16_t *rs1, vuint8mf4_t rs2,
                             size_t vl);
vuint16m1_t __riscv_vluxei8(vbool16_t vm, const uint16_t *rs1, vuint8mf2_t rs2,
                            size_t vl);
vuint16m2_t __riscv_vluxei8(vbool8_t vm, const uint16_t *rs1, vuint8m1_t rs2,
                            size_t vl);
vuint16m4_t __riscv_vluxei8(vbool4_t vm, const uint16_t *rs1, vuint8m2_t rs2,
                            size_t vl);
vuint16m8_t __riscv_vluxei8(vbool2_t vm, const uint16_t *rs1, vuint8m4_t rs2,
                            size_t vl);
vuint16mf4_t __riscv_vluxei16(vbool64_t vm, const uint16_t *rs1,
                              vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei16(vbool32_t vm, const uint16_t *rs1,
                              vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei16(vbool16_t vm, const uint16_t *rs1, vuint16m1_t rs2,
                             size_t vl);
vuint16m2_t __riscv_vluxei16(vbool8_t vm, const uint16_t *rs1, vuint16m2_t rs2,
                             size_t vl);
vuint16m4_t __riscv_vluxei16(vbool4_t vm, const uint16_t *rs1, vuint16m4_t rs2,
                             size_t vl);
vuint16m8_t __riscv_vluxei16(vbool2_t vm, const uint16_t *rs1, vuint16m8_t rs2,
                             size_t vl);
vuint16mf4_t __riscv_vluxei32(vbool64_t vm, const uint16_t *rs1,
                              vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei32(vbool32_t vm, const uint16_t *rs1,
                              vuint32m1_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei32(vbool16_t vm, const uint16_t *rs1, vuint32m2_t rs2,
                             size_t vl);
vuint16m2_t __riscv_vluxei32(vbool8_t vm, const uint16_t *rs1, vuint32m4_t rs2,
                             size_t vl);
vuint16m4_t __riscv_vluxei32(vbool4_t vm, const uint16_t *rs1, vuint32m8_t rs2,
                             size_t vl);
vuint16mf4_t __riscv_vluxei64(vbool64_t vm, const uint16_t *rs1,
                              vuint64m1_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei64(vbool32_t vm, const uint16_t *rs1,
                              vuint64m2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei64(vbool16_t vm, const uint16_t *rs1, vuint64m4_t rs2,
                             size_t vl);
vuint16m2_t __riscv_vluxei64(vbool8_t vm, const uint16_t *rs1, vuint64m8_t rs2,
                             size_t vl);
vuint32mf2_t __riscv_vluxei8(vbool64_t vm, const uint32_t *rs1, vuint8mf8_t rs2,
                             size_t vl);
vuint32m1_t __riscv_vluxei8(vbool32_t vm, const uint32_t *rs1, vuint8mf4_t rs2,
                            size_t vl);
vuint32m2_t __riscv_vluxei8(vbool16_t vm, const uint32_t *rs1, vuint8mf2_t rs2,
                            size_t vl);
vuint32m4_t __riscv_vluxei8(vbool8_t vm, const uint32_t *rs1, vuint8m1_t rs2,
                            size_t vl);
vuint32m8_t __riscv_vluxei8(vbool4_t vm, const uint32_t *rs1, vuint8m2_t rs2,
                            size_t vl);
vuint32mf2_t __riscv_vluxei16(vbool64_t vm, const uint32_t *rs1,
                              vuint16mf4_t rs2, size_t vl);
```

```
vuint32m1_t __riscv_vluxei16(vbool32_t vm, const uint32_t *rs1,
                             vuint16mf2_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei16(vbool16_t vm, const uint32_t *rs1, vuint16m1_t rs2,
                             size_t vl);
vuint32m4_t __riscv_vluxei16(vbool8_t vm, const uint32_t *rs1, vuint16m2_t rs2,
                             size_t vl);
vuint32m8_t __riscv_vluxei16(vbool4_t vm, const uint32_t *rs1, vuint16m4_t rs2,
                             size_t vl);
vuint32mf2_t __riscv_vluxei32(vbool64_t vm, const uint32_t *rs1,
                              vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei32(vbool32_t vm, const uint32_t *rs1, vuint32m1_t rs2,
                             size_t vl);
vuint32m2_t __riscv_vluxei32(vbool16_t vm, const uint32_t *rs1, vuint32m2_t rs2,
                             size_t vl);
vuint32m4_t __riscv_vluxei32(vbool8_t vm, const uint32_t *rs1, vuint32m4_t rs2,
                             size_t vl);
vuint32m8_t __riscv_vluxei32(vbool4_t vm, const uint32_t *rs1, vuint32m8_t rs2,
                             size_t vl);
vuint32mf2_t __riscv_vluxei64(vbool64_t vm, const uint32_t *rs1,
                              vuint64m1_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei64(vbool32_t vm, const uint32_t *rs1, vuint64m2_t rs2,
                             size_t vl);
vuint32m2_t __riscv_vluxei64(vbool16_t vm, const uint32_t *rs1, vuint64m4_t rs2,
                             size_t vl);
vuint32m4_t __riscv_vluxei64(vbool8_t vm, const uint32_t *rs1, vuint64m8_t rs2,
                             size_t vl);
vuint64m1_t __riscv_vluxei8(vbool64_t vm, const uint64_t *rs1, vuint8mf8_t rs2,
                            size_t vl);
vuint64m2_t __riscv_vluxei8(vbool32_t vm, const uint64_t *rs1, vuint8mf4_t rs2,
                            size_t vl);
vuint64m4_t __riscv_vluxei8(vbool16_t vm, const uint64_t *rs1, vuint8mf2_t rs2,
                            size_t vl);
vuint64m8_t __riscv_vluxei8(vbool8_t vm, const uint64_t *rs1, vuint8m1_t rs2,
                            size_t vl);
vuint64m1_t __riscv_vluxei16(vbool64_t vm, const uint64_t *rs1,
                             vuint16mf4_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei16(vbool32_t vm, const uint64_t *rs1,
                             vuint16mf2_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei16(vbool16_t vm, const uint64_t *rs1, vuint16m1_t rs2,
                             size_t vl);
vuint64m8_t __riscv_vluxei16(vbool8_t vm, const uint64_t *rs1, vuint16m2_t rs2,
                             size_t vl);
vuint64m1_t __riscv_vluxei32(vbool64_t vm, const uint64_t *rs1,
                             vuint32mf2_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei32(vbool32_t vm, const uint64_t *rs1, vuint32m1_t rs2,
                             size_t vl);
vuint64m4_t __riscv_vluxei32(vbool16_t vm, const uint64_t *rs1, vuint32m2_t rs2,
                             size_t vl);
vuint64m8_t __riscv_vluxei32(vbool8_t vm, const uint64_t *rs1, vuint32m4_t rs2,
                             size_t vl);
vuint64m1_t __riscv_vluxei64(vbool64_t vm, const uint64_t *rs1, vuint64m1_t rs2,
                             size_t vl);
vuint64m2_t __riscv_vluxei64(vbool32_t vm, const uint64_t *rs1, vuint64m2_t rs2,
                             size_t vl);
vuint64m4_t __riscv_vluxei64(vbool16_t vm, const uint64_t *rs1, vuint64m4_t rs2,
                             size_t vl);
vuint64m8_t __riscv_vluxei64(vbool8_t vm, const uint64_t *rs1, vuint64m8_t rs2,
                             size_t vl);
```

C.1.7. Vector Indexed Store Intrinsics

```
void __riscv_vsoxei8(_Float16 *rs1, vuint8mf8_t rs2, vfloat16mf4_t vs3,
                     size_t vl);
void __riscv_vsoxei8(_Float16 *rs1, vuint8mf4_t rs2, vfloat16mf2_t vs3,
                     size_t vl);
```

```
void __riscv_vsoxei8(_Float16 *rs1, vuint8mf2_t rs2, vfloat16m1_t vs3,
                     size_t vl);
void __riscv_vsoxei8(_Float16 *rs1, vuint8m1_t rs2, vfloat16m2_t vs3,
                     size_t vl);
void __riscv_vsoxei8(_Float16 *rs1, vuint8m2_t rs2, vfloat16m4_t vs3,
                     size_t vl);
void __riscv_vsoxei8(_Float16 *rs1, vuint8m4_t rs2, vfloat16m8_t vs3,
                     size_t vl);
void __riscv_vsoxei16(_Float16 *rs1, vuint16mf4_t rs2, vfloat16mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei16(_Float16 *rs1, vuint16mf2_t rs2, vfloat16mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(_Float16 *rs1, vuint16m1_t rs2, vfloat16m1_t vs3,
                      size_t vl);
void __riscv_vsoxei16(_Float16 *rs1, vuint16m2_t rs2, vfloat16m2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(_Float16 *rs1, vuint16m4_t rs2, vfloat16m4_t vs3,
                      size_t vl);
void __riscv_vsoxei16(_Float16 *rs1, vuint16m8_t rs2, vfloat16m8_t vs3,
                      size_t vl);
void __riscv_vsoxei32(_Float16 *rs1, vuint32mf2_t rs2, vfloat16mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei32(_Float16 *rs1, vuint32m1_t rs2, vfloat16mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(_Float16 *rs1, vuint32m2_t rs2, vfloat16m1_t vs3,
                      size_t vl);
void __riscv_vsoxei32(_Float16 *rs1, vuint32m4_t rs2, vfloat16m2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(_Float16 *rs1, vuint32m8_t rs2, vfloat16m4_t vs3,
                      size_t vl);
void __riscv_vsoxei64(_Float16 *rs1, vuint64m1_t rs2, vfloat16mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei64(_Float16 *rs1, vuint64m2_t rs2, vfloat16mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei64(_Float16 *rs1, vuint64m4_t rs2, vfloat16m1_t vs3,
                      size_t vl);
void __riscv_vsoxei64(_Float16 *rs1, vuint64m8_t rs2, vfloat16m2_t vs3,
                      size_t vl);
void __riscv_vsoxei8(float *rs1, vuint8mf8_t rs2, vfloat32mf2_t vs3, size_t vl);
void __riscv_vsoxei8(float *rs1, vuint8mf4_t rs2, vfloat32m1_t vs3, size_t vl);
void __riscv_vsoxei8(float *rs1, vuint8mf2_t rs2, vfloat32m2_t vs3, size_t vl);
void __riscv_vsoxei8(float *rs1, vuint8m1_t rs2, vfloat32m4_t vs3, size_t vl);
void __riscv_vsoxei8(float *rs1, vuint8m2_t rs2, vfloat32m8_t vs3, size_t vl);
void __riscv_vsoxei16(float *rs1, vuint16mf4_t rs2, vfloat32mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(float *rs1, vuint16mf2_t rs2, vfloat32m1_t vs3,
                      size_t vl);
void __riscv_vsoxei16(float *rs1, vuint16m1_t rs2, vfloat32m2_t vs3, size_t vl);
void __riscv_vsoxei16(float *rs1, vuint16m2_t rs2, vfloat32m4_t vs3, size_t vl);
void __riscv_vsoxei16(float *rs1, vuint16m4_t rs2, vfloat32m8_t vs3, size_t vl);
void __riscv_vsoxei32(float *rs1, vuint32mf2_t rs2, vfloat32mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(float *rs1, vuint32m1_t rs2, vfloat32m1_t vs3, size_t vl);
void __riscv_vsoxei32(float *rs1, vuint32m2_t rs2, vfloat32m2_t vs3, size_t vl);
void __riscv_vsoxei32(float *rs1, vuint32m4_t rs2, vfloat32m4_t vs3, size_t vl);
void __riscv_vsoxei32(float *rs1, vuint32m8_t rs2, vfloat32m8_t vs3, size_t vl);
void __riscv_vsoxei64(float *rs1, vuint64m1_t rs2, vfloat32mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei64(float *rs1, vuint64m2_t rs2, vfloat32m1_t vs3, size_t vl);
void __riscv_vsoxei64(float *rs1, vuint64m4_t rs2, vfloat32m2_t vs3, size_t vl);
void __riscv_vsoxei64(float *rs1, vuint64m8_t rs2, vfloat32m4_t vs3, size_t vl);
void __riscv_vsoxei8(double *rs1, vuint8mf8_t rs2, vfloat64m1_t vs3, size_t vl);
void __riscv_vsoxei8(double *rs1, vuint8mf4_t rs2, vfloat64m2_t vs3, size_t vl);
void __riscv_vsoxei8(double *rs1, vuint8mf2_t rs2, vfloat64m4_t vs3, size_t vl);
void __riscv_vsoxei8(double *rs1, vuint8m1_t rs2, vfloat64m8_t vs3, size_t vl);
void __riscv_vsoxei16(double *rs1, vuint16mf4_t rs2, vfloat64m1_t vs3,
                      size_t vl);
```

```
void __riscv_vsoxei16(double *rs1, vuint16mf2_t rs2, vfloat64m2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(double *rs1, vuint16m1_t rs2, vfloat64m4_t vs3,
                      size_t vl);
void __riscv_vsoxei16(double *rs1, vuint16m2_t rs2, vfloat64m8_t vs3,
                      size_t vl);
void __riscv_vsoxei32(double *rs1, vuint32mf2_t rs2, vfloat64m1_t vs3,
                      size_t vl);
void __riscv_vsoxei32(double *rs1, vuint32m1_t rs2, vfloat64m2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(double *rs1, vuint32m2_t rs2, vfloat64m4_t vs3,
                      size_t vl);
void __riscv_vsoxei32(double *rs1, vuint32m4_t rs2, vfloat64m8_t vs3,
                      size_t vl);
void __riscv_vsoxei64(double *rs1, vuint64m1_t rs2, vfloat64m1_t vs3,
                      size_t vl);
void __riscv_vsoxei64(double *rs1, vuint64m2_t rs2, vfloat64m2_t vs3,
                      size_t vl);
void __riscv_vsoxei64(double *rs1, vuint64m4_t rs2, vfloat64m4_t vs3,
                      size_t vl);
void __riscv_vsoxei64(double *rs1, vuint64m8_t rs2, vfloat64m8_t vs3,
                      size_t vl);
void __riscv_vsuxei8(_Float16 *rs1, vuint8mf8_t rs2, vfloat16mf4_t vs3,
                     size_t vl);
void __riscv_vsuxei8(_Float16 *rs1, vuint8mf4_t rs2, vfloat16mf2_t vs3,
                     size_t vl);
void __riscv_vsuxei8(_Float16 *rs1, vuint8mf2_t rs2, vfloat16m1_t vs3,
                     size_t vl);
void __riscv_vsuxei8(_Float16 *rs1, vuint8m1_t rs2, vfloat16m2_t vs3,
                     size_t vl);
void __riscv_vsuxei8(_Float16 *rs1, vuint8m2_t rs2, vfloat16m4_t vs3,
                     size_t vl);
void __riscv_vsuxei8(_Float16 *rs1, vuint8m4_t rs2, vfloat16m8_t vs3,
                     size_t vl);
void __riscv_vsuxei16(_Float16 *rs1, vuint16mf4_t rs2, vfloat16mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei16(_Float16 *rs1, vuint16mf2_t rs2, vfloat16mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(_Float16 *rs1, vuint16m1_t rs2, vfloat16m1_t vs3,
                      size_t vl);
void __riscv_vsuxei16(_Float16 *rs1, vuint16m2_t rs2, vfloat16m2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(_Float16 *rs1, vuint16m4_t rs2, vfloat16m4_t vs3,
                      size_t vl);
void __riscv_vsuxei16(_Float16 *rs1, vuint16m8_t rs2, vfloat16m8_t vs3,
                      size_t vl);
void __riscv_vsuxei32(_Float16 *rs1, vuint32mf2_t rs2, vfloat16mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei32(_Float16 *rs1, vuint32m1_t rs2, vfloat16mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei32(_Float16 *rs1, vuint32m2_t rs2, vfloat16m1_t vs3,
                      size_t vl);
void __riscv_vsuxei32(_Float16 *rs1, vuint32m4_t rs2, vfloat16m2_t vs3,
                      size_t vl);
void __riscv_vsuxei32(_Float16 *rs1, vuint32m8_t rs2, vfloat16m4_t vs3,
                      size_t vl);
void __riscv_vsuxei64(_Float16 *rs1, vuint64m1_t rs2, vfloat16mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei64(_Float16 *rs1, vuint64m2_t rs2, vfloat16mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei64(_Float16 *rs1, vuint64m4_t rs2, vfloat16m1_t vs3,
                      size_t vl);
void __riscv_vsuxei64(_Float16 *rs1, vuint64m8_t rs2, vfloat16m2_t vs3,
                      size_t vl);
void __riscv_vsuxei8(float *rs1, vuint8mf8_t rs2, vfloat32mf2_t vs3, size_t vl);
void __riscv_vsuxei8(float *rs1, vuint8mf4_t rs2, vfloat32m1_t vs3, size_t vl);
void __riscv_vsuxei8(float *rs1, vuint8mf2_t rs2, vfloat32m2_t vs3, size_t vl);
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void __riscv_vsuxei8(float *rs1, vuint8m1_t rs2, vfloat32m4_t vs3, size_t vl);
void __riscv_vsuxei8(float *rs1, vuint8m2_t rs2, vfloat32m8_t vs3, size_t vl);
void __riscv_vsuxei16(float *rs1, vuint16mf4_t rs2, vfloat32mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(float *rs1, vuint16mf2_t rs2, vfloat32m1_t vs3,
                      size_t vl);
void __riscv_vsuxei16(float *rs1, vuint16m1_t rs2, vfloat32m2_t vs3, size_t vl);
void __riscv_vsuxei16(float *rs1, vuint16m2_t rs2, vfloat32m4_t vs3, size_t vl);
void __riscv_vsuxei16(float *rs1, vuint16m4_t rs2, vfloat32m8_t vs3, size_t vl);
void __riscv_vsuxei32(float *rs1, vuint32mf2_t rs2, vfloat32mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei32(float *rs1, vuint32m1_t rs2, vfloat32m1_t vs3, size_t vl);
void __riscv_vsuxei32(float *rs1, vuint32m2_t rs2, vfloat32m2_t vs3, size_t vl);
void __riscv_vsuxei32(float *rs1, vuint32m4_t rs2, vfloat32m4_t vs3, size_t vl);
void __riscv_vsuxei32(float *rs1, vuint32m8_t rs2, vfloat32m8_t vs3, size_t vl);
void __riscv_vsuxei64(float *rs1, vuint64m1_t rs2, vfloat32mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei64(float *rs1, vuint64m2_t rs2, vfloat32m1_t vs3, size_t vl);
void __riscv_vsuxei64(float *rs1, vuint64m4_t rs2, vfloat32m2_t vs3, size_t vl);
void __riscv_vsuxei64(float *rs1, vuint64m8_t rs2, vfloat32m4_t vs3, size_t vl);
void __riscv_vsuxei8(double *rs1, vuint8mf8_t rs2, vfloat64m1_t vs3, size_t vl);
void __riscv_vsuxei8(double *rs1, vuint8mf4_t rs2, vfloat64m2_t vs3, size_t vl);
void __riscv_vsuxei8(double *rs1, vuint8mf2_t rs2, vfloat64m4_t vs3, size_t vl);
void __riscv_vsuxei8(double *rs1, vuint8m1_t rs2, vfloat64m8_t vs3, size_t vl);
void __riscv_vsuxei16(double *rs1, vuint16mf4_t rs2, vfloat64m1_t vs3,
                      size_t vl);
void __riscv_vsuxei16(double *rs1, vuint16mf2_t rs2, vfloat64m2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(double *rs1, vuint16m1_t rs2, vfloat64m4_t vs3,
                      size_t vl);
void __riscv_vsuxei16(double *rs1, vuint16m2_t rs2, vfloat64m8_t vs3,
                      size_t vl);
void __riscv_vsuxei32(double *rs1, vuint32mf2_t rs2, vfloat64m1_t vs3,
                      size_t vl);
void __riscv_vsuxei32(double *rs1, vuint32m1_t rs2, vfloat64m2_t vs3,
                      size_t vl);
void __riscv_vsuxei32(double *rs1, vuint32m2_t rs2, vfloat64m4_t vs3,
                      size_t vl);
void __riscv_vsuxei32(double *rs1, vuint32m4_t rs2, vfloat64m8_t vs3,
                      size_t vl);
void __riscv_vsuxei64(double *rs1, vuint64m1_t rs2, vfloat64m1_t vs3,
                      size_t vl);
void __riscv_vsuxei64(double *rs1, vuint64m2_t rs2, vfloat64m2_t vs3,
                      size_t vl);
void __riscv_vsuxei64(double *rs1, vuint64m4_t rs2, vfloat64m4_t vs3,
                      size_t vl);
void __riscv_vsuxei64(double *rs1, vuint64m8_t rs2, vfloat64m8_t vs3,
                      size_t vl);
void __riscv_vsoxei8(int8_t *rs1, vuint8mf8_t rs2, vint8mf8_t vs3, size_t vl);
void __riscv_vsoxei8(int8_t *rs1, vuint8mf4_t rs2, vint8mf4_t vs3, size_t vl);
void __riscv_vsoxei8(int8_t *rs1, vuint8mf2_t rs2, vint8mf2_t vs3, size_t vl);
void __riscv_vsoxei8(int8_t *rs1, vuint8m1_t rs2, vint8m1_t vs3, size_t vl);
void __riscv_vsoxei8(int8_t *rs1, vuint8m2_t rs2, vint8m2_t vs3, size_t vl);
void __riscv_vsoxei8(int8_t *rs1, vuint8m4_t rs2, vint8m4_t vs3, size_t vl);
void __riscv_vsoxei8(int8_t *rs1, vuint8m8_t rs2, vint8m8_t vs3, size_t vl);
void __riscv_vsoxei16(int8_t *rs1, vuint16mf4_t rs2, vint8mf8_t vs3, size_t vl);
void __riscv_vsoxei16(int8_t *rs1, vuint16mf2_t rs2, vint8mf4_t vs3, size_t vl);
void __riscv_vsoxei16(int8_t *rs1, vuint16m1_t rs2, vint8mf2_t vs3, size_t vl);
void __riscv_vsoxei16(int8_t *rs1, vuint16m2_t rs2, vint8m1_t vs3, size_t vl);
void __riscv_vsoxei16(int8_t *rs1, vuint16m4_t rs2, vint8m2_t vs3, size_t vl);
void __riscv_vsoxei16(int8_t *rs1, vuint16m8_t rs2, vint8m4_t vs3, size_t vl);
void __riscv_vsoxei32(int8_t *rs1, vuint32mf2_t rs2, vint8mf8_t vs3, size_t vl);
void __riscv_vsoxei32(int8_t *rs1, vuint32m1_t rs2, vint8mf4_t vs3, size_t vl);
void __riscv_vsoxei32(int8_t *rs1, vuint32m2_t rs2, vint8mf2_t vs3, size_t vl);
void __riscv_vsoxei32(int8_t *rs1, vuint32m4_t rs2, vint8m1_t vs3, size_t vl);
void __riscv_vsoxei32(int8_t *rs1, vuint32m8_t rs2, vint8m2_t vs3, size_t vl);
void __riscv_vsoxei64(int8_t *rs1, vuint64m1_t rs2, vint8mf8_t vs3, size_t vl);
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void __riscv_vsoxei64(int8_t *rs1, vuint64m2_t rs2, vint8mf4_t vs3, size_t vl);
void __riscv_vsoxei64(int8_t *rs1, vuint64m4_t rs2, vint8mf2_t vs3, size_t vl);
void __riscv_vsoxei64(int8_t *rs1, vuint64m8_t rs2, vint8m1_t vs3, size_t vl);
void __riscv_vsoxei8(int16_t *rs1, vuint8mf8_t rs2, vint16mf4_t vs3, size_t vl);
void __riscv_vsoxei8(int16_t *rs1, vuint8mf4_t rs2, vint16mf2_t vs3, size_t vl);
void __riscv_vsoxei8(int16_t *rs1, vuint8mf2_t rs2, vint16m1_t vs3, size_t vl);
void __riscv_vsoxei8(int16_t *rs1, vuint8m1_t rs2, vint16m2_t vs3, size_t vl);
void __riscv_vsoxei8(int16_t *rs1, vuint8m2_t rs2, vint16m4_t vs3, size_t vl);
void __riscv_vsoxei8(int16_t *rs1, vuint8m4_t rs2, vint16m8_t vs3, size_t vl);
void __riscv_vsoxei16(int16_t *rs1, vuint16mf4_t rs2, vint16mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei16(int16_t *rs1, vuint16mf2_t rs2, vint16mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(int16_t *rs1, vuint16m1_t rs2, vint16m1_t vs3, size_t vl);
void __riscv_vsoxei16(int16_t *rs1, vuint16m2_t rs2, vint16m2_t vs3, size_t vl);
void __riscv_vsoxei16(int16_t *rs1, vuint16m4_t rs2, vint16m4_t vs3, size_t vl);
void __riscv_vsoxei16(int16_t *rs1, vuint16m8_t rs2, vint16m8_t vs3, size_t vl);
void __riscv_vsoxei32(int16_t *rs1, vuint32mf2_t rs2, vint16mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei32(int16_t *rs1, vuint32m1_t rs2, vint16mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(int16_t *rs1, vuint32m2_t rs2, vint16m1_t vs3, size_t vl);
void __riscv_vsoxei32(int16_t *rs1, vuint32m4_t rs2, vint16m2_t vs3, size_t vl);
void __riscv_vsoxei32(int16_t *rs1, vuint32m8_t rs2, vint16m4_t vs3, size_t vl);
void __riscv_vsoxei64(int16_t *rs1, vuint64m1_t rs2, vint16mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei64(int16_t *rs1, vuint64m2_t rs2, vint16mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei64(int16_t *rs1, vuint64m4_t rs2, vint16m1_t vs3, size_t vl);
void __riscv_vsoxei64(int16_t *rs1, vuint64m8_t rs2, vint16m2_t vs3, size_t vl);
void __riscv_vsoxei8(int32_t *rs1, vuint8mf8_t rs2, vint32mf2_t vs3, size_t vl);
void __riscv_vsoxei8(int32_t *rs1, vuint8mf4_t rs2, vint32m1_t vs3, size_t vl);
void __riscv_vsoxei8(int32_t *rs1, vuint8mf2_t rs2, vint32m2_t vs3, size_t vl);
void __riscv_vsoxei8(int32_t *rs1, vuint8m1_t rs2, vint32m4_t vs3, size_t vl);
void __riscv_vsoxei8(int32_t *rs1, vuint8m2_t rs2, vint32m8_t vs3, size_t vl);
void __riscv_vsoxei16(int32_t *rs1, vuint16mf4_t rs2, vint32mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(int32_t *rs1, vuint16mf2_t rs2, vint32m1_t vs3,
                      size_t vl);
void __riscv_vsoxei16(int32_t *rs1, vuint16m1_t rs2, vint32m2_t vs3, size_t vl);
void __riscv_vsoxei16(int32_t *rs1, vuint16m2_t rs2, vint32m4_t vs3, size_t vl);
void __riscv_vsoxei16(int32_t *rs1, vuint16m4_t rs2, vint32m8_t vs3, size_t vl);
void __riscv_vsoxei32(int32_t *rs1, vuint32mf2_t rs2, vint32mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(int32_t *rs1, vuint32m1_t rs2, vint32m1_t vs3, size_t vl);
void __riscv_vsoxei32(int32_t *rs1, vuint32m2_t rs2, vint32m2_t vs3, size_t vl);
void __riscv_vsoxei32(int32_t *rs1, vuint32m4_t rs2, vint32m4_t vs3, size_t vl);
void __riscv_vsoxei32(int32_t *rs1, vuint32m8_t rs2, vint32m8_t vs3, size_t vl);
void __riscv_vsoxei64(int32_t *rs1, vuint64m1_t rs2, vint32mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei64(int32_t *rs1, vuint64m2_t rs2, vint32m1_t vs3, size_t vl);
void __riscv_vsoxei64(int32_t *rs1, vuint64m4_t rs2, vint32m2_t vs3, size_t vl);
void __riscv_vsoxei64(int32_t *rs1, vuint64m8_t rs2, vint32m4_t vs3, size_t vl);
void __riscv_vsoxei8(int64_t *rs1, vuint8mf8_t rs2, vint64m1_t vs3, size_t vl);
void __riscv_vsoxei8(int64_t *rs1, vuint8mf4_t rs2, vint64m2_t vs3, size_t vl);
void __riscv_vsoxei8(int64_t *rs1, vuint8mf2_t rs2, vint64m4_t vs3, size_t vl);
void __riscv_vsoxei8(int64_t *rs1, vuint8m1_t rs2, vint64m8_t vs3, size_t vl);
void __riscv_vsoxei16(int64_t *rs1, vuint16mf4_t rs2, vint64m1_t vs3,
                      size_t vl);
void __riscv_vsoxei16(int64_t *rs1, vuint16mf2_t rs2, vint64m2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(int64_t *rs1, vuint16m1_t rs2, vint64m4_t vs3, size_t vl);
void __riscv_vsoxei16(int64_t *rs1, vuint16m2_t rs2, vint64m8_t vs3, size_t vl);
void __riscv_vsoxei32(int64_t *rs1, vuint32mf2_t rs2, vint64m1_t vs3,
                      size_t vl);
void __riscv_vsoxei32(int64_t *rs1, vuint32m1_t rs2, vint64m2_t vs3, size_t vl);
void __riscv_vsoxei32(int64_t *rs1, vuint32m2_t rs2, vint64m4_t vs3, size_t vl);
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void __riscv_vsoxei32(int64_t *rs1, vuint32m4_t rs2, vint64m8_t vs3, size_t vl);
void __riscv_vsoxei64(int64_t *rs1, vuint64m1_t rs2, vint64m1_t vs3, size_t vl);
void __riscv_vsoxei64(int64_t *rs1, vuint64m2_t rs2, vint64m2_t vs3, size_t vl);
void __riscv_vsoxei64(int64_t *rs1, vuint64m4_t rs2, vint64m4_t vs3, size_t vl);
void __riscv_vsoxei64(int64_t *rs1, vuint64m8_t rs2, vint64m8_t vs3, size_t vl);
void __riscv_vsuxei8(int8_t *rs1, vuint8mf8_t rs2, vint8mf8_t vs3, size_t vl);
void __riscv_vsuxei8(int8_t *rs1, vuint8mf4_t rs2, vint8mf4_t vs3, size_t vl);
void __riscv_vsuxei8(int8_t *rs1, vuint8mf2_t rs2, vint8mf2_t vs3, size_t vl);
void __riscv_vsuxei8(int8_t *rs1, vuint8m1_t rs2, vint8m1_t vs3, size_t vl);
void __riscv_vsuxei8(int8_t *rs1, vuint8m2_t rs2, vint8m2_t vs3, size_t vl);
void __riscv_vsuxei8(int8_t *rs1, vuint8m4_t rs2, vint8m4_t vs3, size_t vl);
void __riscv_vsuxei8(int8_t *rs1, vuint8m8_t rs2, vint8m8_t vs3, size_t vl);
void __riscv_vsuxei16(int8_t *rs1, vuint16mf4_t rs2, vint8mf8_t vs3, size_t vl);
void __riscv_vsuxei16(int8_t *rs1, vuint16mf2_t rs2, vint8mf4_t vs3, size_t vl);
void __riscv_vsuxei16(int8_t *rs1, vuint16m1_t rs2, vint8mf2_t vs3, size_t vl);
void __riscv_vsuxei16(int8_t *rs1, vuint16m2_t rs2, vint8m1_t vs3, size_t vl);
void __riscv_vsuxei16(int8_t *rs1, vuint16m4_t rs2, vint8m2_t vs3, size_t vl);
void __riscv_vsuxei16(int8_t *rs1, vuint16m8_t rs2, vint8m4_t vs3, size_t vl);
void __riscv_vsuxei32(int8_t *rs1, vuint32mf2_t rs2, vint8mf8_t vs3, size_t vl);
void __riscv_vsuxei32(int8_t *rs1, vuint32m1_t rs2, vint8mf4_t vs3, size_t vl);
void __riscv_vsuxei32(int8_t *rs1, vuint32m2_t rs2, vint8mf2_t vs3, size_t vl);
void __riscv_vsuxei32(int8_t *rs1, vuint32m4_t rs2, vint8m1_t vs3, size_t vl);
void __riscv_vsuxei32(int8_t *rs1, vuint32m8_t rs2, vint8m2_t vs3, size_t vl);
void __riscv_vsuxei64(int8_t *rs1, vuint64m1_t rs2, vint8mf8_t vs3, size_t vl);
void __riscv_vsuxei64(int8_t *rs1, vuint64m2_t rs2, vint8mf4_t vs3, size_t vl);
void __riscv_vsuxei64(int8_t *rs1, vuint64m4_t rs2, vint8mf2_t vs3, size_t vl);
void __riscv_vsuxei64(int8_t *rs1, vuint64m8_t rs2, vint8m1_t vs3, size_t vl);
void __riscv_vsuxei8(int16_t *rs1, vuint8mf8_t rs2, vint16mf4_t vs3, size_t vl);
void __riscv_vsuxei8(int16_t *rs1, vuint8mf4_t rs2, vint16mf2_t vs3, size_t vl);
void __riscv_vsuxei8(int16_t *rs1, vuint8mf2_t rs2, vint16m1_t vs3, size_t vl);
void __riscv_vsuxei8(int16_t *rs1, vuint8m1_t rs2, vint16m2_t vs3, size_t vl);
void __riscv_vsuxei8(int16_t *rs1, vuint8m2_t rs2, vint16m4_t vs3, size_t vl);
void __riscv_vsuxei8(int16_t *rs1, vuint8m4_t rs2, vint16m8_t vs3, size_t vl);
void __riscv_vsuxei16(int16_t *rs1, vuint16mf4_t rs2, vint16mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei16(int16_t *rs1, vuint16mf2_t rs2, vint16mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(int16_t *rs1, vuint16m1_t rs2, vint16m1_t vs3, size_t vl);
void __riscv_vsuxei16(int16_t *rs1, vuint16m2_t rs2, vint16m2_t vs3, size_t vl);
void __riscv_vsuxei16(int16_t *rs1, vuint16m4_t rs2, vint16m4_t vs3, size_t vl);
void __riscv_vsuxei16(int16_t *rs1, vuint16m8_t rs2, vint16m8_t vs3, size_t vl);
void __riscv_vsuxei32(int16_t *rs1, vuint32mf2_t rs2, vint16mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei32(int16_t *rs1, vuint32m1_t rs2, vint16mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei32(int16_t *rs1, vuint32m2_t rs2, vint16m1_t vs3, size_t vl);
void __riscv_vsuxei32(int16_t *rs1, vuint32m4_t rs2, vint16m2_t vs3, size_t vl);
void __riscv_vsuxei32(int16_t *rs1, vuint32m8_t rs2, vint16m4_t vs3, size_t vl);
void __riscv_vsuxei64(int16_t *rs1, vuint64m1_t rs2, vint16mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei64(int16_t *rs1, vuint64m2_t rs2, vint16mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei64(int16_t *rs1, vuint64m4_t rs2, vint16m1_t vs3, size_t vl);
void __riscv_vsuxei64(int16_t *rs1, vuint64m8_t rs2, vint16m2_t vs3, size_t vl);
void __riscv_vsuxei8(int32_t *rs1, vuint8mf8_t rs2, vint32mf2_t vs3, size_t vl);
void __riscv_vsuxei8(int32_t *rs1, vuint8mf4_t rs2, vint32m1_t vs3, size_t vl);
void __riscv_vsuxei8(int32_t *rs1, vuint8mf2_t rs2, vint32m2_t vs3, size_t vl);
void __riscv_vsuxei8(int32_t *rs1, vuint8m1_t rs2, vint32m4_t vs3, size_t vl);
void __riscv_vsuxei8(int32_t *rs1, vuint8m2_t rs2, vint32m8_t vs3, size_t vl);
void __riscv_vsuxei16(int32_t *rs1, vuint16mf4_t rs2, vint32mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(int32_t *rs1, vuint16mf2_t rs2, vint32m1_t vs3,
                      size_t vl);
void __riscv_vsuxei16(int32_t *rs1, vuint16m1_t rs2, vint32m2_t vs3, size_t vl);
void __riscv_vsuxei16(int32_t *rs1, vuint16m2_t rs2, vint32m4_t vs3, size_t vl);
void __riscv_vsuxei16(int32_t *rs1, vuint16m4_t rs2, vint32m8_t vs3, size_t vl);
void __riscv_vsuxei32(int32_t *rs1, vuint32mf2_t rs2, vint32mf2_t vs3,
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                      size_t vl);
void __riscv_vsuxei32(int32_t *rs1, vuint32m1_t rs2, vint32m1_t vs3, size_t vl);
void __riscv_vsuxei32(int32_t *rs1, vuint32m2_t rs2, vint32m2_t vs3, size_t vl);
void __riscv_vsuxei32(int32_t *rs1, vuint32m4_t rs2, vint32m4_t vs3, size_t vl);
void __riscv_vsuxei32(int32_t *rs1, vuint32m8_t rs2, vint32m8_t vs3, size_t vl);
void __riscv_vsuxei64(int32_t *rs1, vuint64m1_t rs2, vint32mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei64(int32_t *rs1, vuint64m2_t rs2, vint32m1_t vs3, size_t vl);
void __riscv_vsuxei64(int32_t *rs1, vuint64m4_t rs2, vint32m2_t vs3, size_t vl);
void __riscv_vsuxei64(int32_t *rs1, vuint64m8_t rs2, vint32m4_t vs3, size_t vl);
void __riscv_vsuxei8(int64_t *rs1, vuint8mf8_t rs2, vint64m1_t vs3, size_t vl);
void __riscv_vsuxei8(int64_t *rs1, vuint8mf4_t rs2, vint64m2_t vs3, size_t vl);
void __riscv_vsuxei8(int64_t *rs1, vuint8mf2_t rs2, vint64m4_t vs3, size_t vl);
void __riscv_vsuxei8(int64_t *rs1, vuint8m1_t rs2, vint64m8_t vs3, size_t vl);
void __riscv_vsuxei16(int64_t *rs1, vuint16mf4_t rs2, vint64m1_t vs3,
                      size_t vl);
void __riscv_vsuxei16(int64_t *rs1, vuint16mf2_t rs2, vint64m2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(int64_t *rs1, vuint16m1_t rs2, vint64m4_t vs3, size_t vl);
void __riscv_vsuxei16(int64_t *rs1, vuint16m2_t rs2, vint64m8_t vs3, size_t vl);
void __riscv_vsuxei32(int64_t *rs1, vuint32mf2_t rs2, vint64m1_t vs3,
                      size_t vl);
void __riscv_vsuxei32(int64_t *rs1, vuint32m1_t rs2, vint64m2_t vs3, size_t vl);
void __riscv_vsuxei32(int64_t *rs1, vuint32m2_t rs2, vint64m4_t vs3, size_t vl);
void __riscv_vsuxei32(int64_t *rs1, vuint32m4_t rs2, vint64m8_t vs3, size_t vl);
void __riscv_vsuxei64(int64_t *rs1, vuint64m1_t rs2, vint64m1_t vs3, size_t vl);
void __riscv_vsuxei64(int64_t *rs1, vuint64m2_t rs2, vint64m2_t vs3, size_t vl);
void __riscv_vsuxei64(int64_t *rs1, vuint64m4_t rs2, vint64m4_t vs3, size_t vl);
void __riscv_vsuxei64(int64_t *rs1, vuint64m8_t rs2, vint64m8_t vs3, size_t vl);
void __riscv_vsoxei8(uint8_t *rs1, vuint8mf8_t rs2, vuint8mf8_t vs3, size_t vl);
void __riscv_vsoxei8(uint8_t *rs1, vuint8mf4_t rs2, vuint8mf4_t vs3, size_t vl);
void __riscv_vsoxei8(uint8_t *rs1, vuint8mf2_t rs2, vuint8mf2_t vs3, size_t vl);
void __riscv_vsoxei8(uint8_t *rs1, vuint8m1_t rs2, vuint8m1_t vs3, size_t vl);
void __riscv_vsoxei8(uint8_t *rs1, vuint8m2_t rs2, vuint8m2_t vs3, size_t vl);
void __riscv_vsoxei8(uint8_t *rs1, vuint8m4_t rs2, vuint8m4_t vs3, size_t vl);
void __riscv_vsoxei8(uint8_t *rs1, vuint8m8_t rs2, vuint8m8_t vs3, size_t vl);
void __riscv_vsoxei16(uint8_t *rs1, vuint16mf4_t rs2, vuint8mf8_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint8_t *rs1, vuint16mf2_t rs2, vuint8mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint8_t *rs1, vuint16m1_t rs2, vuint8mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint8_t *rs1, vuint16m2_t rs2, vuint8m1_t vs3, size_t vl);
void __riscv_vsoxei16(uint8_t *rs1, vuint16m4_t rs2, vuint8m2_t vs3, size_t vl);
void __riscv_vsoxei16(uint8_t *rs1, vuint16m8_t rs2, vuint8m4_t vs3, size_t vl);
void __riscv_vsoxei32(uint8_t *rs1, vuint32mf2_t rs2, vuint8mf8_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint8_t *rs1, vuint32m1_t rs2, vuint8mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint8_t *rs1, vuint32m2_t rs2, vuint8mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint8_t *rs1, vuint32m4_t rs2, vuint8m1_t vs3, size_t vl);
void __riscv_vsoxei32(uint8_t *rs1, vuint32m8_t rs2, vuint8m2_t vs3, size_t vl);
void __riscv_vsoxei64(uint8_t *rs1, vuint64m1_t rs2, vuint8mf8_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint8_t *rs1, vuint64m2_t rs2, vuint8mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint8_t *rs1, vuint64m4_t rs2, vuint8mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint8_t *rs1, vuint64m8_t rs2, vuint8m1_t vs3, size_t vl);
void __riscv_vsoxei8(uint16_t *rs1, vuint8mf8_t rs2, vuint16mf4_t vs3,
                     size_t vl);
void __riscv_vsoxei8(uint16_t *rs1, vuint8mf4_t rs2, vuint16mf2_t vs3,
                     size_t vl);
void __riscv_vsoxei8(uint16_t *rs1, vuint8mf2_t rs2, vuint16m1_t vs3,
                     size_t vl);
void __riscv_vsoxei8(uint16_t *rs1, vuint8m1_t rs2, vuint16m2_t vs3, size_t vl);
```

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void __riscv_vsoxei8(uint16_t *rs1, vuint8m2_t rs2, vuint16m4_t vs3, size_t vl);
void __riscv_vsoxei8(uint16_t *rs1, vuint8m4_t rs2, vuint16m8_t vs3, size_t vl);
void __riscv_vsoxei16(uint16_t *rs1, vuint16mf4_t rs2, vuint16mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint16_t *rs1, vuint16mf2_t rs2, vuint16mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint16_t *rs1, vuint16m1_t rs2, vuint16m1_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint16_t *rs1, vuint16m2_t rs2, vuint16m2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint16_t *rs1, vuint16m4_t rs2, vuint16m4_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint16_t *rs1, vuint16m8_t rs2, vuint16m8_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint16_t *rs1, vuint32mf2_t rs2, vuint16mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint16_t *rs1, vuint32m1_t rs2, vuint16mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint16_t *rs1, vuint32m2_t rs2, vuint16m1_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint16_t *rs1, vuint32m4_t rs2, vuint16m2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint16_t *rs1, vuint32m8_t rs2, vuint16m4_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint16_t *rs1, vuint64m1_t rs2, vuint16mf4_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint16_t *rs1, vuint64m2_t rs2, vuint16mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint16_t *rs1, vuint64m4_t rs2, vuint16m1_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint16_t *rs1, vuint64m8_t rs2, vuint16m2_t vs3,
                      size_t vl);
void __riscv_vsoxei8(uint32_t *rs1, vuint8mf8_t rs2, vuint32mf2_t vs3,
                     size_t vl);
void __riscv_vsoxei8(uint32_t *rs1, vuint8mf4_t rs2, vuint32m1_t vs3,
                     size_t vl);
void __riscv_vsoxei8(uint32_t *rs1, vuint8mf2_t rs2, vuint32m2_t vs3,
                     size_t vl);
void __riscv_vsoxei8(uint32_t *rs1, vuint8m1_t rs2, vuint32m4_t vs3, size_t vl);
void __riscv_vsoxei8(uint32_t *rs1, vuint8m2_t rs2, vuint32m8_t vs3, size_t vl);
void __riscv_vsoxei16(uint32_t *rs1, vuint16mf4_t rs2, vuint32mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint32_t *rs1, vuint16mf2_t rs2, vuint32m1_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint32_t *rs1, vuint16m1_t rs2, vuint32m2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint32_t *rs1, vuint16m2_t rs2, vuint32m4_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint32_t *rs1, vuint16m4_t rs2, vuint32m8_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint32_t *rs1, vuint32mf2_t rs2, vuint32mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint32_t *rs1, vuint32m1_t rs2, vuint32m1_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint32_t *rs1, vuint32m2_t rs2, vuint32m2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint32_t *rs1, vuint32m4_t rs2, vuint32m4_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint32_t *rs1, vuint32m8_t rs2, vuint32m8_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint32_t *rs1, vuint64m1_t rs2, vuint32mf2_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint32_t *rs1, vuint64m2_t rs2, vuint32m1_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint32_t *rs1, vuint64m4_t rs2, vuint32m2_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint32_t *rs1, vuint64m8_t rs2, vuint32m4_t vs3,
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                      size_t vl);
void __riscv_vsoxei8(uint64_t *rs1, vuint8mf8_t rs2, vuint64m1_t vs3,
                     size_t vl);
void __riscv_vsoxei8(uint64_t *rs1, vuint8mf4_t rs2, vuint64m2_t vs3,
                     size_t vl);
void __riscv_vsoxei8(uint64_t *rs1, vuint8mf2_t rs2, vuint64m4_t vs3,
                     size_t vl);
void __riscv_vsoxei8(uint64_t *rs1, vuint8m1_t rs2, vuint64m8_t vs3, size_t vl);
void __riscv_vsoxei16(uint64_t *rs1, vuint16mf4_t rs2, vuint64m1_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint64_t *rs1, vuint16mf2_t rs2, vuint64m2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint64_t *rs1, vuint16m1_t rs2, vuint64m4_t vs3,
                      size_t vl);
void __riscv_vsoxei16(uint64_t *rs1, vuint16m2_t rs2, vuint64m8_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint64_t *rs1, vuint32mf2_t rs2, vuint64m1_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint64_t *rs1, vuint32m1_t rs2, vuint64m2_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint64_t *rs1, vuint32m2_t rs2, vuint64m4_t vs3,
                      size_t vl);
void __riscv_vsoxei32(uint64_t *rs1, vuint32m4_t rs2, vuint64m8_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint64_t *rs1, vuint64m1_t rs2, vuint64m1_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint64_t *rs1, vuint64m2_t rs2, vuint64m2_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint64_t *rs1, vuint64m4_t rs2, vuint64m4_t vs3,
                      size_t vl);
void __riscv_vsoxei64(uint64_t *rs1, vuint64m8_t rs2, vuint64m8_t vs3,
                      size_t vl);
void __riscv_vsuxei8(uint8_t *rs1, vuint8mf8_t rs2, vuint8mf8_t vs3, size_t vl);
void __riscv_vsuxei8(uint8_t *rs1, vuint8mf4_t rs2, vuint8mf4_t vs3, size_t vl);
void __riscv_vsuxei8(uint8_t *rs1, vuint8mf2_t rs2, vuint8mf2_t vs3, size_t vl);
void __riscv_vsuxei8(uint8_t *rs1, vuint8m1_t rs2, vuint8m1_t vs3, size_t vl);
void __riscv_vsuxei8(uint8_t *rs1, vuint8m2_t rs2, vuint8m2_t vs3, size_t vl);
void __riscv_vsuxei8(uint8_t *rs1, vuint8m4_t rs2, vuint8m4_t vs3, size_t vl);
void __riscv_vsuxei8(uint8_t *rs1, vuint8m8_t rs2, vuint8m8_t vs3, size_t vl);
void __riscv_vsuxei16(uint8_t *rs1, vuint16mf4_t rs2, vuint8mf8_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint8_t *rs1, vuint16mf2_t rs2, vuint8mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint8_t *rs1, vuint16m1_t rs2, vuint8mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint8_t *rs1, vuint16m2_t rs2, vuint8m1_t vs3, size_t vl);
void __riscv_vsuxei16(uint8_t *rs1, vuint16m4_t rs2, vuint8m2_t vs3, size_t vl);
void __riscv_vsuxei16(uint8_t *rs1, vuint16m8_t rs2, vuint8m4_t vs3, size_t vl);
void __riscv_vsuxei32(uint8_t *rs1, vuint32mf2_t rs2, vuint8mf8_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint8_t *rs1, vuint32m1_t rs2, vuint8mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint8_t *rs1, vuint32m2_t rs2, vuint8mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint8_t *rs1, vuint32m4_t rs2, vuint8m1_t vs3, size_t vl);
void __riscv_vsuxei32(uint8_t *rs1, vuint32m8_t rs2, vuint8m2_t vs3, size_t vl);
void __riscv_vsuxei64(uint8_t *rs1, vuint64m1_t rs2, vuint8mf8_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint8_t *rs1, vuint64m2_t rs2, vuint8mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint8_t *rs1, vuint64m4_t rs2, vuint8mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint8_t *rs1, vuint64m8_t rs2, vuint8m1_t vs3, size_t vl);
void __riscv_vsuxei8(uint16_t *rs1, vuint8mf8_t rs2, vuint16mf4_t vs3,
                     size_t vl);
void __riscv_vsuxei8(uint16_t *rs1, vuint8mf4_t rs2, vuint16mf2_t vs3,
                     size_t vl);
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void __riscv_vsuxei8(uint16_t *rs1, vuint8mf2_t rs2, vuint16m1_t vs3,
                     size_t vl);
void __riscv_vsuxei8(uint16_t *rs1, vuint8m1_t rs2, vuint16m2_t vs3, size_t vl);
void __riscv_vsuxei8(uint16_t *rs1, vuint8m2_t rs2, vuint16m4_t vs3, size_t vl);
void __riscv_vsuxei8(uint16_t *rs1, vuint8m4_t rs2, vuint16m8_t vs3, size_t vl);
void __riscv_vsuxei16(uint16_t *rs1, vuint16mf4_t rs2, vuint16mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint16_t *rs1, vuint16mf2_t rs2, vuint16mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint16_t *rs1, vuint16m1_t rs2, vuint16m1_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint16_t *rs1, vuint16m2_t rs2, vuint16m2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint16_t *rs1, vuint16m4_t rs2, vuint16m4_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint16_t *rs1, vuint16m8_t rs2, vuint16m8_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint16_t *rs1, vuint32mf2_t rs2, vuint16mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint16_t *rs1, vuint32m1_t rs2, vuint16mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint16_t *rs1, vuint32m2_t rs2, vuint16m1_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint16_t *rs1, vuint32m4_t rs2, vuint16m2_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint16_t *rs1, vuint32m8_t rs2, vuint16m4_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint16_t *rs1, vuint64m1_t rs2, vuint16mf4_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint16_t *rs1, vuint64m2_t rs2, vuint16mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint16_t *rs1, vuint64m4_t rs2, vuint16m1_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint16_t *rs1, vuint64m8_t rs2, vuint16m2_t vs3,
                      size_t vl);
void __riscv_vsuxei8(uint32_t *rs1, vuint8mf8_t rs2, vuint32mf2_t vs3,
                     size_t vl);
void __riscv_vsuxei8(uint32_t *rs1, vuint8mf4_t rs2, vuint32m1_t vs3,
                     size_t vl);
void __riscv_vsuxei8(uint32_t *rs1, vuint8mf2_t rs2, vuint32m2_t vs3,
                     size_t vl);
void __riscv_vsuxei8(uint32_t *rs1, vuint8m1_t rs2, vuint32m4_t vs3, size_t vl);
void __riscv_vsuxei8(uint32_t *rs1, vuint8m2_t rs2, vuint32m8_t vs3, size_t vl);
void __riscv_vsuxei16(uint32_t *rs1, vuint16mf4_t rs2, vuint32mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint32_t *rs1, vuint16mf2_t rs2, vuint32m1_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint32_t *rs1, vuint16m1_t rs2, vuint32m2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint32_t *rs1, vuint16m2_t rs2, vuint32m4_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint32_t *rs1, vuint16m4_t rs2, vuint32m8_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint32_t *rs1, vuint32mf2_t rs2, vuint32mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint32_t *rs1, vuint32m1_t rs2, vuint32m1_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint32_t *rs1, vuint32m2_t rs2, vuint32m2_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint32_t *rs1, vuint32m4_t rs2, vuint32m4_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint32_t *rs1, vuint32m8_t rs2, vuint32m8_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint32_t *rs1, vuint64m1_t rs2, vuint32mf2_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint32_t *rs1, vuint64m2_t rs2, vuint32m1_t vs3,
                      size_t vl);
```

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void __riscv_vsuxei64(uint32_t *rs1, vuint64m4_t rs2, vuint32m2_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint32_t *rs1, vuint64m8_t rs2, vuint32m4_t vs3,
                      size_t vl);
void __riscv_vsuxei8(uint64_t *rs1, vuint8mf8_t rs2, vuint64m1_t vs3,
                     size_t vl);
void __riscv_vsuxei8(uint64_t *rs1, vuint8mf4_t rs2, vuint64m2_t vs3,
                     size_t vl);
void __riscv_vsuxei8(uint64_t *rs1, vuint8mf2_t rs2, vuint64m4_t vs3,
                     size_t vl);
void __riscv_vsuxei8(uint64_t *rs1, vuint8m1_t rs2, vuint64m8_t vs3, size_t vl);
void __riscv_vsuxei16(uint64_t *rs1, vuint16mf4_t rs2, vuint64m1_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint64_t *rs1, vuint16mf2_t rs2, vuint64m2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint64_t *rs1, vuint16m1_t rs2, vuint64m4_t vs3,
                      size_t vl);
void __riscv_vsuxei16(uint64_t *rs1, vuint16m2_t rs2, vuint64m8_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint64_t *rs1, vuint32mf2_t rs2, vuint64m1_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint64_t *rs1, vuint32m1_t rs2, vuint64m2_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint64_t *rs1, vuint32m2_t rs2, vuint64m4_t vs3,
                      size_t vl);
void __riscv_vsuxei32(uint64_t *rs1, vuint32m4_t rs2, vuint64m8_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint64_t *rs1, vuint64m1_t rs2, vuint64m1_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint64_t *rs1, vuint64m2_t rs2, vuint64m2_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint64_t *rs1, vuint64m4_t rs2, vuint64m4_t vs3,
                      size_t vl);
void __riscv_vsuxei64(uint64_t *rs1, vuint64m8_t rs2, vuint64m8_t vs3,
                      size_t vl);
// masked functions
void __riscv_vsoxei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t rs2,
                     vfloat16mf4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t rs2,
                     vfloat16mf2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t rs2,
                     vfloat16m1_t vs3, size_t vl);
void __riscv_vsoxei8(vbool8_t vm, _Float16 *rs1, vuint8m1_t rs2,
                     vfloat16m2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool4_t vm, _Float16 *rs1, vuint8m2_t rs2,
                     vfloat16m4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool2_t vm, _Float16 *rs1, vuint8m4_t rs2,
                     vfloat16m8_t vs3, size_t vl);
void __riscv_vsoxei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t rs2,
                      vfloat16mf4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t rs2,
                      vfloat16mf2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t rs2,
                      vfloat16m1_t vs3, size_t vl);
void __riscv_vsoxei16(vbool8_t vm, _Float16 *rs1, vuint16m2_t rs2,
                      vfloat16m2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool4_t vm, _Float16 *rs1, vuint16m4_t rs2,
                      vfloat16m4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool2_t vm, _Float16 *rs1, vuint16m8_t rs2,
                      vfloat16m8_t vs3, size_t vl);
void __riscv_vsoxei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t rs2,
                      vfloat16mf4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t rs2,
                      vfloat16mf2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t rs2,
                      vfloat16m1_t vs3, size_t vl);
void __riscv_vsoxei32(vbool8_t vm, _Float16 *rs1, vuint32m4_t rs2,
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                      vfloat16m2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool4_t vm, _Float16 *rs1, vuint32m8_t rs2,
                      vfloat16m4_t vs3, size_t vl);
void __riscv_vsoxei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t rs2,
                      vfloat16mf4_t vs3, size_t vl);
void __riscv_vsoxei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t rs2,
                      vfloat16mf2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t rs2,
                      vfloat16m1_t vs3, size_t vl);
void __riscv_vsoxei64(vbool8_t vm, _Float16 *rs1, vuint64m8_t rs2,
                      vfloat16m2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool64_t vm, float *rs1, vuint8mf8_t rs2,
                     vfloat32mf2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool32_t vm, float *rs1, vuint8mf4_t rs2,
                     vfloat32m1_t vs3, size_t vl);
void __riscv_vsoxei8(vbool16_t vm, float *rs1, vuint8mf2_t rs2,
                     vfloat32m2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool8_t vm, float *rs1, vuint8m1_t rs2, vfloat32m4_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool4_t vm, float *rs1, vuint8m2_t rs2, vfloat32m8_t vs3,
                     size_t vl);
void __riscv_vsoxei16(vbool64_t vm, float *rs1, vuint16mf4_t rs2,
                      vfloat32mf2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool32_t vm, float *rs1, vuint16mf2_t rs2,
                      vfloat32m1_t vs3, size_t vl);
void __riscv_vsoxei16(vbool16_t vm, float *rs1, vuint16m1_t rs2,
                      vfloat32m2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool8_t vm, float *rs1, vuint16m2_t rs2,
                      vfloat32m4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool4_t vm, float *rs1, vuint16m4_t rs2,
                      vfloat32m8_t vs3, size_t vl);
void __riscv_vsoxei32(vbool64_t vm, float *rs1, vuint32mf2_t rs2,
                      vfloat32mf2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool32_t vm, float *rs1, vuint32m1_t rs2,
                      vfloat32m1_t vs3, size_t vl);
void __riscv_vsoxei32(vbool16_t vm, float *rs1, vuint32m2_t rs2,
                      vfloat32m2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool8_t vm, float *rs1, vuint32m4_t rs2,
                      vfloat32m4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool4_t vm, float *rs1, vuint32m8_t rs2,
                      vfloat32m8_t vs3, size_t vl);
void __riscv_vsoxei64(vbool64_t vm, float *rs1, vuint64m1_t rs2,
                      vfloat32mf2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool32_t vm, float *rs1, vuint64m2_t rs2,
                      vfloat32m1_t vs3, size_t vl);
void __riscv_vsoxei64(vbool16_t vm, float *rs1, vuint64m4_t rs2,
                      vfloat32m2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool8_t vm, float *rs1, vuint64m8_t rs2,
                      vfloat32m4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool64_t vm, double *rs1, vuint8mf8_t rs2,
                     vfloat64m1_t vs3, size_t vl);
void __riscv_vsoxei8(vbool32_t vm, double *rs1, vuint8mf4_t rs2,
                     vfloat64m2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool16_t vm, double *rs1, vuint8mf2_t rs2,
                     vfloat64m4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool8_t vm, double *rs1, vuint8m1_t rs2, vfloat64m8_t vs3,
                     size_t vl);
void __riscv_vsoxei16(vbool64_t vm, double *rs1, vuint16mf4_t rs2,
                      vfloat64m1_t vs3, size_t vl);
void __riscv_vsoxei16(vbool32_t vm, double *rs1, vuint16mf2_t rs2,
                      vfloat64m2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool16_t vm, double *rs1, vuint16m1_t rs2,
                      vfloat64m4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool8_t vm, double *rs1, vuint16m2_t rs2,
                      vfloat64m8_t vs3, size_t vl);
void __riscv_vsoxei32(vbool64_t vm, double *rs1, vuint32mf2_t rs2,
                      vfloat64m1_t vs3, size_t vl);
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void __riscv_vsoxei32(vbool32_t vm, double *rs1, vuint32m1_t rs2,
                      vfloat64m2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool16_t vm, double *rs1, vuint32m2_t rs2,
                      vfloat64m4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool8_t vm, double *rs1, vuint32m4_t rs2,
                      vfloat64m8_t vs3, size_t vl);
void __riscv_vsoxei64(vbool64_t vm, double *rs1, vuint64m1_t rs2,
                      vfloat64m1_t vs3, size_t vl);
void __riscv_vsoxei64(vbool32_t vm, double *rs1, vuint64m2_t rs2,
                      vfloat64m2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool16_t vm, double *rs1, vuint64m4_t rs2,
                      vfloat64m4_t vs3, size_t vl);
void __riscv_vsoxei64(vbool8_t vm, double *rs1, vuint64m8_t rs2,
                      vfloat64m8_t vs3, size_t vl);
void __riscv_vsuxei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t rs2,
                     vfloat16mf4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t rs2,
                     vfloat16mf2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t rs2,
                     vfloat16m1_t vs3, size_t vl);
void __riscv_vsuxei8(vbool8_t vm, _Float16 *rs1, vuint8m1_t rs2,
                     vfloat16m2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool4_t vm, _Float16 *rs1, vuint8m2_t rs2,
                     vfloat16m4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool2_t vm, _Float16 *rs1, vuint8m4_t rs2,
                     vfloat16m8_t vs3, size_t vl);
void __riscv_vsuxei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t rs2,
                      vfloat16mf4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t rs2,
                      vfloat16mf2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t rs2,
                      vfloat16m1_t vs3, size_t vl);
void __riscv_vsuxei16(vbool8_t vm, _Float16 *rs1, vuint16m2_t rs2,
                      vfloat16m2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool4_t vm, _Float16 *rs1, vuint16m4_t rs2,
                      vfloat16m4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool2_t vm, _Float16 *rs1, vuint16m8_t rs2,
                      vfloat16m8_t vs3, size_t vl);
void __riscv_vsuxei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t rs2,
                      vfloat16mf4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t rs2,
                      vfloat16mf2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t rs2,
                      vfloat16m1_t vs3, size_t vl);
void __riscv_vsuxei32(vbool8_t vm, _Float16 *rs1, vuint32m4_t rs2,
                      vfloat16m2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool4_t vm, _Float16 *rs1, vuint32m8_t rs2,
                      vfloat16m4_t vs3, size_t vl);
void __riscv_vsuxei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t rs2,
                      vfloat16mf4_t vs3, size_t vl);
void __riscv_vsuxei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t rs2,
                      vfloat16mf2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t rs2,
                      vfloat16m1_t vs3, size_t vl);
void __riscv_vsuxei64(vbool8_t vm, _Float16 *rs1, vuint64m8_t rs2,
                      vfloat16m2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool64_t vm, float *rs1, vuint8mf8_t rs2,
                     vfloat32mf2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool32_t vm, float *rs1, vuint8mf4_t rs2,
                     vfloat32m1_t vs3, size_t vl);
void __riscv_vsuxei8(vbool16_t vm, float *rs1, vuint8mf2_t rs2,
                     vfloat32m2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool8_t vm, float *rs1, vuint8m1_t rs2, vfloat32m4_t vs3,
                     size_t vl);
void __riscv_vsuxei8(vbool4_t vm, float *rs1, vuint8m2_t rs2, vfloat32m8_t vs3,
                     size_t vl);
void __riscv_vsuxei16(vbool64_t vm, float *rs1, vuint16mf4_t rs2,
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                      vfloat32mf2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool32_t vm, float *rs1, vuint16mf2_t rs2,
                      vfloat32m1_t vs3, size_t vl);
void __riscv_vsuxei16(vbool16_t vm, float *rs1, vuint16m1_t rs2,
                      vfloat32m2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool8_t vm, float *rs1, vuint16m2_t rs2,
                      vfloat32m4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool4_t vm, float *rs1, vuint16m4_t rs2,
                      vfloat32m8_t vs3, size_t vl);
void __riscv_vsuxei32(vbool64_t vm, float *rs1, vuint32mf2_t rs2,
                      vfloat32mf2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool32_t vm, float *rs1, vuint32m1_t rs2,
                      vfloat32m1_t vs3, size_t vl);
void __riscv_vsuxei32(vbool16_t vm, float *rs1, vuint32m2_t rs2,
                      vfloat32m2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool8_t vm, float *rs1, vuint32m4_t rs2,
                      vfloat32m4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool4_t vm, float *rs1, vuint32m8_t rs2,
                      vfloat32m8_t vs3, size_t vl);
void __riscv_vsuxei64(vbool64_t vm, float *rs1, vuint64m1_t rs2,
                      vfloat32mf2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool32_t vm, float *rs1, vuint64m2_t rs2,
                      vfloat32m1_t vs3, size_t vl);
void __riscv_vsuxei64(vbool16_t vm, float *rs1, vuint64m4_t rs2,
                      vfloat32m2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool8_t vm, float *rs1, vuint64m8_t rs2,
                      vfloat32m4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool64_t vm, double *rs1, vuint8mf8_t rs2,
                     vfloat64m1_t vs3, size_t vl);
void __riscv_vsuxei8(vbool32_t vm, double *rs1, vuint8mf4_t rs2,
                     vfloat64m2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool16_t vm, double *rs1, vuint8mf2_t rs2,
                     vfloat64m4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool8_t vm, double *rs1, vuint8m1_t rs2, vfloat64m8_t vs3,
                     size_t vl);
void __riscv_vsuxei16(vbool64_t vm, double *rs1, vuint16mf4_t rs2,
                      vfloat64m1_t vs3, size_t vl);
void __riscv_vsuxei16(vbool32_t vm, double *rs1, vuint16mf2_t rs2,
                      vfloat64m2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool16_t vm, double *rs1, vuint16m1_t rs2,
                      vfloat64m4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool8_t vm, double *rs1, vuint16m2_t rs2,
                      vfloat64m8_t vs3, size_t vl);
void __riscv_vsuxei32(vbool64_t vm, double *rs1, vuint32mf2_t rs2,
                      vfloat64m1_t vs3, size_t vl);
void __riscv_vsuxei32(vbool32_t vm, double *rs1, vuint32m1_t rs2,
                      vfloat64m2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool16_t vm, double *rs1, vuint32m2_t rs2,
                      vfloat64m4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool8_t vm, double *rs1, vuint32m4_t rs2,
                      vfloat64m8_t vs3, size_t vl);
void __riscv_vsuxei64(vbool64_t vm, double *rs1, vuint64m1_t rs2,
                      vfloat64m1_t vs3, size_t vl);
void __riscv_vsuxei64(vbool32_t vm, double *rs1, vuint64m2_t rs2,
                      vfloat64m2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool16_t vm, double *rs1, vuint64m4_t rs2,
                      vfloat64m4_t vs3, size_t vl);
void __riscv_vsuxei64(vbool8_t vm, double *rs1, vuint64m8_t rs2,
                      vfloat64m8_t vs3, size_t vl);
void __riscv_vsoxei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t rs2, vint8mf8_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t rs2, vint8mf4_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t rs2, vint8mf2_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool8_t vm, int8_t *rs1, vuint8m1_t rs2, vint8m1_t vs3,
                     size_t vl);
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void __riscv_vsoxei8(vbool4_t vm, int8_t *rs1, vuint8m2_t rs2, vint8m2_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool2_t vm, int8_t *rs1, vuint8m4_t rs2, vint8m4_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool1_t vm, int8_t *rs1, vuint8m8_t rs2, vint8m8_t vs3,
                     size_t vl);
void __riscv_vsoxei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t rs2,
                      vint8mf8_t vs3, size_t vl);
void __riscv_vsoxei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t rs2,
                      vint8mf4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool16_t vm, int8_t *rs1, vuint16m1_t rs2,
                      vint8mf2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool8_t vm, int8_t *rs1, vuint16m2_t rs2, vint8m1_t vs3,
                      size_t vl);
void __riscv_vsoxei16(vbool4_t vm, int8_t *rs1, vuint16m4_t rs2, vint8m2_t vs3,
                      size_t vl);
void __riscv_vsoxei16(vbool2_t vm, int8_t *rs1, vuint16m8_t rs2, vint8m4_t vs3,
                      size_t vl);
void __riscv_vsoxei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t rs2,
                      vint8mf8_t vs3, size_t vl);
void __riscv_vsoxei32(vbool32_t vm, int8_t *rs1, vuint32m1_t rs2,
                      vint8mf4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool16_t vm, int8_t *rs1, vuint32m2_t rs2,
                      vint8mf2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool8_t vm, int8_t *rs1, vuint32m4_t rs2, vint8m1_t vs3,
                      size_t vl);
void __riscv_vsoxei32(vbool4_t vm, int8_t *rs1, vuint32m8_t rs2, vint8m2_t vs3,
                      size_t vl);
void __riscv_vsoxei64(vbool64_t vm, int8_t *rs1, vuint64m1_t rs2,
                      vint8mf8_t vs3, size_t vl);
void __riscv_vsoxei64(vbool32_t vm, int8_t *rs1, vuint64m2_t rs2,
                      vint8mf4_t vs3, size_t vl);
void __riscv_vsoxei64(vbool16_t vm, int8_t *rs1, vuint64m4_t rs2,
                      vint8mf2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool8_t vm, int8_t *rs1, vuint64m8_t rs2, vint8m1_t vs3,
                      size_t vl);
void __riscv_vsoxei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t rs2,
                     vint16mf4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t rs2,
                     vint16mf2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t rs2,
                     vint16m1_t vs3, size_t vl);
void __riscv_vsoxei8(vbool8_t vm, int16_t *rs1, vuint8m1_t rs2, vint16m2_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool4_t vm, int16_t *rs1, vuint8m2_t rs2, vint16m4_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool2_t vm, int16_t *rs1, vuint8m4_t rs2, vint16m8_t vs3,
                     size_t vl);
void __riscv_vsoxei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t rs2,
                      vint16mf4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t rs2,
                      vint16mf2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool16_t vm, int16_t *rs1, vuint16m1_t rs2,
                      vint16m1_t vs3, size_t vl);
void __riscv_vsoxei16(vbool8_t vm, int16_t *rs1, vuint16m2_t rs2,
                      vint16m2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool4_t vm, int16_t *rs1, vuint16m4_t rs2,
                      vint16m4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool2_t vm, int16_t *rs1, vuint16m8_t rs2,
                      vint16m8_t vs3, size_t vl);
void __riscv_vsoxei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t rs2,
                      vint16mf4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool32_t vm, int16_t *rs1, vuint32m1_t rs2,
                      vint16mf2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool16_t vm, int16_t *rs1, vuint32m2_t rs2,
                      vint16m1_t vs3, size_t vl);
void __riscv_vsoxei32(vbool8_t vm, int16_t *rs1, vuint32m4_t rs2,
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                      vint16m2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool4_t vm, int16_t *rs1, vuint32m8_t rs2,
                      vint16m4_t vs3, size_t vl);
void __riscv_vsoxei64(vbool64_t vm, int16_t *rs1, vuint64m1_t rs2,
                      vint16mf4_t vs3, size_t vl);
void __riscv_vsoxei64(vbool32_t vm, int16_t *rs1, vuint64m2_t rs2,
                      vint16mf2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool16_t vm, int16_t *rs1, vuint64m4_t rs2,
                      vint16m1_t vs3, size_t vl);
void __riscv_vsoxei64(vbool8_t vm, int16_t *rs1, vuint64m8_t rs2,
                      vint16m2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t rs2,
                     vint32mf2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t rs2,
                     vint32m1_t vs3, size_t vl);
void __riscv_vsoxei8(vbool16_t vm, int32_t *rs1, vuint8mf2_t rs2,
                     vint32m2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool8_t vm, int32_t *rs1, vuint8m1_t rs2, vint32m4_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool4_t vm, int32_t *rs1, vuint8m2_t rs2, vint32m8_t vs3,
                     size_t vl);
void __riscv_vsoxei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t rs2,
                      vint32mf2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t rs2,
                      vint32m1_t vs3, size_t vl);
void __riscv_vsoxei16(vbool16_t vm, int32_t *rs1, vuint16m1_t rs2,
                      vint32m2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool8_t vm, int32_t *rs1, vuint16m2_t rs2,
                      vint32m4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool4_t vm, int32_t *rs1, vuint16m4_t rs2,
                      vint32m8_t vs3, size_t vl);
void __riscv_vsoxei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t rs2,
                      vint32mf2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool32_t vm, int32_t *rs1, vuint32m1_t rs2,
                      vint32m1_t vs3, size_t vl);
void __riscv_vsoxei32(vbool16_t vm, int32_t *rs1, vuint32m2_t rs2,
                      vint32m2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool8_t vm, int32_t *rs1, vuint32m4_t rs2,
                      vint32m4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool4_t vm, int32_t *rs1, vuint32m8_t rs2,
                      vint32m8_t vs3, size_t vl);
void __riscv_vsoxei64(vbool64_t vm, int32_t *rs1, vuint64m1_t rs2,
                      vint32mf2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool32_t vm, int32_t *rs1, vuint64m2_t rs2,
                      vint32m1_t vs3, size_t vl);
void __riscv_vsoxei64(vbool16_t vm, int32_t *rs1, vuint64m4_t rs2,
                      vint32m2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool8_t vm, int32_t *rs1, vuint64m8_t rs2,
                      vint32m4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t rs2,
                     vint64m1_t vs3, size_t vl);
void __riscv_vsoxei8(vbool32_t vm, int64_t *rs1, vuint8mf4_t rs2,
                     vint64m2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool16_t vm, int64_t *rs1, vuint8mf2_t rs2,
                     vint64m4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool8_t vm, int64_t *rs1, vuint8m1_t rs2, vint64m8_t vs3,
                     size_t vl);
void __riscv_vsoxei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t rs2,
                      vint64m1_t vs3, size_t vl);
void __riscv_vsoxei16(vbool32_t vm, int64_t *rs1, vuint16mf2_t rs2,
                      vint64m2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool16_t vm, int64_t *rs1, vuint16m1_t rs2,
                      vint64m4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool8_t vm, int64_t *rs1, vuint16m2_t rs2,
                      vint64m8_t vs3, size_t vl);
void __riscv_vsoxei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t rs2,
                      vint64m1_t vs3, size_t vl);
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void __riscv_vsoxei32(vbool32_t vm, int64_t *rs1, vuint32m1_t rs2,
                      vint64m2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool16_t vm, int64_t *rs1, vuint32m2_t rs2,
                      vint64m4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool8_t vm, int64_t *rs1, vuint32m4_t rs2,
                      vint64m8_t vs3, size_t vl);
void __riscv_vsoxei64(vbool64_t vm, int64_t *rs1, vuint64m1_t rs2,
                      vint64m1_t vs3, size_t vl);
void __riscv_vsoxei64(vbool32_t vm, int64_t *rs1, vuint64m2_t rs2,
                      vint64m2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool16_t vm, int64_t *rs1, vuint64m4_t rs2,
                      vint64m4_t vs3, size_t vl);
void __riscv_vsoxei64(vbool8_t vm, int64_t *rs1, vuint64m8_t rs2,
                      vint64m8_t vs3, size_t vl);
void __riscv_vsuxei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t rs2, vint8mf8_t vs3,
                     size_t vl);
void __riscv_vsuxei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t rs2, vint8mf4_t vs3,
                     size_t vl);
void __riscv_vsuxei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t rs2, vint8mf2_t vs3,
                     size_t vl);
void __riscv_vsuxei8(vbool8_t vm, int8_t *rs1, vuint8m1_t rs2, vint8m1_t vs3,
                     size_t vl);
void __riscv_vsuxei8(vbool4_t vm, int8_t *rs1, vuint8m2_t rs2, vint8m2_t vs3,
                     size_t vl);
void __riscv_vsuxei8(vbool2_t vm, int8_t *rs1, vuint8m4_t rs2, vint8m4_t vs3,
                     size_t vl);
void __riscv_vsuxei8(vbool1_t vm, int8_t *rs1, vuint8m8_t rs2, vint8m8_t vs3,
                     size_t vl);
void __riscv_vsuxei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t rs2,
                      vint8mf8_t vs3, size_t vl);
void __riscv_vsuxei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t rs2,
                      vint8mf4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool16_t vm, int8_t *rs1, vuint16m1_t rs2,
                      vint8mf2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool8_t vm, int8_t *rs1, vuint16m2_t rs2, vint8m1_t vs3,
                      size_t vl);
void __riscv_vsuxei16(vbool4_t vm, int8_t *rs1, vuint16m4_t rs2, vint8m2_t vs3,
                      size_t vl);
void __riscv_vsuxei16(vbool2_t vm, int8_t *rs1, vuint16m8_t rs2, vint8m4_t vs3,
                      size_t vl);
void __riscv_vsuxei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t rs2,
                      vint8mf8_t vs3, size_t vl);
void __riscv_vsuxei32(vbool32_t vm, int8_t *rs1, vuint32m1_t rs2,
                      vint8mf4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool16_t vm, int8_t *rs1, vuint32m2_t rs2,
                      vint8mf2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool8_t vm, int8_t *rs1, vuint32m4_t rs2, vint8m1_t vs3,
                      size_t vl);
void __riscv_vsuxei32(vbool4_t vm, int8_t *rs1, vuint32m8_t rs2, vint8m2_t vs3,
                      size_t vl);
void __riscv_vsuxei64(vbool64_t vm, int8_t *rs1, vuint64m1_t rs2,
                      vint8mf8_t vs3, size_t vl);
void __riscv_vsuxei64(vbool32_t vm, int8_t *rs1, vuint64m2_t rs2,
                      vint8mf4_t vs3, size_t vl);
void __riscv_vsuxei64(vbool16_t vm, int8_t *rs1, vuint64m4_t rs2,
                      vint8mf2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool8_t vm, int8_t *rs1, vuint64m8_t rs2, vint8m1_t vs3,
                      size_t vl);
void __riscv_vsuxei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t rs2,
                     vint16mf4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t rs2,
                     vint16mf2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t rs2,
                     vint16m1_t vs3, size_t vl);
void __riscv_vsuxei8(vbool8_t vm, int16_t *rs1, vuint8m1_t rs2, vint16m2_t vs3,
                     size_t vl);
void __riscv_vsuxei8(vbool4_t vm, int16_t *rs1, vuint8m2_t rs2, vint16m4_t vs3,
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                     size_t vl);
void __riscv_vsuxei8(vbool2_t vm, int16_t *rs1, vuint8m4_t rs2, vint16m8_t vs3,
                     size_t vl);
void __riscv_vsuxei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t rs2,
                      vint16mf4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t rs2,
                      vint16mf2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool16_t vm, int16_t *rs1, vuint16m1_t rs2,
                      vint16m1_t vs3, size_t vl);
void __riscv_vsuxei16(vbool8_t vm, int16_t *rs1, vuint16m2_t rs2,
                      vint16m2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool4_t vm, int16_t *rs1, vuint16m4_t rs2,
                      vint16m4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool2_t vm, int16_t *rs1, vuint16m8_t rs2,
                      vint16m8_t vs3, size_t vl);
void __riscv_vsuxei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t rs2,
                      vint16mf4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool32_t vm, int16_t *rs1, vuint32m1_t rs2,
                      vint16mf2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool16_t vm, int16_t *rs1, vuint32m2_t rs2,
                      vint16m1_t vs3, size_t vl);
void __riscv_vsuxei32(vbool8_t vm, int16_t *rs1, vuint32m4_t rs2,
                      vint16m2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool4_t vm, int16_t *rs1, vuint32m8_t rs2,
                      vint16m4_t vs3, size_t vl);
void __riscv_vsuxei64(vbool64_t vm, int16_t *rs1, vuint64m1_t rs2,
                      vint16mf4_t vs3, size_t vl);
void __riscv_vsuxei64(vbool32_t vm, int16_t *rs1, vuint64m2_t rs2,
                      vint16mf2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool16_t vm, int16_t *rs1, vuint64m4_t rs2,
                      vint16m1_t vs3, size_t vl);
void __riscv_vsuxei64(vbool8_t vm, int16_t *rs1, vuint64m8_t rs2,
                      vint16m2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t rs2,
                     vint32mf2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t rs2,
                     vint32m1_t vs3, size_t vl);
void __riscv_vsuxei8(vbool16_t vm, int32_t *rs1, vuint8mf2_t rs2,
                     vint32m2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool8_t vm, int32_t *rs1, vuint8m1_t rs2, vint32m4_t vs3,
                     size_t vl);
void __riscv_vsuxei8(vbool4_t vm, int32_t *rs1, vuint8m2_t rs2, vint32m8_t vs3,
                     size_t vl);
void __riscv_vsuxei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t rs2,
                      vint32mf2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t rs2,
                      vint32m1_t vs3, size_t vl);
void __riscv_vsuxei16(vbool16_t vm, int32_t *rs1, vuint16m1_t rs2,
                      vint32m2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool8_t vm, int32_t *rs1, vuint16m2_t rs2,
                      vint32m4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool4_t vm, int32_t *rs1, vuint16m4_t rs2,
                      vint32m8_t vs3, size_t vl);
void __riscv_vsuxei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t rs2,
                      vint32mf2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool32_t vm, int32_t *rs1, vuint32m1_t rs2,
                      vint32m1_t vs3, size_t vl);
void __riscv_vsuxei32(vbool16_t vm, int32_t *rs1, vuint32m2_t rs2,
                      vint32m2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool8_t vm, int32_t *rs1, vuint32m4_t rs2,
                      vint32m4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool4_t vm, int32_t *rs1, vuint32m8_t rs2,
                      vint32m8_t vs3, size_t vl);
void __riscv_vsuxei64(vbool64_t vm, int32_t *rs1, vuint64m1_t rs2,
                      vint32mf2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool32_t vm, int32_t *rs1, vuint64m2_t rs2,
                      vint32m1_t vs3, size_t vl);
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void __riscv_vsuxei64(vbool16_t vm, int32_t *rs1, vuint64m4_t rs2,
                      vint32m2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool8_t vm, int32_t *rs1, vuint64m8_t rs2,
                      vint32m4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t rs2,
                     vint64m1_t vs3, size_t vl);
void __riscv_vsuxei8(vbool32_t vm, int64_t *rs1, vuint8mf4_t rs2,
                     vint64m2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool16_t vm, int64_t *rs1, vuint8mf2_t rs2,
                     vint64m4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool8_t vm, int64_t *rs1, vuint8m1_t rs2, vint64m8_t vs3,
                     size_t vl);
void __riscv_vsuxei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t rs2,
                      vint64m1_t vs3, size_t vl);
void __riscv_vsuxei16(vbool32_t vm, int64_t *rs1, vuint16mf2_t rs2,
                      vint64m2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool16_t vm, int64_t *rs1, vuint16m1_t rs2,
                      vint64m4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool8_t vm, int64_t *rs1, vuint16m2_t rs2,
                      vint64m8_t vs3, size_t vl);
void __riscv_vsuxei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t rs2,
                      vint64m1_t vs3, size_t vl);
void __riscv_vsuxei32(vbool32_t vm, int64_t *rs1, vuint32m1_t rs2,
                      vint64m2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool16_t vm, int64_t *rs1, vuint32m2_t rs2,
                      vint64m4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool8_t vm, int64_t *rs1, vuint32m4_t rs2,
                      vint64m8_t vs3, size_t vl);
void __riscv_vsuxei64(vbool64_t vm, int64_t *rs1, vuint64m1_t rs2,
                      vint64m1_t vs3, size_t vl);
void __riscv_vsuxei64(vbool32_t vm, int64_t *rs1, vuint64m2_t rs2,
                      vint64m2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool16_t vm, int64_t *rs1, vuint64m4_t rs2,
                      vint64m4_t vs3, size_t vl);
void __riscv_vsuxei64(vbool8_t vm, int64_t *rs1, vuint64m8_t rs2,
                      vint64m8_t vs3, size_t vl);
void __riscv_vsoxei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t rs2,
                     vuint8mf8_t vs3, size_t vl);
void __riscv_vsoxei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t rs2,
                     vuint8mf4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t rs2,
                     vuint8mf2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t rs2, vuint8m1_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool4_t vm, uint8_t *rs1, vuint8m2_t rs2, vuint8m2_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool2_t vm, uint8_t *rs1, vuint8m4_t rs2, vuint8m4_t vs3,
                     size_t vl);
void __riscv_vsoxei8(vbool1_t vm, uint8_t *rs1, vuint8m8_t rs2, vuint8m8_t vs3,
                     size_t vl);
void __riscv_vsoxei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t rs2,
                      vuint8mf8_t vs3, size_t vl);
void __riscv_vsoxei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t rs2,
                      vuint8mf4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t rs2,
                      vuint8mf2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t rs2,
                      vuint8m1_t vs3, size_t vl);
void __riscv_vsoxei16(vbool4_t vm, uint8_t *rs1, vuint16m4_t rs2,
                      vuint8m2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool2_t vm, uint8_t *rs1, vuint16m8_t rs2,
                      vuint8m4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t rs2,
                      vuint8mf8_t vs3, size_t vl);
void __riscv_vsoxei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t rs2,
                      vuint8mf4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t rs2,
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                      vuint8mf2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t rs2,
                      vuint8m1_t vs3, size_t vl);
void __riscv_vsoxei32(vbool4_t vm, uint8_t *rs1, vuint32m8_t rs2,
                      vuint8m2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t rs2,
                      vuint8mf8_t vs3, size_t vl);
void __riscv_vsoxei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t rs2,
                      vuint8mf4_t vs3, size_t vl);
void __riscv_vsoxei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t rs2,
                      vuint8mf2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t rs2,
                      vuint8m1_t vs3, size_t vl);
void __riscv_vsoxei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t rs2,
                     vuint16mf4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t rs2,
                     vuint16mf2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t rs2,
                     vuint16m1_t vs3, size_t vl);
void __riscv_vsoxei8(vbool8_t vm, uint16_t *rs1, vuint8m1_t rs2,
                     vuint16m2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool4_t vm, uint16_t *rs1, vuint8m2_t rs2,
                     vuint16m4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool2_t vm, uint16_t *rs1, vuint8m4_t rs2,
                     vuint16m8_t vs3, size_t vl);
void __riscv_vsoxei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t rs2,
                      vuint16mf4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t rs2,
                      vuint16mf2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t rs2,
                      vuint16m1_t vs3, size_t vl);
void __riscv_vsoxei16(vbool8_t vm, uint16_t *rs1, vuint16m2_t rs2,
                      vuint16m2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool4_t vm, uint16_t *rs1, vuint16m4_t rs2,
                      vuint16m4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool2_t vm, uint16_t *rs1, vuint16m8_t rs2,
                      vuint16m8_t vs3, size_t vl);
void __riscv_vsoxei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t rs2,
                      vuint16mf4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t rs2,
                      vuint16mf2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t rs2,
                      vuint16m1_t vs3, size_t vl);
void __riscv_vsoxei32(vbool8_t vm, uint16_t *rs1, vuint32m4_t rs2,
                      vuint16m2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool4_t vm, uint16_t *rs1, vuint32m8_t rs2,
                      vuint16m4_t vs3, size_t vl);
void __riscv_vsoxei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t rs2,
                      vuint16mf4_t vs3, size_t vl);
void __riscv_vsoxei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t rs2,
                      vuint16mf2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t rs2,
                      vuint16m1_t vs3, size_t vl);
void __riscv_vsoxei64(vbool8_t vm, uint16_t *rs1, vuint64m8_t rs2,
                      vuint16m2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t rs2,
                     vuint32mf2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t rs2,
                     vuint32m1_t vs3, size_t vl);
void __riscv_vsoxei8(vbool16_t vm, uint32_t *rs1, vuint8mf2_t rs2,
                     vuint32m2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool8_t vm, uint32_t *rs1, vuint8m1_t rs2,
                     vuint32m4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool4_t vm, uint32_t *rs1, vuint8m2_t rs2,
                     vuint32m8_t vs3, size_t vl);
void __riscv_vsoxei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t rs2,
                      vuint32mf2_t vs3, size_t vl);
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void __riscv_vsoxei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t rs2,
                      vuint32m1_t vs3, size_t vl);
void __riscv_vsoxei16(vbool16_t vm, uint32_t *rs1, vuint16m1_t rs2,
                      vuint32m2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool8_t vm, uint32_t *rs1, vuint16m2_t rs2,
                      vuint32m4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool4_t vm, uint32_t *rs1, vuint16m4_t rs2,
                      vuint32m8_t vs3, size_t vl);
void __riscv_vsoxei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t rs2,
                      vuint32mf2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t rs2,
                      vuint32m1_t vs3, size_t vl);
void __riscv_vsoxei32(vbool16_t vm, uint32_t *rs1, vuint32m2_t rs2,
                      vuint32m2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool8_t vm, uint32_t *rs1, vuint32m4_t rs2,
                      vuint32m4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool4_t vm, uint32_t *rs1, vuint32m8_t rs2,
                      vuint32m8_t vs3, size_t vl);
void __riscv_vsoxei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t rs2,
                      vuint32mf2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t rs2,
                      vuint32m1_t vs3, size_t vl);
void __riscv_vsoxei64(vbool16_t vm, uint32_t *rs1, vuint64m4_t rs2,
                      vuint32m2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool8_t vm, uint32_t *rs1, vuint64m8_t rs2,
                      vuint32m4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t rs2,
                     vuint64m1_t vs3, size_t vl);
void __riscv_vsoxei8(vbool32_t vm, uint64_t *rs1, vuint8mf4_t rs2,
                     vuint64m2_t vs3, size_t vl);
void __riscv_vsoxei8(vbool16_t vm, uint64_t *rs1, vuint8mf2_t rs2,
                     vuint64m4_t vs3, size_t vl);
void __riscv_vsoxei8(vbool8_t vm, uint64_t *rs1, vuint8m1_t rs2,
                     vuint64m8_t vs3, size_t vl);
void __riscv_vsoxei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t rs2,
                      vuint64m1_t vs3, size_t vl);
void __riscv_vsoxei16(vbool32_t vm, uint64_t *rs1, vuint16mf2_t rs2,
                      vuint64m2_t vs3, size_t vl);
void __riscv_vsoxei16(vbool16_t vm, uint64_t *rs1, vuint16m1_t rs2,
                      vuint64m4_t vs3, size_t vl);
void __riscv_vsoxei16(vbool8_t vm, uint64_t *rs1, vuint16m2_t rs2,
                      vuint64m8_t vs3, size_t vl);
void __riscv_vsoxei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t rs2,
                      vuint64m1_t vs3, size_t vl);
void __riscv_vsoxei32(vbool32_t vm, uint64_t *rs1, vuint32m1_t rs2,
                      vuint64m2_t vs3, size_t vl);
void __riscv_vsoxei32(vbool16_t vm, uint64_t *rs1, vuint32m2_t rs2,
                      vuint64m4_t vs3, size_t vl);
void __riscv_vsoxei32(vbool8_t vm, uint64_t *rs1, vuint32m4_t rs2,
                      vuint64m8_t vs3, size_t vl);
void __riscv_vsoxei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t rs2,
                      vuint64m1_t vs3, size_t vl);
void __riscv_vsoxei64(vbool32_t vm, uint64_t *rs1, vuint64m2_t rs2,
                      vuint64m2_t vs3, size_t vl);
void __riscv_vsoxei64(vbool16_t vm, uint64_t *rs1, vuint64m4_t rs2,
                      vuint64m4_t vs3, size_t vl);
void __riscv_vsoxei64(vbool8_t vm, uint64_t *rs1, vuint64m8_t rs2,
                      vuint64m8_t vs3, size_t vl);
void __riscv_vsuxei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t rs2,
                     vuint8mf8_t vs3, size_t vl);
void __riscv_vsuxei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t rs2,
                     vuint8mf4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t rs2,
                     vuint8mf2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t rs2, vuint8m1_t vs3,
                     size_t vl);
void __riscv_vsuxei8(vbool4_t vm, uint8_t *rs1, vuint8m2_t rs2, vuint8m2_t vs3,
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                     size_t vl);
void __riscv_vsuxei8(vbool2_t vm, uint8_t *rs1, vuint8m4_t rs2, vuint8m4_t vs3,
                     size_t vl);
void __riscv_vsuxei8(vbool1_t vm, uint8_t *rs1, vuint8m8_t rs2, vuint8m8_t vs3,
                     size_t vl);
void __riscv_vsuxei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t rs2,
                      vuint8mf8_t vs3, size_t vl);
void __riscv_vsuxei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t rs2,
                      vuint8mf4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t rs2,
                      vuint8mf2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t rs2,
                      vuint8m1_t vs3, size_t vl);
void __riscv_vsuxei16(vbool4_t vm, uint8_t *rs1, vuint16m4_t rs2,
                      vuint8m2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool2_t vm, uint8_t *rs1, vuint16m8_t rs2,
                      vuint8m4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t rs2,
                      vuint8mf8_t vs3, size_t vl);
void __riscv_vsuxei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t rs2,
                      vuint8mf4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t rs2,
                      vuint8mf2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t rs2,
                      vuint8m1_t vs3, size_t vl);
void __riscv_vsuxei32(vbool4_t vm, uint8_t *rs1, vuint32m8_t rs2,
                      vuint8m2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t rs2,
                      vuint8mf8_t vs3, size_t vl);
void __riscv_vsuxei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t rs2,
                      vuint8mf4_t vs3, size_t vl);
void __riscv_vsuxei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t rs2,
                      vuint8mf2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t rs2,
                      vuint8m1_t vs3, size_t vl);
void __riscv_vsuxei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t rs2,
                     vuint16mf4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t rs2,
                     vuint16mf2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t rs2,
                     vuint16m1_t vs3, size_t vl);
void __riscv_vsuxei8(vbool8_t vm, uint16_t *rs1, vuint8m1_t rs2,
                     vuint16m2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool4_t vm, uint16_t *rs1, vuint8m2_t rs2,
                     vuint16m4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool2_t vm, uint16_t *rs1, vuint8m4_t rs2,
                     vuint16m8_t vs3, size_t vl);
void __riscv_vsuxei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t rs2,
                      vuint16mf4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t rs2,
                      vuint16mf2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t rs2,
                      vuint16m1_t vs3, size_t vl);
void __riscv_vsuxei16(vbool8_t vm, uint16_t *rs1, vuint16m2_t rs2,
                      vuint16m2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool4_t vm, uint16_t *rs1, vuint16m4_t rs2,
                      vuint16m4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool2_t vm, uint16_t *rs1, vuint16m8_t rs2,
                      vuint16m8_t vs3, size_t vl);
void __riscv_vsuxei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t rs2,
                      vuint16mf4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t rs2,
                      vuint16mf2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t rs2,
                      vuint16m1_t vs3, size_t vl);
void __riscv_vsuxei32(vbool8_t vm, uint16_t *rs1, vuint32m4_t rs2,
                      vuint16m2_t vs3, size_t vl);
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void __riscv_vsuxei32(vbool4_t vm, uint16_t *rs1, vuint32m8_t rs2,
                      vuint16m4_t vs3, size_t vl);
void __riscv_vsuxei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t rs2,
                      vuint16mf4_t vs3, size_t vl);
void __riscv_vsuxei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t rs2,
                      vuint16mf2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t rs2,
                      vuint16m1_t vs3, size_t vl);
void __riscv_vsuxei64(vbool8_t vm, uint16_t *rs1, vuint64m8_t rs2,
                      vuint16m2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t rs2,
                     vuint32mf2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t rs2,
                     vuint32m1_t vs3, size_t vl);
void __riscv_vsuxei8(vbool16_t vm, uint32_t *rs1, vuint8mf2_t rs2,
                     vuint32m2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool8_t vm, uint32_t *rs1, vuint8m1_t rs2,
                     vuint32m4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool4_t vm, uint32_t *rs1, vuint8m2_t rs2,
                     vuint32m8_t vs3, size_t vl);
void __riscv_vsuxei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t rs2,
                      vuint32mf2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t rs2,
                      vuint32m1_t vs3, size_t vl);
void __riscv_vsuxei16(vbool16_t vm, uint32_t *rs1, vuint16m1_t rs2,
                      vuint32m2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool8_t vm, uint32_t *rs1, vuint16m2_t rs2,
                      vuint32m4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool4_t vm, uint32_t *rs1, vuint16m4_t rs2,
                      vuint32m8_t vs3, size_t vl);
void __riscv_vsuxei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t rs2,
                      vuint32mf2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t rs2,
                      vuint32m1_t vs3, size_t vl);
void __riscv_vsuxei32(vbool16_t vm, uint32_t *rs1, vuint32m2_t rs2,
                      vuint32m2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool8_t vm, uint32_t *rs1, vuint32m4_t rs2,
                      vuint32m4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool4_t vm, uint32_t *rs1, vuint32m8_t rs2,
                      vuint32m8_t vs3, size_t vl);
void __riscv_vsuxei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t rs2,
                      vuint32mf2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t rs2,
                      vuint32m1_t vs3, size_t vl);
void __riscv_vsuxei64(vbool16_t vm, uint32_t *rs1, vuint64m4_t rs2,
                      vuint32m2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool8_t vm, uint32_t *rs1, vuint64m8_t rs2,
                      vuint32m4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t rs2,
                     vuint64m1_t vs3, size_t vl);
void __riscv_vsuxei8(vbool32_t vm, uint64_t *rs1, vuint8mf4_t rs2,
                     vuint64m2_t vs3, size_t vl);
void __riscv_vsuxei8(vbool16_t vm, uint64_t *rs1, vuint8mf2_t rs2,
                     vuint64m4_t vs3, size_t vl);
void __riscv_vsuxei8(vbool8_t vm, uint64_t *rs1, vuint8m1_t rs2,
                     vuint64m8_t vs3, size_t vl);
void __riscv_vsuxei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t rs2,
                      vuint64m1_t vs3, size_t vl);
void __riscv_vsuxei16(vbool32_t vm, uint64_t *rs1, vuint16mf2_t rs2,
                      vuint64m2_t vs3, size_t vl);
void __riscv_vsuxei16(vbool16_t vm, uint64_t *rs1, vuint16m1_t rs2,
                      vuint64m4_t vs3, size_t vl);
void __riscv_vsuxei16(vbool8_t vm, uint64_t *rs1, vuint16m2_t rs2,
                      vuint64m8_t vs3, size_t vl);
void __riscv_vsuxei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t rs2,
                      vuint64m1_t vs3, size_t vl);
void __riscv_vsuxei32(vbool32_t vm, uint64_t *rs1, vuint32m1_t rs2,
```

```
                      vuint64m2_t vs3, size_t vl);
void __riscv_vsuxei32(vbool16_t vm, uint64_t *rs1, vuint32m2_t rs2,
                      vuint64m4_t vs3, size_t vl);
void __riscv_vsuxei32(vbool8_t vm, uint64_t *rs1, vuint32m4_t rs2,
                      vuint64m8_t vs3, size_t vl);
void __riscv_vsuxei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t rs2,
                      vuint64m1_t vs3, size_t vl);
void __riscv_vsuxei64(vbool32_t vm, uint64_t *rs1, vuint64m2_t rs2,
                      vuint64m2_t vs3, size_t vl);
void __riscv_vsuxei64(vbool16_t vm, uint64_t *rs1, vuint64m4_t rs2,
                      vuint64m4_t vs3, size_t vl);
void __riscv_vsuxei64(vbool8_t vm, uint64_t *rs1, vuint64m8_t rs2,
                      vuint64m8_t vs3, size_t vl);
```

C.1.8. Unit-stride Fault-Only-First Loads Intrinsics

```
// masked functions
vfloat16mf4_t __riscv_vle16ff(vbool64_t vm, const _Float16 *rs1, size_t *new_vl,
                              size_t vl);
vfloat16mf2_t __riscv_vle16ff(vbool32_t vm, const _Float16 *rs1, size_t *new_vl,
                              size_t vl);
vfloat16m1_t __riscv_vle16ff(vbool16_t vm, const _Float16 *rs1, size_t *new_vl,
                             size_t vl);
vfloat16m2_t __riscv_vle16ff(vbool8_t vm, const _Float16 *rs1, size_t *new_vl,
                             size_t vl);
vfloat16m4_t __riscv_vle16ff(vbool4_t vm, const _Float16 *rs1, size_t *new_vl,
                             size_t vl);
vfloat16m8_t __riscv_vle16ff(vbool2_t vm, const _Float16 *rs1, size_t *new_vl,
                             size_t vl);
vfloat32mf2_t __riscv_vle32ff(vbool64_t vm, const float *rs1, size_t *new_vl,
                              size_t vl);
vfloat32m1_t __riscv_vle32ff(vbool32_t vm, const float *rs1, size_t *new_vl,
                             size_t vl);
vfloat32m2_t __riscv_vle32ff(vbool16_t vm, const float *rs1, size_t *new_vl,
                             size_t vl);
vfloat32m4_t __riscv_vle32ff(vbool8_t vm, const float *rs1, size_t *new_vl,
                             size_t vl);
vfloat32m8_t __riscv_vle32ff(vbool4_t vm, const float *rs1, size_t *new_vl,
                             size_t vl);
vfloat64m1_t __riscv_vle64ff(vbool64_t vm, const double *rs1, size_t *new_vl,
                             size_t vl);
vfloat64m2_t __riscv_vle64ff(vbool32_t vm, const double *rs1, size_t *new_vl,
                             size_t vl);
vfloat64m4_t __riscv_vle64ff(vbool16_t vm, const double *rs1, size_t *new_vl,
                             size_t vl);
vfloat64m8_t __riscv_vle64ff(vbool8_t vm, const double *rs1, size_t *new_vl,
                             size_t vl);
vint8mf8_t __riscv_vle8ff(vbool64_t vm, const int8_t *rs1, size_t *new_vl,
                          size_t vl);
vint8mf4_t __riscv_vle8ff(vbool32_t vm, const int8_t *rs1, size_t *new_vl,
                          size_t vl);
vint8mf2_t __riscv_vle8ff(vbool16_t vm, const int8_t *rs1, size_t *new_vl,
                          size_t vl);
vint8m1_t __riscv_vle8ff(vbool8_t vm, const int8_t *rs1, size_t *new_vl,
                         size_t vl);
vint8m2_t __riscv_vle8ff(vbool4_t vm, const int8_t *rs1, size_t *new_vl,
                         size_t vl);
vint8m4_t __riscv_vle8ff(vbool2_t vm, const int8_t *rs1, size_t *new_vl,
                         size_t vl);
vint8m8_t __riscv_vle8ff(vbool1_t vm, const int8_t *rs1, size_t *new_vl,
                         size_t vl);
vint16mf4_t __riscv_vle16ff(vbool64_t vm, const int16_t *rs1, size_t *new_vl,
                            size_t vl);
vint16mf2_t __riscv_vle16ff(vbool32_t vm, const int16_t *rs1, size_t *new_vl,
                            size_t vl);
```

```
vint16m1_t __riscv_vle16ff(vbool16_t vm, const int16_t *rs1, size_t *new_vl,
                           size_t vl);
vint16m2_t __riscv_vle16ff(vbool8_t vm, const int16_t *rs1, size_t *new_vl,
                           size_t vl);
vint16m4_t __riscv_vle16ff(vbool4_t vm, const int16_t *rs1, size_t *new_vl,
                           size_t vl);
vint16m8_t __riscv_vle16ff(vbool2_t vm, const int16_t *rs1, size_t *new_vl,
                           size_t vl);
vint32mf2_t __riscv_vle32ff(vbool64_t vm, const int32_t *rs1, size_t *new_vl,
                            size_t vl);
vint32m1_t __riscv_vle32ff(vbool32_t vm, const int32_t *rs1, size_t *new_vl,
                           size_t vl);
vint32m2_t __riscv_vle32ff(vbool16_t vm, const int32_t *rs1, size_t *new_vl,
                           size_t vl);
vint32m4_t __riscv_vle32ff(vbool8_t vm, const int32_t *rs1, size_t *new_vl,
                           size_t vl);
vint32m8_t __riscv_vle32ff(vbool4_t vm, const int32_t *rs1, size_t *new_vl,
                           size_t vl);
vint64m1_t __riscv_vle64ff(vbool64_t vm, const int64_t *rs1, size_t *new_vl,
                           size_t vl);
vint64m2_t __riscv_vle64ff(vbool32_t vm, const int64_t *rs1, size_t *new_vl,
                           size_t vl);
vint64m4_t __riscv_vle64ff(vbool16_t vm, const int64_t *rs1, size_t *new_vl,
                           size_t vl);
vint64m8_t __riscv_vle64ff(vbool8_t vm, const int64_t *rs1, size_t *new_vl,
                           size_t vl);
vuint8mf8_t __riscv_vle8ff(vbool64_t vm, const uint8_t *rs1, size_t *new_vl,
                           size_t vl);
vuint8mf4_t __riscv_vle8ff(vbool32_t vm, const uint8_t *rs1, size_t *new_vl,
                           size_t vl);
vuint8mf2_t __riscv_vle8ff(vbool16_t vm, const uint8_t *rs1, size_t *new_vl,
                           size_t vl);
vuint8m1_t __riscv_vle8ff(vbool8_t vm, const uint8_t *rs1, size_t *new_vl,
                          size_t vl);
vuint8m2_t __riscv_vle8ff(vbool4_t vm, const uint8_t *rs1, size_t *new_vl,
                          size_t vl);
vuint8m4_t __riscv_vle8ff(vbool2_t vm, const uint8_t *rs1, size_t *new_vl,
                          size_t vl);
vuint8m8_t __riscv_vle8ff(vbool1_t vm, const uint8_t *rs1, size_t *new_vl,
                          size_t vl);
vuint16mf4_t __riscv_vle16ff(vbool64_t vm, const uint16_t *rs1, size_t *new_vl,
                             size_t vl);
vuint16mf2_t __riscv_vle16ff(vbool32_t vm, const uint16_t *rs1, size_t *new_vl,
                             size_t vl);
vuint16m1_t __riscv_vle16ff(vbool16_t vm, const uint16_t *rs1, size_t *new_vl,
                            size_t vl);
vuint16m2_t __riscv_vle16ff(vbool8_t vm, const uint16_t *rs1, size_t *new_vl,
                            size_t vl);
vuint16m4_t __riscv_vle16ff(vbool4_t vm, const uint16_t *rs1, size_t *new_vl,
                            size_t vl);
vuint16m8_t __riscv_vle16ff(vbool2_t vm, const uint16_t *rs1, size_t *new_vl,
                            size_t vl);
vuint32mf2_t __riscv_vle32ff(vbool64_t vm, const uint32_t *rs1, size_t *new_vl,
                             size_t vl);
vuint32m1_t __riscv_vle32ff(vbool32_t vm, const uint32_t *rs1, size_t *new_vl,
                            size_t vl);
vuint32m2_t __riscv_vle32ff(vbool16_t vm, const uint32_t *rs1, size_t *new_vl,
                            size_t vl);
vuint32m4_t __riscv_vle32ff(vbool8_t vm, const uint32_t *rs1, size_t *new_vl,
                            size_t vl);
vuint32m8_t __riscv_vle32ff(vbool4_t vm, const uint32_t *rs1, size_t *new_vl,
                            size_t vl);
vuint64m1_t __riscv_vle64ff(vbool64_t vm, const uint64_t *rs1, size_t *new_vl,
                            size_t vl);
vuint64m2_t __riscv_vle64ff(vbool32_t vm, const uint64_t *rs1, size_t *new_vl,
                            size_t vl);
vuint64m4_t __riscv_vle64ff(vbool16_t vm, const uint64_t *rs1, size_t *new_vl,
```

```
                            size_t vl);
vuint64m8_t __riscv_vle64ff(vbool8_t vm, const uint64_t *rs1, size_t *new_vl,
                            size_t vl);
```

C.2. Vector Loads and Stores Segment Intrinsics

C.2.1. Vector Unit-Stride Segment Load Intrinsics

```
// masked functions
vfloat16mf4x2_t __riscv_vlseg2e16(vbool64_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16(vbool64_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16(vbool64_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16(vbool64_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16(vbool64_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16(vbool64_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16(vbool64_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16(vbool32_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16(vbool32_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16(vbool32_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16(vbool32_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16(vbool32_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16(vbool32_t vm, const _Float16 *rs1, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16(vbool32_t vm, const _Float16 *rs1, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16(vbool16_t vm, const _Float16 *rs1, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16(vbool16_t vm, const _Float16 *rs1, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16(vbool16_t vm, const _Float16 *rs1, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16(vbool16_t vm, const _Float16 *rs1, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16(vbool16_t vm, const _Float16 *rs1, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16(vbool16_t vm, const _Float16 *rs1, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16(vbool16_t vm, const _Float16 *rs1, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16(vbool8_t vm, const _Float16 *rs1, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16(vbool8_t vm, const _Float16 *rs1, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16(vbool8_t vm, const _Float16 *rs1, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16(vbool4_t vm, const _Float16 *rs1, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32(vbool64_t vm, const float *rs1, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32(vbool64_t vm, const float *rs1, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32(vbool64_t vm, const float *rs1, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32(vbool64_t vm, const float *rs1, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32(vbool64_t vm, const float *rs1, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32(vbool64_t vm, const float *rs1, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32(vbool64_t vm, const float *rs1, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32(vbool32_t vm, const float *rs1, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32(vbool32_t vm, const float *rs1, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32(vbool32_t vm, const float *rs1, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32(vbool32_t vm, const float *rs1, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32(vbool32_t vm, const float *rs1, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32(vbool32_t vm, const float *rs1, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32(vbool32_t vm, const float *rs1, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32(vbool16_t vm, const float *rs1, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32(vbool16_t vm, const float *rs1, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32(vbool16_t vm, const float *rs1, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32(vbool8_t vm, const float *rs1, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64(vbool64_t vm, const double *rs1, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64(vbool64_t vm, const double *rs1, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64(vbool64_t vm, const double *rs1, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64(vbool64_t vm, const double *rs1, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64(vbool64_t vm, const double *rs1, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64(vbool64_t vm, const double *rs1, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64(vbool64_t vm, const double *rs1, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64(vbool32_t vm, const double *rs1, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64(vbool32_t vm, const double *rs1, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64(vbool32_t vm, const double *rs1, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64(vbool16_t vm, const double *rs1, size_t vl);
```

```
vfloat16mf4x2_t __riscv_vlseg2e16ff(vbool64_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16ff(vbool64_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16ff(vbool64_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16ff(vbool64_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16ff(vbool64_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16ff(vbool64_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16ff(vbool64_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16ff(vbool32_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16ff(vbool32_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16ff(vbool32_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16ff(vbool32_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16ff(vbool32_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16ff(vbool32_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16ff(vbool32_t vm, const _Float16 *rs1,
                                    size_t *new_vl, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16ff(vbool16_t vm, const _Float16 *rs1,
                                   size_t *new_vl, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16ff(vbool16_t vm, const _Float16 *rs1,
                                   size_t *new_vl, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16ff(vbool16_t vm, const _Float16 *rs1,
                                   size_t *new_vl, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16ff(vbool16_t vm, const _Float16 *rs1,
                                   size_t *new_vl, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16ff(vbool16_t vm, const _Float16 *rs1,
                                   size_t *new_vl, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16ff(vbool16_t vm, const _Float16 *rs1,
                                   size_t *new_vl, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16ff(vbool16_t vm, const _Float16 *rs1,
                                   size_t *new_vl, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16ff(vbool8_t vm, const _Float16 *rs1,
                                   size_t *new_vl, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16ff(vbool8_t vm, const _Float16 *rs1,
                                   size_t *new_vl, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16ff(vbool8_t vm, const _Float16 *rs1,
                                   size_t *new_vl, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16ff(vbool4_t vm, const _Float16 *rs1,
                                   size_t *new_vl, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32ff(vbool64_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32ff(vbool64_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32ff(vbool64_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32ff(vbool64_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32ff(vbool64_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32ff(vbool64_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32ff(vbool64_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32ff(vbool32_t vm, const float *rs1,
                                   size_t *new_vl, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32ff(vbool32_t vm, const float *rs1,
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                                    size_t *new_vl, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32ff(vbool32_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32ff(vbool32_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32ff(vbool32_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32ff(vbool32_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32ff(vbool32_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32ff(vbool16_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32ff(vbool16_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32ff(vbool16_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32ff(vbool8_t vm, const float *rs1,
                                    size_t *new_vl, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64ff(vbool64_t vm, const double *rs1,
                                    size_t *new_vl, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64ff(vbool64_t vm, const double *rs1,
                                    size_t *new_vl, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64ff(vbool64_t vm, const double *rs1,
                                    size_t *new_vl, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64ff(vbool64_t vm, const double *rs1,
                                    size_t *new_vl, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64ff(vbool64_t vm, const double *rs1,
                                    size_t *new_vl, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64ff(vbool64_t vm, const double *rs1,
                                    size_t *new_vl, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64ff(vbool64_t vm, const double *rs1,
                                    size_t *new_vl, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64ff(vbool32_t vm, const double *rs1,
                                    size_t *new_vl, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64ff(vbool32_t vm, const double *rs1,
                                    size_t *new_vl, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64ff(vbool32_t vm, const double *rs1,
                                    size_t *new_vl, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64ff(vbool16_t vm, const double *rs1,
                                    size_t *new_vl, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8(vbool64_t vm, const int8_t *rs1, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8(vbool64_t vm, const int8_t *rs1, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8(vbool64_t vm, const int8_t *rs1, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8(vbool64_t vm, const int8_t *rs1, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8(vbool64_t vm, const int8_t *rs1, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8(vbool64_t vm, const int8_t *rs1, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8(vbool64_t vm, const int8_t *rs1, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8(vbool32_t vm, const int8_t *rs1, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8(vbool32_t vm, const int8_t *rs1, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8(vbool32_t vm, const int8_t *rs1, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8(vbool32_t vm, const int8_t *rs1, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8(vbool32_t vm, const int8_t *rs1, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8(vbool32_t vm, const int8_t *rs1, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8(vbool32_t vm, const int8_t *rs1, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8(vbool16_t vm, const int8_t *rs1, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8(vbool16_t vm, const int8_t *rs1, size_t vl);
vint8mf2x4_t __riscv_vlseg4e8(vbool16_t vm, const int8_t *rs1, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8(vbool16_t vm, const int8_t *rs1, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8(vbool16_t vm, const int8_t *rs1, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8(vbool16_t vm, const int8_t *rs1, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8(vbool16_t vm, const int8_t *rs1, size_t vl);
vint8m1x2_t __riscv_vlseg2e8(vbool8_t vm, const int8_t *rs1, size_t vl);
vint8m1x3_t __riscv_vlseg3e8(vbool8_t vm, const int8_t *rs1, size_t vl);
vint8m1x4_t __riscv_vlseg4e8(vbool8_t vm, const int8_t *rs1, size_t vl);
vint8m1x5_t __riscv_vlseg5e8(vbool8_t vm, const int8_t *rs1, size_t vl);
vint8m1x6_t __riscv_vlseg6e8(vbool8_t vm, const int8_t *rs1, size_t vl);
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vint8m1x7_t __riscv_vlseg7e8(vbool8_t vm, const int8_t *rs1, size_t vl);
vint8m1x8_t __riscv_vlseg8e8(vbool8_t vm, const int8_t *rs1, size_t vl);
vint8m2x2_t __riscv_vlseg2e8(vbool4_t vm, const int8_t *rs1, size_t vl);
vint8m2x3_t __riscv_vlseg3e8(vbool4_t vm, const int8_t *rs1, size_t vl);
vint8m2x4_t __riscv_vlseg4e8(vbool4_t vm, const int8_t *rs1, size_t vl);
vint8m4x2_t __riscv_vlseg2e8(vbool2_t vm, const int8_t *rs1, size_t vl);
vint16mf4x2_t __riscv_vlseg2e16(vbool64_t vm, const int16_t *rs1, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16(vbool64_t vm, const int16_t *rs1, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16(vbool64_t vm, const int16_t *rs1, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16(vbool64_t vm, const int16_t *rs1, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16(vbool64_t vm, const int16_t *rs1, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16(vbool64_t vm, const int16_t *rs1, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16(vbool64_t vm, const int16_t *rs1, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16(vbool32_t vm, const int16_t *rs1, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16(vbool32_t vm, const int16_t *rs1, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16(vbool32_t vm, const int16_t *rs1, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16(vbool32_t vm, const int16_t *rs1, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16(vbool32_t vm, const int16_t *rs1, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16(vbool32_t vm, const int16_t *rs1, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16(vbool32_t vm, const int16_t *rs1, size_t vl);
vint16m1x2_t __riscv_vlseg2e16(vbool16_t vm, const int16_t *rs1, size_t vl);
vint16m1x3_t __riscv_vlseg3e16(vbool16_t vm, const int16_t *rs1, size_t vl);
vint16m1x4_t __riscv_vlseg4e16(vbool16_t vm, const int16_t *rs1, size_t vl);
vint16m1x5_t __riscv_vlseg5e16(vbool16_t vm, const int16_t *rs1, size_t vl);
vint16m1x6_t __riscv_vlseg6e16(vbool16_t vm, const int16_t *rs1, size_t vl);
vint16m1x7_t __riscv_vlseg7e16(vbool16_t vm, const int16_t *rs1, size_t vl);
vint16m1x8_t __riscv_vlseg8e16(vbool16_t vm, const int16_t *rs1, size_t vl);
vint16m2x2_t __riscv_vlseg2e16(vbool8_t vm, const int16_t *rs1, size_t vl);
vint16m2x3_t __riscv_vlseg3e16(vbool8_t vm, const int16_t *rs1, size_t vl);
vint16m2x4_t __riscv_vlseg4e16(vbool8_t vm, const int16_t *rs1, size_t vl);
vint16m4x2_t __riscv_vlseg2e16(vbool4_t vm, const int16_t *rs1, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32(vbool64_t vm, const int32_t *rs1, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32(vbool64_t vm, const int32_t *rs1, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32(vbool64_t vm, const int32_t *rs1, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32(vbool64_t vm, const int32_t *rs1, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32(vbool64_t vm, const int32_t *rs1, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32(vbool64_t vm, const int32_t *rs1, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32(vbool64_t vm, const int32_t *rs1, size_t vl);
vint32m1x2_t __riscv_vlseg2e32(vbool32_t vm, const int32_t *rs1, size_t vl);
vint32m1x3_t __riscv_vlseg3e32(vbool32_t vm, const int32_t *rs1, size_t vl);
vint32m1x4_t __riscv_vlseg4e32(vbool32_t vm, const int32_t *rs1, size_t vl);
vint32m1x5_t __riscv_vlseg5e32(vbool32_t vm, const int32_t *rs1, size_t vl);
vint32m1x6_t __riscv_vlseg6e32(vbool32_t vm, const int32_t *rs1, size_t vl);
vint32m1x7_t __riscv_vlseg7e32(vbool32_t vm, const int32_t *rs1, size_t vl);
vint32m1x8_t __riscv_vlseg8e32(vbool32_t vm, const int32_t *rs1, size_t vl);
vint32m2x2_t __riscv_vlseg2e32(vbool16_t vm, const int32_t *rs1, size_t vl);
vint32m2x3_t __riscv_vlseg3e32(vbool16_t vm, const int32_t *rs1, size_t vl);
vint32m2x4_t __riscv_vlseg4e32(vbool16_t vm, const int32_t *rs1, size_t vl);
vint32m4x2_t __riscv_vlseg2e32(vbool8_t vm, const int32_t *rs1, size_t vl);
vint64m1x2_t __riscv_vlseg2e64(vbool64_t vm, const int64_t *rs1, size_t vl);
vint64m1x3_t __riscv_vlseg3e64(vbool64_t vm, const int64_t *rs1, size_t vl);
vint64m1x4_t __riscv_vlseg4e64(vbool64_t vm, const int64_t *rs1, size_t vl);
vint64m1x5_t __riscv_vlseg5e64(vbool64_t vm, const int64_t *rs1, size_t vl);
vint64m1x6_t __riscv_vlseg6e64(vbool64_t vm, const int64_t *rs1, size_t vl);
vint64m1x7_t __riscv_vlseg7e64(vbool64_t vm, const int64_t *rs1, size_t vl);
vint64m1x8_t __riscv_vlseg8e64(vbool64_t vm, const int64_t *rs1, size_t vl);
vint64m2x2_t __riscv_vlseg2e64(vbool32_t vm, const int64_t *rs1, size_t vl);
vint64m2x3_t __riscv_vlseg3e64(vbool32_t vm, const int64_t *rs1, size_t vl);
vint64m2x4_t __riscv_vlseg4e64(vbool32_t vm, const int64_t *rs1, size_t vl);
vint64m4x2_t __riscv_vlseg2e64(vbool16_t vm, const int64_t *rs1, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8ff(vbool64_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf8x3_t __riscv_vlseg3e8ff(vbool64_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf8x4_t __riscv_vlseg4e8ff(vbool64_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf8x5_t __riscv_vlseg5e8ff(vbool64_t vm, const int8_t *rs1, size_t *new_vl,
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                                size_t vl);
vint8mf8x6_t __riscv_vlseg6e8ff(vbool64_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf8x7_t __riscv_vlseg7e8ff(vbool64_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf8x8_t __riscv_vlseg8e8ff(vbool64_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf4x2_t __riscv_vlseg2e8ff(vbool32_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf4x3_t __riscv_vlseg3e8ff(vbool32_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf4x4_t __riscv_vlseg4e8ff(vbool32_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf4x5_t __riscv_vlseg5e8ff(vbool32_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf4x6_t __riscv_vlseg6e8ff(vbool32_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf4x7_t __riscv_vlseg7e8ff(vbool32_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf4x8_t __riscv_vlseg8e8ff(vbool32_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf2x2_t __riscv_vlseg2e8ff(vbool16_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf2x3_t __riscv_vlseg3e8ff(vbool16_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf2x4_t __riscv_vlseg4e8ff(vbool16_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf2x5_t __riscv_vlseg5e8ff(vbool16_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf2x6_t __riscv_vlseg6e8ff(vbool16_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf2x7_t __riscv_vlseg7e8ff(vbool16_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8mf2x8_t __riscv_vlseg8e8ff(vbool16_t vm, const int8_t *rs1, size_t *new_vl,
                                size_t vl);
vint8m1x2_t __riscv_vlseg2e8ff(vbool8_t vm, const int8_t *rs1, size_t *new_vl,
                               size_t vl);
vint8m1x3_t __riscv_vlseg3e8ff(vbool8_t vm, const int8_t *rs1, size_t *new_vl,
                               size_t vl);
vint8m1x4_t __riscv_vlseg4e8ff(vbool8_t vm, const int8_t *rs1, size_t *new_vl,
                               size_t vl);
vint8m1x5_t __riscv_vlseg5e8ff(vbool8_t vm, const int8_t *rs1, size_t *new_vl,
                               size_t vl);
vint8m1x6_t __riscv_vlseg6e8ff(vbool8_t vm, const int8_t *rs1, size_t *new_vl,
                               size_t vl);
vint8m1x7_t __riscv_vlseg7e8ff(vbool8_t vm, const int8_t *rs1, size_t *new_vl,
                               size_t vl);
vint8m1x8_t __riscv_vlseg8e8ff(vbool8_t vm, const int8_t *rs1, size_t *new_vl,
                               size_t vl);
vint8m2x2_t __riscv_vlseg2e8ff(vbool4_t vm, const int8_t *rs1, size_t *new_vl,
                               size_t vl);
vint8m2x3_t __riscv_vlseg3e8ff(vbool4_t vm, const int8_t *rs1, size_t *new_vl,
                               size_t vl);
vint8m2x4_t __riscv_vlseg4e8ff(vbool4_t vm, const int8_t *rs1, size_t *new_vl,
                               size_t vl);
vint8m4x2_t __riscv_vlseg2e8ff(vbool2_t vm, const int8_t *rs1, size_t *new_vl,
                               size_t vl);
vint16mf4x2_t __riscv_vlseg2e16ff(vbool64_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16ff(vbool64_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16ff(vbool64_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16ff(vbool64_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16ff(vbool64_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
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vint16mf4x7_t __riscv_vlseg7e16ff(vbool64_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16ff(vbool64_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16ff(vbool32_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16ff(vbool32_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16ff(vbool32_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16ff(vbool32_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16ff(vbool32_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16ff(vbool32_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16ff(vbool32_t vm, const int16_t *rs1,
                                  size_t *new_vl, size_t vl);
vint16m1x2_t __riscv_vlseg2e16ff(vbool16_t vm, const int16_t *rs1,
                                 size_t *new_vl, size_t vl);
vint16m1x3_t __riscv_vlseg3e16ff(vbool16_t vm, const int16_t *rs1,
                                 size_t *new_vl, size_t vl);
vint16m1x4_t __riscv_vlseg4e16ff(vbool16_t vm, const int16_t *rs1,
                                 size_t *new_vl, size_t vl);
vint16m1x5_t __riscv_vlseg5e16ff(vbool16_t vm, const int16_t *rs1,
                                 size_t *new_vl, size_t vl);
vint16m1x6_t __riscv_vlseg6e16ff(vbool16_t vm, const int16_t *rs1,
                                 size_t *new_vl, size_t vl);
vint16m1x7_t __riscv_vlseg7e16ff(vbool16_t vm, const int16_t *rs1,
                                 size_t *new_vl, size_t vl);
vint16m1x8_t __riscv_vlseg8e16ff(vbool16_t vm, const int16_t *rs1,
                                 size_t *new_vl, size_t vl);
vint16m2x2_t __riscv_vlseg2e16ff(vbool8_t vm, const int16_t *rs1,
                                 size_t *new_vl, size_t vl);
vint16m2x3_t __riscv_vlseg3e16ff(vbool8_t vm, const int16_t *rs1,
                                 size_t *new_vl, size_t vl);
vint16m2x4_t __riscv_vlseg4e16ff(vbool8_t vm, const int16_t *rs1,
                                 size_t *new_vl, size_t vl);
vint16m4x2_t __riscv_vlseg2e16ff(vbool4_t vm, const int16_t *rs1,
                                 size_t *new_vl, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32ff(vbool64_t vm, const int32_t *rs1,
                                  size_t *new_vl, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32ff(vbool64_t vm, const int32_t *rs1,
                                  size_t *new_vl, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32ff(vbool64_t vm, const int32_t *rs1,
                                  size_t *new_vl, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32ff(vbool64_t vm, const int32_t *rs1,
                                  size_t *new_vl, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32ff(vbool64_t vm, const int32_t *rs1,
                                  size_t *new_vl, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32ff(vbool64_t vm, const int32_t *rs1,
                                  size_t *new_vl, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32ff(vbool64_t vm, const int32_t *rs1,
                                  size_t *new_vl, size_t vl);
vint32m1x2_t __riscv_vlseg2e32ff(vbool32_t vm, const int32_t *rs1,
                                 size_t *new_vl, size_t vl);
vint32m1x3_t __riscv_vlseg3e32ff(vbool32_t vm, const int32_t *rs1,
                                 size_t *new_vl, size_t vl);
vint32m1x4_t __riscv_vlseg4e32ff(vbool32_t vm, const int32_t *rs1,
                                 size_t *new_vl, size_t vl);
vint32m1x5_t __riscv_vlseg5e32ff(vbool32_t vm, const int32_t *rs1,
                                 size_t *new_vl, size_t vl);
vint32m1x6_t __riscv_vlseg6e32ff(vbool32_t vm, const int32_t *rs1,
                                 size_t *new_vl, size_t vl);
vint32m1x7_t __riscv_vlseg7e32ff(vbool32_t vm, const int32_t *rs1,
                                 size_t *new_vl, size_t vl);
vint32m1x8_t __riscv_vlseg8e32ff(vbool32_t vm, const int32_t *rs1,
```

```
                                size_t *new_vl, size_t vl);
vint32m2x2_t __riscv_vlseg2e32ff(vbool16_t vm, const int32_t *rs1,
                                size_t *new_vl, size_t vl);
vint32m2x3_t __riscv_vlseg3e32ff(vbool16_t vm, const int32_t *rs1,
                                size_t *new_vl, size_t vl);
vint32m2x4_t __riscv_vlseg4e32ff(vbool16_t vm, const int32_t *rs1,
                                size_t *new_vl, size_t vl);
vint32m4x2_t __riscv_vlseg2e32ff(vbool8_t vm, const int32_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m1x2_t __riscv_vlseg2e64ff(vbool64_t vm, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m1x3_t __riscv_vlseg3e64ff(vbool64_t vm, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m1x4_t __riscv_vlseg4e64ff(vbool64_t vm, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m1x5_t __riscv_vlseg5e64ff(vbool64_t vm, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m1x6_t __riscv_vlseg6e64ff(vbool64_t vm, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m1x7_t __riscv_vlseg7e64ff(vbool64_t vm, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m1x8_t __riscv_vlseg8e64ff(vbool64_t vm, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m2x2_t __riscv_vlseg2e64ff(vbool32_t vm, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m2x3_t __riscv_vlseg3e64ff(vbool32_t vm, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m2x4_t __riscv_vlseg4e64ff(vbool32_t vm, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m4x2_t __riscv_vlseg2e64ff(vbool16_t vm, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8(vbool64_t vm, const uint8_t *rs1, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8(vbool64_t vm, const uint8_t *rs1, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8(vbool64_t vm, const uint8_t *rs1, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8(vbool64_t vm, const uint8_t *rs1, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8(vbool64_t vm, const uint8_t *rs1, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8(vbool64_t vm, const uint8_t *rs1, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8(vbool64_t vm, const uint8_t *rs1, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8(vbool32_t vm, const uint8_t *rs1, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8(vbool32_t vm, const uint8_t *rs1, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8(vbool32_t vm, const uint8_t *rs1, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8(vbool32_t vm, const uint8_t *rs1, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8(vbool32_t vm, const uint8_t *rs1, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8(vbool32_t vm, const uint8_t *rs1, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8(vbool32_t vm, const uint8_t *rs1, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8(vbool16_t vm, const uint8_t *rs1, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8(vbool16_t vm, const uint8_t *rs1, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8(vbool16_t vm, const uint8_t *rs1, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8(vbool16_t vm, const uint8_t *rs1, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8(vbool16_t vm, const uint8_t *rs1, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8(vbool16_t vm, const uint8_t *rs1, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8(vbool16_t vm, const uint8_t *rs1, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8(vbool8_t vm, const uint8_t *rs1, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8(vbool8_t vm, const uint8_t *rs1, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8(vbool8_t vm, const uint8_t *rs1, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8(vbool8_t vm, const uint8_t *rs1, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8(vbool8_t vm, const uint8_t *rs1, size_t vl);
vuint8m1x7_t __riscv_vlseg7e8(vbool8_t vm, const uint8_t *rs1, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8(vbool8_t vm, const uint8_t *rs1, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8(vbool4_t vm, const uint8_t *rs1, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8(vbool4_t vm, const uint8_t *rs1, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8(vbool4_t vm, const uint8_t *rs1, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8(vbool2_t vm, const uint8_t *rs1, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16(vbool64_t vm, const uint16_t *rs1, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16(vbool64_t vm, const uint16_t *rs1, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16(vbool64_t vm, const uint16_t *rs1, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16(vbool64_t vm, const uint16_t *rs1, size_t vl);
```

```
vuint16mf4x6_t __riscv_vlseg6e16(vbool64_t vm, const uint16_t *rs1, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16(vbool64_t vm, const uint16_t *rs1, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16(vbool64_t vm, const uint16_t *rs1, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16(vbool32_t vm, const uint16_t *rs1, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16(vbool32_t vm, const uint16_t *rs1, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16(vbool32_t vm, const uint16_t *rs1, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16(vbool32_t vm, const uint16_t *rs1, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16(vbool32_t vm, const uint16_t *rs1, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16(vbool32_t vm, const uint16_t *rs1, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16(vbool32_t vm, const uint16_t *rs1, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16(vbool16_t vm, const uint16_t *rs1, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16(vbool16_t vm, const uint16_t *rs1, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16(vbool16_t vm, const uint16_t *rs1, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16(vbool16_t vm, const uint16_t *rs1, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16(vbool16_t vm, const uint16_t *rs1, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16(vbool16_t vm, const uint16_t *rs1, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16(vbool16_t vm, const uint16_t *rs1, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16(vbool8_t vm, const uint16_t *rs1, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16(vbool8_t vm, const uint16_t *rs1, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16(vbool8_t vm, const uint16_t *rs1, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16(vbool4_t vm, const uint16_t *rs1, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32(vbool64_t vm, const uint32_t *rs1, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32(vbool64_t vm, const uint32_t *rs1, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32(vbool64_t vm, const uint32_t *rs1, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32(vbool64_t vm, const uint32_t *rs1, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32(vbool64_t vm, const uint32_t *rs1, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32(vbool64_t vm, const uint32_t *rs1, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32(vbool64_t vm, const uint32_t *rs1, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32(vbool32_t vm, const uint32_t *rs1, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32(vbool32_t vm, const uint32_t *rs1, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32(vbool32_t vm, const uint32_t *rs1, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32(vbool32_t vm, const uint32_t *rs1, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32(vbool32_t vm, const uint32_t *rs1, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32(vbool32_t vm, const uint32_t *rs1, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32(vbool32_t vm, const uint32_t *rs1, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32(vbool16_t vm, const uint32_t *rs1, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32(vbool16_t vm, const uint32_t *rs1, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32(vbool16_t vm, const uint32_t *rs1, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32(vbool8_t vm, const uint32_t *rs1, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64(vbool64_t vm, const uint64_t *rs1, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64(vbool64_t vm, const uint64_t *rs1, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64(vbool64_t vm, const uint64_t *rs1, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64(vbool64_t vm, const uint64_t *rs1, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64(vbool64_t vm, const uint64_t *rs1, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64(vbool64_t vm, const uint64_t *rs1, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64(vbool64_t vm, const uint64_t *rs1, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64(vbool32_t vm, const uint64_t *rs1, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64(vbool32_t vm, const uint64_t *rs1, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64(vbool32_t vm, const uint64_t *rs1, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64(vbool16_t vm, const uint64_t *rs1, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8ff(vbool64_t vm, const uint8_t *rs1,
                                 size_t *new_vl, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8ff(vbool64_t vm, const uint8_t *rs1,
                                 size_t *new_vl, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8ff(vbool64_t vm, const uint8_t *rs1,
                                 size_t *new_vl, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8ff(vbool64_t vm, const uint8_t *rs1,
                                 size_t *new_vl, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8ff(vbool64_t vm, const uint8_t *rs1,
                                 size_t *new_vl, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8ff(vbool64_t vm, const uint8_t *rs1,
                                 size_t *new_vl, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8ff(vbool64_t vm, const uint8_t *rs1,
                                 size_t *new_vl, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8ff(vbool32_t vm, const uint8_t *rs1,
                                 size_t *new_vl, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8ff(vbool32_t vm, const uint8_t *rs1,
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                                size_t *new_vl, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8ff(vbool32_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8ff(vbool32_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8ff(vbool32_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8ff(vbool32_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8ff(vbool32_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8ff(vbool16_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8ff(vbool16_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8ff(vbool16_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8ff(vbool16_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8ff(vbool16_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8ff(vbool16_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8ff(vbool16_t vm, const uint8_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8ff(vbool8_t vm, const uint8_t *rs1, size_t *new_vl,
                               size_t vl);
vuint8m1x3_t __riscv_vlseg3e8ff(vbool8_t vm, const uint8_t *rs1, size_t *new_vl,
                               size_t vl);
vuint8m1x4_t __riscv_vlseg4e8ff(vbool8_t vm, const uint8_t *rs1, size_t *new_vl,
                               size_t vl);
vuint8m1x5_t __riscv_vlseg5e8ff(vbool8_t vm, const uint8_t *rs1, size_t *new_vl,
                               size_t vl);
vuint8m1x6_t __riscv_vlseg6e8ff(vbool8_t vm, const uint8_t *rs1, size_t *new_vl,
                               size_t vl);
vuint8m1x7_t __riscv_vlseg7e8ff(vbool8_t vm, const uint8_t *rs1, size_t *new_vl,
                               size_t vl);
vuint8m1x8_t __riscv_vlseg8e8ff(vbool8_t vm, const uint8_t *rs1, size_t *new_vl,
                               size_t vl);
vuint8m2x2_t __riscv_vlseg2e8ff(vbool4_t vm, const uint8_t *rs1, size_t *new_vl,
                               size_t vl);
vuint8m2x3_t __riscv_vlseg3e8ff(vbool4_t vm, const uint8_t *rs1, size_t *new_vl,
                               size_t vl);
vuint8m2x4_t __riscv_vlseg4e8ff(vbool4_t vm, const uint8_t *rs1, size_t *new_vl,
                               size_t vl);
vuint8m4x2_t __riscv_vlseg2e8ff(vbool2_t vm, const uint8_t *rs1, size_t *new_vl,
                               size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16ff(vbool64_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16ff(vbool64_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16ff(vbool64_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16ff(vbool64_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16ff(vbool64_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16ff(vbool64_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16ff(vbool64_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16ff(vbool32_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16ff(vbool32_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16ff(vbool32_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
```

```
vuint16mf2x5_t __riscv_vlseg5e16ff(vbool32_t vm, const uint16_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16ff(vbool32_t vm, const uint16_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16ff(vbool32_t vm, const uint16_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16ff(vbool32_t vm, const uint16_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16ff(vbool16_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16ff(vbool16_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16ff(vbool16_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16ff(vbool16_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16ff(vbool16_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16ff(vbool16_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16ff(vbool16_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16ff(vbool8_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16ff(vbool8_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16ff(vbool8_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16ff(vbool4_t vm, const uint16_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32ff(vbool64_t vm, const uint32_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32ff(vbool64_t vm, const uint32_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32ff(vbool64_t vm, const uint32_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32ff(vbool64_t vm, const uint32_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32ff(vbool64_t vm, const uint32_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32ff(vbool64_t vm, const uint32_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32ff(vbool64_t vm, const uint32_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32ff(vbool32_t vm, const uint32_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32ff(vbool32_t vm, const uint32_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32ff(vbool32_t vm, const uint32_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32ff(vbool32_t vm, const uint32_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32ff(vbool32_t vm, const uint32_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32ff(vbool32_t vm, const uint32_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32ff(vbool32_t vm, const uint32_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32ff(vbool16_t vm, const uint32_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32ff(vbool16_t vm, const uint32_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32ff(vbool16_t vm, const uint32_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32ff(vbool8_t vm, const uint32_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64ff(vbool64_t vm, const uint64_t *rs1,
```

```
                                  size_t *new_vl, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64ff(vbool64_t vm, const uint64_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64ff(vbool64_t vm, const uint64_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64ff(vbool64_t vm, const uint64_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64ff(vbool64_t vm, const uint64_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64ff(vbool64_t vm, const uint64_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64ff(vbool64_t vm, const uint64_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64ff(vbool32_t vm, const uint64_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64ff(vbool32_t vm, const uint64_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64ff(vbool32_t vm, const uint64_t *rs1,
                                  size_t *new_vl, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64ff(vbool16_t vm, const uint64_t *rs1,
                                  size_t *new_vl, size_t vl);
```

C.2.2. Vector Unit-Stride Segment Store Intrinsics

```
void __riscv_vsseg2e16(_Float16 *rs1, vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e16(_Float16 *rs1, vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e16(_Float16 *rs1, vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e16(_Float16 *rs1, vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e16(_Float16 *rs1, vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e16(_Float16 *rs1, vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e16(_Float16 *rs1, vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e16(_Float16 *rs1, vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e16(_Float16 *rs1, vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e16(_Float16 *rs1, vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e16(_Float16 *rs1, vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e16(_Float16 *rs1, vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e16(_Float16 *rs1, vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e16(_Float16 *rs1, vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e16(_Float16 *rs1, vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsseg3e16(_Float16 *rs1, vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsseg4e16(_Float16 *rs1, vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsseg5e16(_Float16 *rs1, vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsseg6e16(_Float16 *rs1, vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsseg7e16(_Float16 *rs1, vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsseg8e16(_Float16 *rs1, vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsseg2e16(_Float16 *rs1, vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsseg3e16(_Float16 *rs1, vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsseg4e16(_Float16 *rs1, vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsseg2e16(_Float16 *rs1, vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsseg2e32(float *rs1, vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e32(float *rs1, vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e32(float *rs1, vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e32(float *rs1, vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e32(float *rs1, vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e32(float *rs1, vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e32(float *rs1, vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e32(float *rs1, vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsseg3e32(float *rs1, vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsseg4e32(float *rs1, vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsseg5e32(float *rs1, vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsseg6e32(float *rs1, vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsseg7e32(float *rs1, vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsseg8e32(float *rs1, vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsseg2e32(float *rs1, vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsseg3e32(float *rs1, vfloat32m2x3_t vs3, size_t vl);
```

```
void __riscv_vsseg4e32(float *rs1, vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsseg2e32(float *rs1, vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsseg2e64(double *rs1, vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsseg3e64(double *rs1, vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsseg4e64(double *rs1, vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsseg5e64(double *rs1, vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsseg6e64(double *rs1, vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsseg7e64(double *rs1, vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsseg8e64(double *rs1, vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsseg2e64(double *rs1, vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsseg3e64(double *rs1, vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsseg4e64(double *rs1, vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsseg2e64(double *rs1, vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsseg2e8(int8_t *rs1, vint8mf8x2_t vs3, size_t vl);
void __riscv_vsseg3e8(int8_t *rs1, vint8mf8x3_t vs3, size_t vl);
void __riscv_vsseg4e8(int8_t *rs1, vint8mf8x4_t vs3, size_t vl);
void __riscv_vsseg5e8(int8_t *rs1, vint8mf8x5_t vs3, size_t vl);
void __riscv_vsseg6e8(int8_t *rs1, vint8mf8x6_t vs3, size_t vl);
void __riscv_vsseg7e8(int8_t *rs1, vint8mf8x7_t vs3, size_t vl);
void __riscv_vsseg8e8(int8_t *rs1, vint8mf8x8_t vs3, size_t vl);
void __riscv_vsseg2e8(int8_t *rs1, vint8mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e8(int8_t *rs1, vint8mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e8(int8_t *rs1, vint8mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e8(int8_t *rs1, vint8mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e8(int8_t *rs1, vint8mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e8(int8_t *rs1, vint8mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e8(int8_t *rs1, vint8mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e8(int8_t *rs1, vint8mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e8(int8_t *rs1, vint8mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e8(int8_t *rs1, vint8mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e8(int8_t *rs1, vint8mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e8(int8_t *rs1, vint8mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e8(int8_t *rs1, vint8mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e8(int8_t *rs1, vint8mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e8(int8_t *rs1, vint8m1x2_t vs3, size_t vl);
void __riscv_vsseg3e8(int8_t *rs1, vint8m1x3_t vs3, size_t vl);
void __riscv_vsseg4e8(int8_t *rs1, vint8m1x4_t vs3, size_t vl);
void __riscv_vsseg5e8(int8_t *rs1, vint8m1x5_t vs3, size_t vl);
void __riscv_vsseg6e8(int8_t *rs1, vint8m1x6_t vs3, size_t vl);
void __riscv_vsseg7e8(int8_t *rs1, vint8m1x7_t vs3, size_t vl);
void __riscv_vsseg8e8(int8_t *rs1, vint8m1x8_t vs3, size_t vl);
void __riscv_vsseg2e8(int8_t *rs1, vint8m2x2_t vs3, size_t vl);
void __riscv_vsseg3e8(int8_t *rs1, vint8m2x3_t vs3, size_t vl);
void __riscv_vsseg4e8(int8_t *rs1, vint8m2x4_t vs3, size_t vl);
void __riscv_vsseg2e8(int8_t *rs1, vint8m4x2_t vs3, size_t vl);
void __riscv_vsseg2e16(int16_t *rs1, vint16mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e16(int16_t *rs1, vint16mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e16(int16_t *rs1, vint16mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e16(int16_t *rs1, vint16mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e16(int16_t *rs1, vint16mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e16(int16_t *rs1, vint16mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e16(int16_t *rs1, vint16mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e16(int16_t *rs1, vint16mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e16(int16_t *rs1, vint16mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e16(int16_t *rs1, vint16mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e16(int16_t *rs1, vint16mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e16(int16_t *rs1, vint16mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e16(int16_t *rs1, vint16mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e16(int16_t *rs1, vint16mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e16(int16_t *rs1, vint16m1x2_t vs3, size_t vl);
void __riscv_vsseg3e16(int16_t *rs1, vint16m1x3_t vs3, size_t vl);
void __riscv_vsseg4e16(int16_t *rs1, vint16m1x4_t vs3, size_t vl);
void __riscv_vsseg5e16(int16_t *rs1, vint16m1x5_t vs3, size_t vl);
void __riscv_vsseg6e16(int16_t *rs1, vint16m1x6_t vs3, size_t vl);
void __riscv_vsseg7e16(int16_t *rs1, vint16m1x7_t vs3, size_t vl);
void __riscv_vsseg8e16(int16_t *rs1, vint16m1x8_t vs3, size_t vl);
void __riscv_vsseg2e16(int16_t *rs1, vint16m2x2_t vs3, size_t vl);
```

```
void __riscv_vsseg3e16(int16_t *rs1, vint16m2x3_t vs3, size_t vl);
void __riscv_vsseg4e16(int16_t *rs1, vint16m2x4_t vs3, size_t vl);
void __riscv_vsseg2e16(int16_t *rs1, vint16m4x2_t vs3, size_t vl);
void __riscv_vsseg2e32(int32_t *rs1, vint32mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e32(int32_t *rs1, vint32mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e32(int32_t *rs1, vint32mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e32(int32_t *rs1, vint32mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e32(int32_t *rs1, vint32mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e32(int32_t *rs1, vint32mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e32(int32_t *rs1, vint32mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e32(int32_t *rs1, vint32m1x2_t vs3, size_t vl);
void __riscv_vsseg3e32(int32_t *rs1, vint32m1x3_t vs3, size_t vl);
void __riscv_vsseg4e32(int32_t *rs1, vint32m1x4_t vs3, size_t vl);
void __riscv_vsseg5e32(int32_t *rs1, vint32m1x5_t vs3, size_t vl);
void __riscv_vsseg6e32(int32_t *rs1, vint32m1x6_t vs3, size_t vl);
void __riscv_vsseg7e32(int32_t *rs1, vint32m1x7_t vs3, size_t vl);
void __riscv_vsseg8e32(int32_t *rs1, vint32m1x8_t vs3, size_t vl);
void __riscv_vsseg2e32(int32_t *rs1, vint32m2x2_t vs3, size_t vl);
void __riscv_vsseg3e32(int32_t *rs1, vint32m2x3_t vs3, size_t vl);
void __riscv_vsseg4e32(int32_t *rs1, vint32m2x4_t vs3, size_t vl);
void __riscv_vsseg2e32(int32_t *rs1, vint32m4x2_t vs3, size_t vl);
void __riscv_vsseg2e64(int64_t *rs1, vint64m1x2_t vs3, size_t vl);
void __riscv_vsseg3e64(int64_t *rs1, vint64m1x3_t vs3, size_t vl);
void __riscv_vsseg4e64(int64_t *rs1, vint64m1x4_t vs3, size_t vl);
void __riscv_vsseg5e64(int64_t *rs1, vint64m1x5_t vs3, size_t vl);
void __riscv_vsseg6e64(int64_t *rs1, vint64m1x6_t vs3, size_t vl);
void __riscv_vsseg7e64(int64_t *rs1, vint64m1x7_t vs3, size_t vl);
void __riscv_vsseg8e64(int64_t *rs1, vint64m1x8_t vs3, size_t vl);
void __riscv_vsseg2e64(int64_t *rs1, vint64m2x2_t vs3, size_t vl);
void __riscv_vsseg3e64(int64_t *rs1, vint64m2x3_t vs3, size_t vl);
void __riscv_vsseg4e64(int64_t *rs1, vint64m2x4_t vs3, size_t vl);
void __riscv_vsseg2e64(int64_t *rs1, vint64m4x2_t vs3, size_t vl);
void __riscv_vsseg2e8(uint8_t *rs1, vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsseg3e8(uint8_t *rs1, vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsseg4e8(uint8_t *rs1, vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsseg5e8(uint8_t *rs1, vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsseg6e8(uint8_t *rs1, vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsseg7e8(uint8_t *rs1, vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsseg8e8(uint8_t *rs1, vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsseg2e8(uint8_t *rs1, vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e8(uint8_t *rs1, vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e8(uint8_t *rs1, vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e8(uint8_t *rs1, vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e8(uint8_t *rs1, vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e8(uint8_t *rs1, vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e8(uint8_t *rs1, vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e8(uint8_t *rs1, vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e8(uint8_t *rs1, vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e8(uint8_t *rs1, vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e8(uint8_t *rs1, vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e8(uint8_t *rs1, vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e8(uint8_t *rs1, vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e8(uint8_t *rs1, vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e8(uint8_t *rs1, vuint8m1x2_t vs3, size_t vl);
void __riscv_vsseg3e8(uint8_t *rs1, vuint8m1x3_t vs3, size_t vl);
void __riscv_vsseg4e8(uint8_t *rs1, vuint8m1x4_t vs3, size_t vl);
void __riscv_vsseg5e8(uint8_t *rs1, vuint8m1x5_t vs3, size_t vl);
void __riscv_vsseg6e8(uint8_t *rs1, vuint8m1x6_t vs3, size_t vl);
void __riscv_vsseg7e8(uint8_t *rs1, vuint8m1x7_t vs3, size_t vl);
void __riscv_vsseg8e8(uint8_t *rs1, vuint8m1x8_t vs3, size_t vl);
void __riscv_vsseg2e8(uint8_t *rs1, vuint8m2x2_t vs3, size_t vl);
void __riscv_vsseg3e8(uint8_t *rs1, vuint8m2x3_t vs3, size_t vl);
void __riscv_vsseg4e8(uint8_t *rs1, vuint8m2x4_t vs3, size_t vl);
void __riscv_vsseg2e8(uint8_t *rs1, vuint8m4x2_t vs3, size_t vl);
void __riscv_vsseg2e16(uint16_t *rs1, vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e16(uint16_t *rs1, vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e16(uint16_t *rs1, vuint16mf4x4_t vs3, size_t vl);
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void __riscv_vsseg5e16(uint16_t *rs1, vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e16(uint16_t *rs1, vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e16(uint16_t *rs1, vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e16(uint16_t *rs1, vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e16(uint16_t *rs1, vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e16(uint16_t *rs1, vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e16(uint16_t *rs1, vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e16(uint16_t *rs1, vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e16(uint16_t *rs1, vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e16(uint16_t *rs1, vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e16(uint16_t *rs1, vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e16(uint16_t *rs1, vuint16m1x2_t vs3, size_t vl);
void __riscv_vsseg3e16(uint16_t *rs1, vuint16m1x3_t vs3, size_t vl);
void __riscv_vsseg4e16(uint16_t *rs1, vuint16m1x4_t vs3, size_t vl);
void __riscv_vsseg5e16(uint16_t *rs1, vuint16m1x5_t vs3, size_t vl);
void __riscv_vsseg6e16(uint16_t *rs1, vuint16m1x6_t vs3, size_t vl);
void __riscv_vsseg7e16(uint16_t *rs1, vuint16m1x7_t vs3, size_t vl);
void __riscv_vsseg8e16(uint16_t *rs1, vuint16m1x8_t vs3, size_t vl);
void __riscv_vsseg2e16(uint16_t *rs1, vuint16m2x2_t vs3, size_t vl);
void __riscv_vsseg3e16(uint16_t *rs1, vuint16m2x3_t vs3, size_t vl);
void __riscv_vsseg4e16(uint16_t *rs1, vuint16m2x4_t vs3, size_t vl);
void __riscv_vsseg2e16(uint16_t *rs1, vuint16m4x2_t vs3, size_t vl);
void __riscv_vsseg2e32(uint32_t *rs1, vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e32(uint32_t *rs1, vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e32(uint32_t *rs1, vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e32(uint32_t *rs1, vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e32(uint32_t *rs1, vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e32(uint32_t *rs1, vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e32(uint32_t *rs1, vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e32(uint32_t *rs1, vuint32m1x2_t vs3, size_t vl);
void __riscv_vsseg3e32(uint32_t *rs1, vuint32m1x3_t vs3, size_t vl);
void __riscv_vsseg4e32(uint32_t *rs1, vuint32m1x4_t vs3, size_t vl);
void __riscv_vsseg5e32(uint32_t *rs1, vuint32m1x5_t vs3, size_t vl);
void __riscv_vsseg6e32(uint32_t *rs1, vuint32m1x6_t vs3, size_t vl);
void __riscv_vsseg7e32(uint32_t *rs1, vuint32m1x7_t vs3, size_t vl);
void __riscv_vsseg8e32(uint32_t *rs1, vuint32m1x8_t vs3, size_t vl);
void __riscv_vsseg2e32(uint32_t *rs1, vuint32m2x2_t vs3, size_t vl);
void __riscv_vsseg3e32(uint32_t *rs1, vuint32m2x3_t vs3, size_t vl);
void __riscv_vsseg4e32(uint32_t *rs1, vuint32m2x4_t vs3, size_t vl);
void __riscv_vsseg2e32(uint32_t *rs1, vuint32m4x2_t vs3, size_t vl);
void __riscv_vsseg2e64(uint64_t *rs1, vuint64m1x2_t vs3, size_t vl);
void __riscv_vsseg3e64(uint64_t *rs1, vuint64m1x3_t vs3, size_t vl);
void __riscv_vsseg4e64(uint64_t *rs1, vuint64m1x4_t vs3, size_t vl);
void __riscv_vsseg5e64(uint64_t *rs1, vuint64m1x5_t vs3, size_t vl);
void __riscv_vsseg6e64(uint64_t *rs1, vuint64m1x6_t vs3, size_t vl);
void __riscv_vsseg7e64(uint64_t *rs1, vuint64m1x7_t vs3, size_t vl);
void __riscv_vsseg8e64(uint64_t *rs1, vuint64m1x8_t vs3, size_t vl);
void __riscv_vsseg2e64(uint64_t *rs1, vuint64m2x2_t vs3, size_t vl);
void __riscv_vsseg3e64(uint64_t *rs1, vuint64m2x3_t vs3, size_t vl);
void __riscv_vsseg4e64(uint64_t *rs1, vuint64m2x4_t vs3, size_t vl);
void __riscv_vsseg2e64(uint64_t *rs1, vuint64m4x2_t vs3, size_t vl);
// masked functions
void __riscv_vsseg2e16(vbool64_t vm, _Float16 *rs1, vfloat16mf4x2_t vs3,
                       size_t vl);
void __riscv_vsseg3e16(vbool64_t vm, _Float16 *rs1, vfloat16mf4x3_t vs3,
                       size_t vl);
void __riscv_vsseg4e16(vbool64_t vm, _Float16 *rs1, vfloat16mf4x4_t vs3,
                       size_t vl);
void __riscv_vsseg5e16(vbool64_t vm, _Float16 *rs1, vfloat16mf4x5_t vs3,
                       size_t vl);
void __riscv_vsseg6e16(vbool64_t vm, _Float16 *rs1, vfloat16mf4x6_t vs3,
                       size_t vl);
void __riscv_vsseg7e16(vbool64_t vm, _Float16 *rs1, vfloat16mf4x7_t vs3,
                       size_t vl);
void __riscv_vsseg8e16(vbool64_t vm, _Float16 *rs1, vfloat16mf4x8_t vs3,
                       size_t vl);
void __riscv_vsseg2e16(vbool32_t vm, _Float16 *rs1, vfloat16mf2x2_t vs3,
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                        size_t vl);
void __riscv_vsseg3e16(vbool32_t vm, _Float16 *rs1, vfloat16mf2x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e16(vbool32_t vm, _Float16 *rs1, vfloat16mf2x4_t vs3,
                        size_t vl);
void __riscv_vsseg5e16(vbool32_t vm, _Float16 *rs1, vfloat16mf2x5_t vs3,
                        size_t vl);
void __riscv_vsseg6e16(vbool32_t vm, _Float16 *rs1, vfloat16mf2x6_t vs3,
                        size_t vl);
void __riscv_vsseg7e16(vbool32_t vm, _Float16 *rs1, vfloat16mf2x7_t vs3,
                        size_t vl);
void __riscv_vsseg8e16(vbool32_t vm, _Float16 *rs1, vfloat16mf2x8_t vs3,
                        size_t vl);
void __riscv_vsseg2e16(vbool16_t vm, _Float16 *rs1, vfloat16m1x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e16(vbool16_t vm, _Float16 *rs1, vfloat16m1x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e16(vbool16_t vm, _Float16 *rs1, vfloat16m1x4_t vs3,
                        size_t vl);
void __riscv_vsseg5e16(vbool16_t vm, _Float16 *rs1, vfloat16m1x5_t vs3,
                        size_t vl);
void __riscv_vsseg6e16(vbool16_t vm, _Float16 *rs1, vfloat16m1x6_t vs3,
                        size_t vl);
void __riscv_vsseg7e16(vbool16_t vm, _Float16 *rs1, vfloat16m1x7_t vs3,
                        size_t vl);
void __riscv_vsseg8e16(vbool16_t vm, _Float16 *rs1, vfloat16m1x8_t vs3,
                        size_t vl);
void __riscv_vsseg2e16(vbool8_t vm, _Float16 *rs1, vfloat16m2x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e16(vbool8_t vm, _Float16 *rs1, vfloat16m2x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e16(vbool8_t vm, _Float16 *rs1, vfloat16m2x4_t vs3,
                        size_t vl);
void __riscv_vsseg2e16(vbool4_t vm, _Float16 *rs1, vfloat16m4x2_t vs3,
                        size_t vl);
void __riscv_vsseg2e32(vbool64_t vm, float *rs1, vfloat32mf2x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e32(vbool64_t vm, float *rs1, vfloat32mf2x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e32(vbool64_t vm, float *rs1, vfloat32mf2x4_t vs3,
                        size_t vl);
void __riscv_vsseg5e32(vbool64_t vm, float *rs1, vfloat32mf2x5_t vs3,
                        size_t vl);
void __riscv_vsseg6e32(vbool64_t vm, float *rs1, vfloat32mf2x6_t vs3,
                        size_t vl);
void __riscv_vsseg7e32(vbool64_t vm, float *rs1, vfloat32mf2x7_t vs3,
                        size_t vl);
void __riscv_vsseg8e32(vbool64_t vm, float *rs1, vfloat32mf2x8_t vs3,
                        size_t vl);
void __riscv_vsseg2e32(vbool32_t vm, float *rs1, vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsseg3e32(vbool32_t vm, float *rs1, vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsseg4e32(vbool32_t vm, float *rs1, vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsseg5e32(vbool32_t vm, float *rs1, vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsseg6e32(vbool32_t vm, float *rs1, vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsseg7e32(vbool32_t vm, float *rs1, vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsseg8e32(vbool32_t vm, float *rs1, vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsseg2e32(vbool16_t vm, float *rs1, vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsseg3e32(vbool16_t vm, float *rs1, vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsseg4e32(vbool16_t vm, float *rs1, vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsseg2e32(vbool8_t vm, float *rs1, vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsseg2e64(vbool64_t vm, double *rs1, vfloat64m1x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e64(vbool64_t vm, double *rs1, vfloat64m1x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e64(vbool64_t vm, double *rs1, vfloat64m1x4_t vs3,
                        size_t vl);
void __riscv_vsseg5e64(vbool64_t vm, double *rs1, vfloat64m1x5_t vs3,
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                        size_t vl);
void __riscv_vsseg6e64(vbool64_t vm, double *rs1, vfloat64m1x6_t vs3,
                        size_t vl);
void __riscv_vsseg7e64(vbool64_t vm, double *rs1, vfloat64m1x7_t vs3,
                        size_t vl);
void __riscv_vsseg8e64(vbool64_t vm, double *rs1, vfloat64m1x8_t vs3,
                        size_t vl);
void __riscv_vsseg2e64(vbool32_t vm, double *rs1, vfloat64m2x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e64(vbool32_t vm, double *rs1, vfloat64m2x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e64(vbool32_t vm, double *rs1, vfloat64m2x4_t vs3,
                        size_t vl);
void __riscv_vsseg2e64(vbool16_t vm, double *rs1, vfloat64m4x2_t vs3,
                        size_t vl);
void __riscv_vsseg2e8(vbool64_t vm, int8_t *rs1, vint8mf8x2_t vs3, size_t vl);
void __riscv_vsseg3e8(vbool64_t vm, int8_t *rs1, vint8mf8x3_t vs3, size_t vl);
void __riscv_vsseg4e8(vbool64_t vm, int8_t *rs1, vint8mf8x4_t vs3, size_t vl);
void __riscv_vsseg5e8(vbool64_t vm, int8_t *rs1, vint8mf8x5_t vs3, size_t vl);
void __riscv_vsseg6e8(vbool64_t vm, int8_t *rs1, vint8mf8x6_t vs3, size_t vl);
void __riscv_vsseg7e8(vbool64_t vm, int8_t *rs1, vint8mf8x7_t vs3, size_t vl);
void __riscv_vsseg8e8(vbool64_t vm, int8_t *rs1, vint8mf8x8_t vs3, size_t vl);
void __riscv_vsseg2e8(vbool32_t vm, int8_t *rs1, vint8mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e8(vbool32_t vm, int8_t *rs1, vint8mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e8(vbool32_t vm, int8_t *rs1, vint8mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e8(vbool32_t vm, int8_t *rs1, vint8mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e8(vbool32_t vm, int8_t *rs1, vint8mf4x6_t vs3, size_t vl);
void __riscv_vsseg7e8(vbool32_t vm, int8_t *rs1, vint8mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e8(vbool32_t vm, int8_t *rs1, vint8mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e8(vbool16_t vm, int8_t *rs1, vint8mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e8(vbool16_t vm, int8_t *rs1, vint8mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e8(vbool16_t vm, int8_t *rs1, vint8mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e8(vbool16_t vm, int8_t *rs1, vint8mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e8(vbool16_t vm, int8_t *rs1, vint8mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e8(vbool16_t vm, int8_t *rs1, vint8mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e8(vbool16_t vm, int8_t *rs1, vint8mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e8(vbool8_t vm, int8_t *rs1, vint8m1x2_t vs3, size_t vl);
void __riscv_vsseg3e8(vbool8_t vm, int8_t *rs1, vint8m1x3_t vs3, size_t vl);
void __riscv_vsseg4e8(vbool8_t vm, int8_t *rs1, vint8m1x4_t vs3, size_t vl);
void __riscv_vsseg5e8(vbool8_t vm, int8_t *rs1, vint8m1x5_t vs3, size_t vl);
void __riscv_vsseg6e8(vbool8_t vm, int8_t *rs1, vint8m1x6_t vs3, size_t vl);
void __riscv_vsseg7e8(vbool8_t vm, int8_t *rs1, vint8m1x7_t vs3, size_t vl);
void __riscv_vsseg8e8(vbool8_t vm, int8_t *rs1, vint8m1x8_t vs3, size_t vl);
void __riscv_vsseg2e8(vbool4_t vm, int8_t *rs1, vint8m2x2_t vs3, size_t vl);
void __riscv_vsseg3e8(vbool4_t vm, int8_t *rs1, vint8m2x3_t vs3, size_t vl);
void __riscv_vsseg4e8(vbool4_t vm, int8_t *rs1, vint8m2x4_t vs3, size_t vl);
void __riscv_vsseg2e8(vbool2_t vm, int8_t *rs1, vint8m4x2_t vs3, size_t vl);
void __riscv_vsseg2e16(vbool64_t vm, int16_t *rs1, vint16mf4x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e16(vbool64_t vm, int16_t *rs1, vint16mf4x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e16(vbool64_t vm, int16_t *rs1, vint16mf4x4_t vs3,
                        size_t vl);
void __riscv_vsseg5e16(vbool64_t vm, int16_t *rs1, vint16mf4x5_t vs3,
                        size_t vl);
void __riscv_vsseg6e16(vbool64_t vm, int16_t *rs1, vint16mf4x6_t vs3,
                        size_t vl);
void __riscv_vsseg7e16(vbool64_t vm, int16_t *rs1, vint16mf4x7_t vs3,
                        size_t vl);
void __riscv_vsseg8e16(vbool64_t vm, int16_t *rs1, vint16mf4x8_t vs3,
                        size_t vl);
void __riscv_vsseg2e16(vbool32_t vm, int16_t *rs1, vint16mf2x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e16(vbool32_t vm, int16_t *rs1, vint16mf2x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e16(vbool32_t vm, int16_t *rs1, vint16mf2x4_t vs3,
                        size_t vl);
```

```
void __riscv_vsseg5e16(vbool32_t vm, int16_t *rs1, vint16mf2x5_t vs3,
                       size_t vl);
void __riscv_vsseg6e16(vbool32_t vm, int16_t *rs1, vint16mf2x6_t vs3,
                       size_t vl);
void __riscv_vsseg7e16(vbool32_t vm, int16_t *rs1, vint16mf2x7_t vs3,
                       size_t vl);
void __riscv_vsseg8e16(vbool32_t vm, int16_t *rs1, vint16mf2x8_t vs3,
                       size_t vl);
void __riscv_vsseg2e16(vbool16_t vm, int16_t *rs1, vint16m1x2_t vs3, size_t vl);
void __riscv_vsseg3e16(vbool16_t vm, int16_t *rs1, vint16m1x3_t vs3, size_t vl);
void __riscv_vsseg4e16(vbool16_t vm, int16_t *rs1, vint16m1x4_t vs3, size_t vl);
void __riscv_vsseg5e16(vbool16_t vm, int16_t *rs1, vint16m1x5_t vs3, size_t vl);
void __riscv_vsseg6e16(vbool16_t vm, int16_t *rs1, vint16m1x6_t vs3, size_t vl);
void __riscv_vsseg7e16(vbool16_t vm, int16_t *rs1, vint16m1x7_t vs3, size_t vl);
void __riscv_vsseg8e16(vbool16_t vm, int16_t *rs1, vint16m1x8_t vs3, size_t vl);
void __riscv_vsseg2e16(vbool8_t vm, int16_t *rs1, vint16m2x2_t vs3, size_t vl);
void __riscv_vsseg3e16(vbool8_t vm, int16_t *rs1, vint16m2x3_t vs3, size_t vl);
void __riscv_vsseg4e16(vbool8_t vm, int16_t *rs1, vint16m2x4_t vs3, size_t vl);
void __riscv_vsseg2e16(vbool4_t vm, int16_t *rs1, vint16m4x2_t vs3, size_t vl);
void __riscv_vsseg2e32(vbool64_t vm, int32_t *rs1, vint32mf2x2_t vs3,
                       size_t vl);
void __riscv_vsseg3e32(vbool64_t vm, int32_t *rs1, vint32mf2x3_t vs3,
                       size_t vl);
void __riscv_vsseg4e32(vbool64_t vm, int32_t *rs1, vint32mf2x4_t vs3,
                       size_t vl);
void __riscv_vsseg5e32(vbool64_t vm, int32_t *rs1, vint32mf2x5_t vs3,
                       size_t vl);
void __riscv_vsseg6e32(vbool64_t vm, int32_t *rs1, vint32mf2x6_t vs3,
                       size_t vl);
void __riscv_vsseg7e32(vbool64_t vm, int32_t *rs1, vint32mf2x7_t vs3,
                       size_t vl);
void __riscv_vsseg8e32(vbool64_t vm, int32_t *rs1, vint32mf2x8_t vs3,
                       size_t vl);
void __riscv_vsseg2e32(vbool32_t vm, int32_t *rs1, vint32m1x2_t vs3, size_t vl);
void __riscv_vsseg3e32(vbool32_t vm, int32_t *rs1, vint32m1x3_t vs3, size_t vl);
void __riscv_vsseg4e32(vbool32_t vm, int32_t *rs1, vint32m1x4_t vs3, size_t vl);
void __riscv_vsseg5e32(vbool32_t vm, int32_t *rs1, vint32m1x5_t vs3, size_t vl);
void __riscv_vsseg6e32(vbool32_t vm, int32_t *rs1, vint32m1x6_t vs3, size_t vl);
void __riscv_vsseg7e32(vbool32_t vm, int32_t *rs1, vint32m1x7_t vs3, size_t vl);
void __riscv_vsseg8e32(vbool32_t vm, int32_t *rs1, vint32m1x8_t vs3, size_t vl);
void __riscv_vsseg2e32(vbool16_t vm, int32_t *rs1, vint32m2x2_t vs3, size_t vl);
void __riscv_vsseg3e32(vbool16_t vm, int32_t *rs1, vint32m2x3_t vs3, size_t vl);
void __riscv_vsseg4e32(vbool16_t vm, int32_t *rs1, vint32m2x4_t vs3, size_t vl);
void __riscv_vsseg2e32(vbool8_t vm, int32_t *rs1, vint32m4x2_t vs3, size_t vl);
void __riscv_vsseg2e64(vbool64_t vm, int64_t *rs1, vint64m1x2_t vs3, size_t vl);
void __riscv_vsseg3e64(vbool64_t vm, int64_t *rs1, vint64m1x3_t vs3, size_t vl);
void __riscv_vsseg4e64(vbool64_t vm, int64_t *rs1, vint64m1x4_t vs3, size_t vl);
void __riscv_vsseg5e64(vbool64_t vm, int64_t *rs1, vint64m1x5_t vs3, size_t vl);
void __riscv_vsseg6e64(vbool64_t vm, int64_t *rs1, vint64m1x6_t vs3, size_t vl);
void __riscv_vsseg7e64(vbool64_t vm, int64_t *rs1, vint64m1x7_t vs3, size_t vl);
void __riscv_vsseg8e64(vbool64_t vm, int64_t *rs1, vint64m1x8_t vs3, size_t vl);
void __riscv_vsseg2e64(vbool32_t vm, int64_t *rs1, vint64m2x2_t vs3, size_t vl);
void __riscv_vsseg3e64(vbool32_t vm, int64_t *rs1, vint64m2x3_t vs3, size_t vl);
void __riscv_vsseg4e64(vbool32_t vm, int64_t *rs1, vint64m2x4_t vs3, size_t vl);
void __riscv_vsseg2e64(vbool16_t vm, int64_t *rs1, vint64m4x2_t vs3, size_t vl);
void __riscv_vsseg2e8(vbool64_t vm, uint8_t *rs1, vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsseg3e8(vbool64_t vm, uint8_t *rs1, vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsseg4e8(vbool64_t vm, uint8_t *rs1, vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsseg5e8(vbool64_t vm, uint8_t *rs1, vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsseg6e8(vbool64_t vm, uint8_t *rs1, vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsseg7e8(vbool64_t vm, uint8_t *rs1, vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsseg8e8(vbool64_t vm, uint8_t *rs1, vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsseg2e8(vbool32_t vm, uint8_t *rs1, vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsseg3e8(vbool32_t vm, uint8_t *rs1, vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsseg4e8(vbool32_t vm, uint8_t *rs1, vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsseg5e8(vbool32_t vm, uint8_t *rs1, vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsseg6e8(vbool32_t vm, uint8_t *rs1, vuint8mf4x6_t vs3, size_t vl);
```

```
void __riscv_vsseg7e8(vbool32_t vm, uint8_t *rs1, vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsseg8e8(vbool32_t vm, uint8_t *rs1, vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsseg2e8(vbool16_t vm, uint8_t *rs1, vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsseg3e8(vbool16_t vm, uint8_t *rs1, vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsseg4e8(vbool16_t vm, uint8_t *rs1, vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsseg5e8(vbool16_t vm, uint8_t *rs1, vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsseg6e8(vbool16_t vm, uint8_t *rs1, vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsseg7e8(vbool16_t vm, uint8_t *rs1, vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsseg8e8(vbool16_t vm, uint8_t *rs1, vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsseg2e8(vbool8_t vm, uint8_t *rs1, vuint8m1x2_t vs3, size_t vl);
void __riscv_vsseg3e8(vbool8_t vm, uint8_t *rs1, vuint8m1x3_t vs3, size_t vl);
void __riscv_vsseg4e8(vbool8_t vm, uint8_t *rs1, vuint8m1x4_t vs3, size_t vl);
void __riscv_vsseg5e8(vbool8_t vm, uint8_t *rs1, vuint8m1x5_t vs3, size_t vl);
void __riscv_vsseg6e8(vbool8_t vm, uint8_t *rs1, vuint8m1x6_t vs3, size_t vl);
void __riscv_vsseg7e8(vbool8_t vm, uint8_t *rs1, vuint8m1x7_t vs3, size_t vl);
void __riscv_vsseg8e8(vbool8_t vm, uint8_t *rs1, vuint8m1x8_t vs3, size_t vl);
void __riscv_vsseg2e8(vbool4_t vm, uint8_t *rs1, vuint8m2x2_t vs3, size_t vl);
void __riscv_vsseg3e8(vbool4_t vm, uint8_t *rs1, vuint8m2x3_t vs3, size_t vl);
void __riscv_vsseg4e8(vbool4_t vm, uint8_t *rs1, vuint8m2x4_t vs3, size_t vl);
void __riscv_vsseg2e8(vbool2_t vm, uint8_t *rs1, vuint8m4x2_t vs3, size_t vl);
void __riscv_vsseg2e16(vbool64_t vm, uint16_t *rs1, vuint16mf4x2_t vs3,
                       size_t vl);
void __riscv_vsseg3e16(vbool64_t vm, uint16_t *rs1, vuint16mf4x3_t vs3,
                       size_t vl);
void __riscv_vsseg4e16(vbool64_t vm, uint16_t *rs1, vuint16mf4x4_t vs3,
                       size_t vl);
void __riscv_vsseg5e16(vbool64_t vm, uint16_t *rs1, vuint16mf4x5_t vs3,
                       size_t vl);
void __riscv_vsseg6e16(vbool64_t vm, uint16_t *rs1, vuint16mf4x6_t vs3,
                       size_t vl);
void __riscv_vsseg7e16(vbool64_t vm, uint16_t *rs1, vuint16mf4x7_t vs3,
                       size_t vl);
void __riscv_vsseg8e16(vbool64_t vm, uint16_t *rs1, vuint16mf4x8_t vs3,
                       size_t vl);
void __riscv_vsseg2e16(vbool32_t vm, uint16_t *rs1, vuint16mf2x2_t vs3,
                       size_t vl);
void __riscv_vsseg3e16(vbool32_t vm, uint16_t *rs1, vuint16mf2x3_t vs3,
                       size_t vl);
void __riscv_vsseg4e16(vbool32_t vm, uint16_t *rs1, vuint16mf2x4_t vs3,
                       size_t vl);
void __riscv_vsseg5e16(vbool32_t vm, uint16_t *rs1, vuint16mf2x5_t vs3,
                       size_t vl);
void __riscv_vsseg6e16(vbool32_t vm, uint16_t *rs1, vuint16mf2x6_t vs3,
                       size_t vl);
void __riscv_vsseg7e16(vbool32_t vm, uint16_t *rs1, vuint16mf2x7_t vs3,
                       size_t vl);
void __riscv_vsseg8e16(vbool32_t vm, uint16_t *rs1, vuint16mf2x8_t vs3,
                       size_t vl);
void __riscv_vsseg2e16(vbool16_t vm, uint16_t *rs1, vuint16m1x2_t vs3,
                       size_t vl);
void __riscv_vsseg3e16(vbool16_t vm, uint16_t *rs1, vuint16m1x3_t vs3,
                       size_t vl);
void __riscv_vsseg4e16(vbool16_t vm, uint16_t *rs1, vuint16m1x4_t vs3,
                       size_t vl);
void __riscv_vsseg5e16(vbool16_t vm, uint16_t *rs1, vuint16m1x5_t vs3,
                       size_t vl);
void __riscv_vsseg6e16(vbool16_t vm, uint16_t *rs1, vuint16m1x6_t vs3,
                       size_t vl);
void __riscv_vsseg7e16(vbool16_t vm, uint16_t *rs1, vuint16m1x7_t vs3,
                       size_t vl);
void __riscv_vsseg8e16(vbool16_t vm, uint16_t *rs1, vuint16m1x8_t vs3,
                       size_t vl);
void __riscv_vsseg2e16(vbool8_t vm, uint16_t *rs1, vuint16m2x2_t vs3,
                       size_t vl);
void __riscv_vsseg3e16(vbool8_t vm, uint16_t *rs1, vuint16m2x3_t vs3,
                       size_t vl);
void __riscv_vsseg4e16(vbool8_t vm, uint16_t *rs1, vuint16m2x4_t vs3,
```

```
                        size_t vl);
void __riscv_vsseg2e16(vbool4_t vm, uint16_t *rs1, vuint16m4x2_t vs3,
                        size_t vl);
void __riscv_vsseg2e32(vbool64_t vm, uint32_t *rs1, vuint32mf2x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e32(vbool64_t vm, uint32_t *rs1, vuint32mf2x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e32(vbool64_t vm, uint32_t *rs1, vuint32mf2x4_t vs3,
                        size_t vl);
void __riscv_vsseg5e32(vbool64_t vm, uint32_t *rs1, vuint32mf2x5_t vs3,
                        size_t vl);
void __riscv_vsseg6e32(vbool64_t vm, uint32_t *rs1, vuint32mf2x6_t vs3,
                        size_t vl);
void __riscv_vsseg7e32(vbool64_t vm, uint32_t *rs1, vuint32mf2x7_t vs3,
                        size_t vl);
void __riscv_vsseg8e32(vbool64_t vm, uint32_t *rs1, vuint32mf2x8_t vs3,
                        size_t vl);
void __riscv_vsseg2e32(vbool32_t vm, uint32_t *rs1, vuint32m1x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e32(vbool32_t vm, uint32_t *rs1, vuint32m1x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e32(vbool32_t vm, uint32_t *rs1, vuint32m1x4_t vs3,
                        size_t vl);
void __riscv_vsseg5e32(vbool32_t vm, uint32_t *rs1, vuint32m1x5_t vs3,
                        size_t vl);
void __riscv_vsseg6e32(vbool32_t vm, uint32_t *rs1, vuint32m1x6_t vs3,
                        size_t vl);
void __riscv_vsseg7e32(vbool32_t vm, uint32_t *rs1, vuint32m1x7_t vs3,
                        size_t vl);
void __riscv_vsseg8e32(vbool32_t vm, uint32_t *rs1, vuint32m1x8_t vs3,
                        size_t vl);
void __riscv_vsseg2e32(vbool16_t vm, uint32_t *rs1, vuint32m2x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e32(vbool16_t vm, uint32_t *rs1, vuint32m2x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e32(vbool16_t vm, uint32_t *rs1, vuint32m2x4_t vs3,
                        size_t vl);
void __riscv_vsseg2e32(vbool8_t vm, uint32_t *rs1, vuint32m4x2_t vs3,
                        size_t vl);
void __riscv_vsseg2e64(vbool64_t vm, uint64_t *rs1, vuint64m1x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e64(vbool64_t vm, uint64_t *rs1, vuint64m1x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e64(vbool64_t vm, uint64_t *rs1, vuint64m1x4_t vs3,
                        size_t vl);
void __riscv_vsseg5e64(vbool64_t vm, uint64_t *rs1, vuint64m1x5_t vs3,
                        size_t vl);
void __riscv_vsseg6e64(vbool64_t vm, uint64_t *rs1, vuint64m1x6_t vs3,
                        size_t vl);
void __riscv_vsseg7e64(vbool64_t vm, uint64_t *rs1, vuint64m1x7_t vs3,
                        size_t vl);
void __riscv_vsseg8e64(vbool64_t vm, uint64_t *rs1, vuint64m1x8_t vs3,
                        size_t vl);
void __riscv_vsseg2e64(vbool32_t vm, uint64_t *rs1, vuint64m2x2_t vs3,
                        size_t vl);
void __riscv_vsseg3e64(vbool32_t vm, uint64_t *rs1, vuint64m2x3_t vs3,
                        size_t vl);
void __riscv_vsseg4e64(vbool32_t vm, uint64_t *rs1, vuint64m2x4_t vs3,
                        size_t vl);
void __riscv_vsseg2e64(vbool16_t vm, uint64_t *rs1, vuint64m4x2_t vs3,
                        size_t vl);
```

C.2.3. Vector Strided Segment Load Intrinsics

```
// masked functions
```

```
vfloat16mf4x2_t __riscv_vlsseg2e16(vbool64_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vlsseg3e16(vbool64_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vlsseg4e16(vbool64_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vlsseg5e16(vbool64_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vlsseg6e16(vbool64_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vlsseg7e16(vbool64_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vlsseg8e16(vbool64_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vlsseg2e16(vbool32_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vlsseg3e16(vbool32_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vlsseg4e16(vbool32_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vlsseg5e16(vbool32_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vlsseg6e16(vbool32_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vlsseg7e16(vbool32_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vlsseg8e16(vbool32_t vm, const _Float16 *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vlsseg2e16(vbool16_t vm, const _Float16 *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vlsseg3e16(vbool16_t vm, const _Float16 *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vlsseg4e16(vbool16_t vm, const _Float16 *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vlsseg5e16(vbool16_t vm, const _Float16 *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vlsseg6e16(vbool16_t vm, const _Float16 *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vlsseg7e16(vbool16_t vm, const _Float16 *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vlsseg8e16(vbool16_t vm, const _Float16 *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vlsseg2e16(vbool8_t vm, const _Float16 *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vlsseg3e16(vbool8_t vm, const _Float16 *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vlsseg4e16(vbool8_t vm, const _Float16 *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vlsseg2e16(vbool4_t vm, const _Float16 *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vlsseg2e32(vbool64_t vm, const float *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vlsseg3e32(vbool64_t vm, const float *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vlsseg4e32(vbool64_t vm, const float *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vlsseg5e32(vbool64_t vm, const float *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vlsseg6e32(vbool64_t vm, const float *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vlsseg7e32(vbool64_t vm, const float *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vlsseg8e32(vbool64_t vm, const float *rs1,
                                   ptrdiff_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vlsseg2e32(vbool32_t vm, const float *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat32m1x3_t __riscv_vlsseg3e32(vbool32_t vm, const float *rs1, ptrdiff_t rs2,
```

```
                                  size_t vl);
vfloat32m1x4_t __riscv_vlsseg4e32(vbool32_t vm, const float *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat32m1x5_t __riscv_vlsseg5e32(vbool32_t vm, const float *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat32m1x6_t __riscv_vlsseg6e32(vbool32_t vm, const float *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat32m1x7_t __riscv_vlsseg7e32(vbool32_t vm, const float *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat32m1x8_t __riscv_vlsseg8e32(vbool32_t vm, const float *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat32m2x2_t __riscv_vlsseg2e32(vbool16_t vm, const float *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat32m2x3_t __riscv_vlsseg3e32(vbool16_t vm, const float *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat32m2x4_t __riscv_vlsseg4e32(vbool16_t vm, const float *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat32m4x2_t __riscv_vlsseg2e32(vbool8_t vm, const float *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat64m1x2_t __riscv_vlsseg2e64(vbool64_t vm, const double *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vlsseg3e64(vbool64_t vm, const double *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vlsseg4e64(vbool64_t vm, const double *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vlsseg5e64(vbool64_t vm, const double *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vlsseg6e64(vbool64_t vm, const double *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vlsseg7e64(vbool64_t vm, const double *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vlsseg8e64(vbool64_t vm, const double *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vlsseg2e64(vbool32_t vm, const double *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vlsseg3e64(vbool32_t vm, const double *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vlsseg4e64(vbool32_t vm, const double *rs1,
                                  ptrdiff_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vlsseg2e64(vbool16_t vm, const double *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf8x2_t __riscv_vlsseg2e8(vbool64_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf8x3_t __riscv_vlsseg3e8(vbool64_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf8x4_t __riscv_vlsseg4e8(vbool64_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf8x5_t __riscv_vlsseg5e8(vbool64_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf8x6_t __riscv_vlsseg6e8(vbool64_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf8x7_t __riscv_vlsseg7e8(vbool64_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf8x8_t __riscv_vlsseg8e8(vbool64_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf4x2_t __riscv_vlsseg2e8(vbool32_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf4x3_t __riscv_vlsseg3e8(vbool32_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf4x4_t __riscv_vlsseg4e8(vbool32_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf4x5_t __riscv_vlsseg5e8(vbool32_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf4x6_t __riscv_vlsseg6e8(vbool32_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf4x7_t __riscv_vlsseg7e8(vbool32_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
```

```
vint8mf4x8_t __riscv_vlsseg8e8(vbool32_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf2x2_t __riscv_vlsseg2e8(vbool16_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf2x3_t __riscv_vlsseg3e8(vbool16_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf2x4_t __riscv_vlsseg4e8(vbool16_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf2x5_t __riscv_vlsseg5e8(vbool16_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf2x6_t __riscv_vlsseg6e8(vbool16_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf2x7_t __riscv_vlsseg7e8(vbool16_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8mf2x8_t __riscv_vlsseg8e8(vbool16_t vm, const int8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vint8m1x2_t __riscv_vlsseg2e8(vbool8_t vm, const int8_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint8m1x3_t __riscv_vlsseg3e8(vbool8_t vm, const int8_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint8m1x4_t __riscv_vlsseg4e8(vbool8_t vm, const int8_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint8m1x5_t __riscv_vlsseg5e8(vbool8_t vm, const int8_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint8m1x6_t __riscv_vlsseg6e8(vbool8_t vm, const int8_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint8m1x7_t __riscv_vlsseg7e8(vbool8_t vm, const int8_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint8m1x8_t __riscv_vlsseg8e8(vbool8_t vm, const int8_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint8m2x2_t __riscv_vlsseg2e8(vbool4_t vm, const int8_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint8m2x3_t __riscv_vlsseg3e8(vbool4_t vm, const int8_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint8m2x4_t __riscv_vlsseg4e8(vbool4_t vm, const int8_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint8m4x2_t __riscv_vlsseg2e8(vbool2_t vm, const int8_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint16mf4x2_t __riscv_vlsseg2e16(vbool64_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf4x3_t __riscv_vlsseg3e16(vbool64_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf4x4_t __riscv_vlsseg4e16(vbool64_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf4x5_t __riscv_vlsseg5e16(vbool64_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf4x6_t __riscv_vlsseg6e16(vbool64_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf4x7_t __riscv_vlsseg7e16(vbool64_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf4x8_t __riscv_vlsseg8e16(vbool64_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf2x2_t __riscv_vlsseg2e16(vbool32_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf2x3_t __riscv_vlsseg3e16(vbool32_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf2x4_t __riscv_vlsseg4e16(vbool32_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf2x5_t __riscv_vlsseg5e16(vbool32_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf2x6_t __riscv_vlsseg6e16(vbool32_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf2x7_t __riscv_vlsseg7e16(vbool32_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf2x8_t __riscv_vlsseg8e16(vbool32_t vm, const int16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16m1x2_t __riscv_vlsseg2e16(vbool16_t vm, const int16_t *rs1, ptrdiff_t rs2,
```

```
                                size_t vl);
vint16m1x3_t __riscv_vlsseg3e16(vbool16_t vm, const int16_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint16m1x4_t __riscv_vlsseg4e16(vbool16_t vm, const int16_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint16m1x5_t __riscv_vlsseg5e16(vbool16_t vm, const int16_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint16m1x6_t __riscv_vlsseg6e16(vbool16_t vm, const int16_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint16m1x7_t __riscv_vlsseg7e16(vbool16_t vm, const int16_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint16m1x8_t __riscv_vlsseg8e16(vbool16_t vm, const int16_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint16m2x2_t __riscv_vlsseg2e16(vbool8_t vm, const int16_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint16m2x3_t __riscv_vlsseg3e16(vbool8_t vm, const int16_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint16m2x4_t __riscv_vlsseg4e16(vbool8_t vm, const int16_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint16m4x2_t __riscv_vlsseg2e16(vbool4_t vm, const int16_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint32mf2x2_t __riscv_vlsseg2e32(vbool64_t vm, const int32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint32mf2x3_t __riscv_vlsseg3e32(vbool64_t vm, const int32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint32mf2x4_t __riscv_vlsseg4e32(vbool64_t vm, const int32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint32mf2x5_t __riscv_vlsseg5e32(vbool64_t vm, const int32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint32mf2x6_t __riscv_vlsseg6e32(vbool64_t vm, const int32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint32mf2x7_t __riscv_vlsseg7e32(vbool64_t vm, const int32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint32mf2x8_t __riscv_vlsseg8e32(vbool64_t vm, const int32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint32m1x2_t __riscv_vlsseg2e32(vbool32_t vm, const int32_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint32m1x3_t __riscv_vlsseg3e32(vbool32_t vm, const int32_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint32m1x4_t __riscv_vlsseg4e32(vbool32_t vm, const int32_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint32m1x5_t __riscv_vlsseg5e32(vbool32_t vm, const int32_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint32m1x6_t __riscv_vlsseg6e32(vbool32_t vm, const int32_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint32m1x7_t __riscv_vlsseg7e32(vbool32_t vm, const int32_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint32m1x8_t __riscv_vlsseg8e32(vbool32_t vm, const int32_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint32m2x2_t __riscv_vlsseg2e32(vbool16_t vm, const int32_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint32m2x3_t __riscv_vlsseg3e32(vbool16_t vm, const int32_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint32m2x4_t __riscv_vlsseg4e32(vbool16_t vm, const int32_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint32m4x2_t __riscv_vlsseg2e32(vbool8_t vm, const int32_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint64m1x2_t __riscv_vlsseg2e64(vbool64_t vm, const int64_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint64m1x3_t __riscv_vlsseg3e64(vbool64_t vm, const int64_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint64m1x4_t __riscv_vlsseg4e64(vbool64_t vm, const int64_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint64m1x5_t __riscv_vlsseg5e64(vbool64_t vm, const int64_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint64m1x6_t __riscv_vlsseg6e64(vbool64_t vm, const int64_t *rs1, ptrdiff_t rs2,
                                size_t vl);
```

```
vint64m1x7_t __riscv_vlsseg7e64(vbool64_t vm, const int64_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint64m1x8_t __riscv_vlsseg8e64(vbool64_t vm, const int64_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint64m2x2_t __riscv_vlsseg2e64(vbool32_t vm, const int64_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint64m2x3_t __riscv_vlsseg3e64(vbool32_t vm, const int64_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint64m2x4_t __riscv_vlsseg4e64(vbool32_t vm, const int64_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vint64m4x2_t __riscv_vlsseg2e64(vbool16_t vm, const int64_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf8x2_t __riscv_vlsseg2e8(vbool64_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf8x3_t __riscv_vlsseg3e8(vbool64_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf8x4_t __riscv_vlsseg4e8(vbool64_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf8x5_t __riscv_vlsseg5e8(vbool64_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf8x6_t __riscv_vlsseg6e8(vbool64_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf8x7_t __riscv_vlsseg7e8(vbool64_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf8x8_t __riscv_vlsseg8e8(vbool64_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf4x2_t __riscv_vlsseg2e8(vbool32_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf4x3_t __riscv_vlsseg3e8(vbool32_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf4x4_t __riscv_vlsseg4e8(vbool32_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf4x5_t __riscv_vlsseg5e8(vbool32_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf4x6_t __riscv_vlsseg6e8(vbool32_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf4x7_t __riscv_vlsseg7e8(vbool32_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf4x8_t __riscv_vlsseg8e8(vbool32_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf2x2_t __riscv_vlsseg2e8(vbool16_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf2x3_t __riscv_vlsseg3e8(vbool16_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf2x4_t __riscv_vlsseg4e8(vbool16_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf2x5_t __riscv_vlsseg5e8(vbool16_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf2x6_t __riscv_vlsseg6e8(vbool16_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf2x7_t __riscv_vlsseg7e8(vbool16_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8mf2x8_t __riscv_vlsseg8e8(vbool16_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8m1x2_t __riscv_vlsseg2e8(vbool8_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vuint8m1x3_t __riscv_vlsseg3e8(vbool8_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vuint8m1x4_t __riscv_vlsseg4e8(vbool8_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vuint8m1x5_t __riscv_vlsseg5e8(vbool8_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vuint8m1x6_t __riscv_vlsseg6e8(vbool8_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vuint8m1x7_t __riscv_vlsseg7e8(vbool8_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                               size_t vl);
vuint8m1x8_t __riscv_vlsseg8e8(vbool8_t vm, const uint8_t *rs1, ptrdiff_t rs2,
```

```
                                size_t vl);
vuint8m2x2_t __riscv_vlsseg2e8(vbool4_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8m2x3_t __riscv_vlsseg3e8(vbool4_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8m2x4_t __riscv_vlsseg4e8(vbool4_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint8m4x2_t __riscv_vlsseg2e8(vbool2_t vm, const uint8_t *rs1, ptrdiff_t rs2,
                                size_t vl);
vuint16mf4x2_t __riscv_vlsseg2e16(vbool64_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vlsseg3e16(vbool64_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vlsseg4e16(vbool64_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vlsseg5e16(vbool64_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vlsseg6e16(vbool64_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vlsseg7e16(vbool64_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vlsseg8e16(vbool64_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vlsseg2e16(vbool32_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vlsseg3e16(vbool32_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vlsseg4e16(vbool32_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vlsseg5e16(vbool32_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vlsseg6e16(vbool32_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vlsseg7e16(vbool32_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vlsseg8e16(vbool32_t vm, const uint16_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16m1x2_t __riscv_vlsseg2e16(vbool16_t vm, const uint16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint16m1x3_t __riscv_vlsseg3e16(vbool16_t vm, const uint16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint16m1x4_t __riscv_vlsseg4e16(vbool16_t vm, const uint16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint16m1x5_t __riscv_vlsseg5e16(vbool16_t vm, const uint16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint16m1x6_t __riscv_vlsseg6e16(vbool16_t vm, const uint16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint16m1x7_t __riscv_vlsseg7e16(vbool16_t vm, const uint16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint16m1x8_t __riscv_vlsseg8e16(vbool16_t vm, const uint16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint16m2x2_t __riscv_vlsseg2e16(vbool8_t vm, const uint16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint16m2x3_t __riscv_vlsseg3e16(vbool8_t vm, const uint16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint16m2x4_t __riscv_vlsseg4e16(vbool8_t vm, const uint16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint16m4x2_t __riscv_vlsseg2e16(vbool4_t vm, const uint16_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vlsseg2e32(vbool64_t vm, const uint32_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vlsseg3e32(vbool64_t vm, const uint32_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vlsseg4e32(vbool64_t vm, const uint32_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vlsseg5e32(vbool64_t vm, const uint32_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
```

```
vuint32mf2x6_t __riscv_vlsseg6e32(vbool64_t vm, const uint32_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vlsseg7e32(vbool64_t vm, const uint32_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vlsseg8e32(vbool64_t vm, const uint32_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint32m1x2_t __riscv_vlsseg2e32(vbool32_t vm, const uint32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint32m1x3_t __riscv_vlsseg3e32(vbool32_t vm, const uint32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint32m1x4_t __riscv_vlsseg4e32(vbool32_t vm, const uint32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint32m1x5_t __riscv_vlsseg5e32(vbool32_t vm, const uint32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint32m1x6_t __riscv_vlsseg6e32(vbool32_t vm, const uint32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint32m1x7_t __riscv_vlsseg7e32(vbool32_t vm, const uint32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint32m1x8_t __riscv_vlsseg8e32(vbool32_t vm, const uint32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint32m2x2_t __riscv_vlsseg2e32(vbool16_t vm, const uint32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint32m2x3_t __riscv_vlsseg3e32(vbool16_t vm, const uint32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint32m2x4_t __riscv_vlsseg4e32(vbool16_t vm, const uint32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint32m4x2_t __riscv_vlsseg2e32(vbool8_t vm, const uint32_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint64m1x2_t __riscv_vlsseg2e64(vbool64_t vm, const uint64_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint64m1x3_t __riscv_vlsseg3e64(vbool64_t vm, const uint64_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint64m1x4_t __riscv_vlsseg4e64(vbool64_t vm, const uint64_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint64m1x5_t __riscv_vlsseg5e64(vbool64_t vm, const uint64_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint64m1x6_t __riscv_vlsseg6e64(vbool64_t vm, const uint64_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint64m1x7_t __riscv_vlsseg7e64(vbool64_t vm, const uint64_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint64m1x8_t __riscv_vlsseg8e64(vbool64_t vm, const uint64_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint64m2x2_t __riscv_vlsseg2e64(vbool32_t vm, const uint64_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint64m2x3_t __riscv_vlsseg3e64(vbool32_t vm, const uint64_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint64m2x4_t __riscv_vlsseg4e64(vbool32_t vm, const uint64_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vuint64m4x2_t __riscv_vlsseg2e64(vbool16_t vm, const uint64_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
```

C.2.4. Vector Strided Segment Store Intrinsics

```
void __riscv_vssseg2e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf4x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf4x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf4x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf4x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf4x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf4x7_t vs3,
                        size_t vl);
```

```
void __riscv_vssseg8e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf4x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf2x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf2x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf2x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf2x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16mf2x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m1x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m1x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m1x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m1x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m1x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m1x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m1x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m2x4_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(_Float16 *rs1, ptrdiff_t rs2, vfloat16m4x2_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(float *rs1, ptrdiff_t rs2, vfloat32mf2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e32(float *rs1, ptrdiff_t rs2, vfloat32mf2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e32(float *rs1, ptrdiff_t rs2, vfloat32mf2x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e32(float *rs1, ptrdiff_t rs2, vfloat32mf2x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e32(float *rs1, ptrdiff_t rs2, vfloat32mf2x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e32(float *rs1, ptrdiff_t rs2, vfloat32mf2x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e32(float *rs1, ptrdiff_t rs2, vfloat32mf2x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(float *rs1, ptrdiff_t rs2, vfloat32m1x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e32(float *rs1, ptrdiff_t rs2, vfloat32m1x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e32(float *rs1, ptrdiff_t rs2, vfloat32m1x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e32(float *rs1, ptrdiff_t rs2, vfloat32m1x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e32(float *rs1, ptrdiff_t rs2, vfloat32m1x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e32(float *rs1, ptrdiff_t rs2, vfloat32m1x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e32(float *rs1, ptrdiff_t rs2, vfloat32m1x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(float *rs1, ptrdiff_t rs2, vfloat32m2x2_t vs3,
```

```
                        size_t vl);
void __riscv_vssseg3e32(float *rs1, ptrdiff_t rs2, vfloat32m2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e32(float *rs1, ptrdiff_t rs2, vfloat32m2x4_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(float *rs1, ptrdiff_t rs2, vfloat32m4x2_t vs3,
                        size_t vl);
void __riscv_vssseg2e64(double *rs1, ptrdiff_t rs2, vfloat64m1x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e64(double *rs1, ptrdiff_t rs2, vfloat64m1x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e64(double *rs1, ptrdiff_t rs2, vfloat64m1x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e64(double *rs1, ptrdiff_t rs2, vfloat64m1x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e64(double *rs1, ptrdiff_t rs2, vfloat64m1x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e64(double *rs1, ptrdiff_t rs2, vfloat64m1x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e64(double *rs1, ptrdiff_t rs2, vfloat64m1x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e64(double *rs1, ptrdiff_t rs2, vfloat64m2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e64(double *rs1, ptrdiff_t rs2, vfloat64m2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e64(double *rs1, ptrdiff_t rs2, vfloat64m2x4_t vs3,
                        size_t vl);
void __riscv_vssseg2e64(double *rs1, ptrdiff_t rs2, vfloat64m4x2_t vs3,
                        size_t vl);
void __riscv_vssseg2e8(int8_t *rs1, ptrdiff_t rs2, vint8mf8x2_t vs3, size_t vl);
void __riscv_vssseg3e8(int8_t *rs1, ptrdiff_t rs2, vint8mf8x3_t vs3, size_t vl);
void __riscv_vssseg4e8(int8_t *rs1, ptrdiff_t rs2, vint8mf8x4_t vs3, size_t vl);
void __riscv_vssseg5e8(int8_t *rs1, ptrdiff_t rs2, vint8mf8x5_t vs3, size_t vl);
void __riscv_vssseg6e8(int8_t *rs1, ptrdiff_t rs2, vint8mf8x6_t vs3, size_t vl);
void __riscv_vssseg7e8(int8_t *rs1, ptrdiff_t rs2, vint8mf8x7_t vs3, size_t vl);
void __riscv_vssseg8e8(int8_t *rs1, ptrdiff_t rs2, vint8mf8x8_t vs3, size_t vl);
void __riscv_vssseg2e8(int8_t *rs1, ptrdiff_t rs2, vint8mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e8(int8_t *rs1, ptrdiff_t rs2, vint8mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e8(int8_t *rs1, ptrdiff_t rs2, vint8mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e8(int8_t *rs1, ptrdiff_t rs2, vint8mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e8(int8_t *rs1, ptrdiff_t rs2, vint8mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e8(int8_t *rs1, ptrdiff_t rs2, vint8mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e8(int8_t *rs1, ptrdiff_t rs2, vint8mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e8(int8_t *rs1, ptrdiff_t rs2, vint8mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e8(int8_t *rs1, ptrdiff_t rs2, vint8mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e8(int8_t *rs1, ptrdiff_t rs2, vint8mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e8(int8_t *rs1, ptrdiff_t rs2, vint8mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e8(int8_t *rs1, ptrdiff_t rs2, vint8mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e8(int8_t *rs1, ptrdiff_t rs2, vint8mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e8(int8_t *rs1, ptrdiff_t rs2, vint8mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e8(int8_t *rs1, ptrdiff_t rs2, vint8m1x2_t vs3, size_t vl);
void __riscv_vssseg3e8(int8_t *rs1, ptrdiff_t rs2, vint8m1x3_t vs3, size_t vl);
void __riscv_vssseg4e8(int8_t *rs1, ptrdiff_t rs2, vint8m1x4_t vs3, size_t vl);
void __riscv_vssseg5e8(int8_t *rs1, ptrdiff_t rs2, vint8m1x5_t vs3, size_t vl);
void __riscv_vssseg6e8(int8_t *rs1, ptrdiff_t rs2, vint8m1x6_t vs3, size_t vl);
void __riscv_vssseg7e8(int8_t *rs1, ptrdiff_t rs2, vint8m1x7_t vs3, size_t vl);
void __riscv_vssseg8e8(int8_t *rs1, ptrdiff_t rs2, vint8m1x8_t vs3, size_t vl);
void __riscv_vssseg2e8(int8_t *rs1, ptrdiff_t rs2, vint8m2x2_t vs3, size_t vl);
void __riscv_vssseg3e8(int8_t *rs1, ptrdiff_t rs2, vint8m2x3_t vs3, size_t vl);
void __riscv_vssseg4e8(int8_t *rs1, ptrdiff_t rs2, vint8m2x4_t vs3, size_t vl);
void __riscv_vssseg2e8(int8_t *rs1, ptrdiff_t rs2, vint8m4x2_t vs3, size_t vl);
void __riscv_vssseg2e16(int16_t *rs1, ptrdiff_t rs2, vint16mf4x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(int16_t *rs1, ptrdiff_t rs2, vint16mf4x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(int16_t *rs1, ptrdiff_t rs2, vint16mf4x4_t vs3,
                        size_t vl);
```

```
void __riscv_vssseg5e16(int16_t *rs1, ptrdiff_t rs2, vint16mf4x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e16(int16_t *rs1, ptrdiff_t rs2, vint16mf4x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e16(int16_t *rs1, ptrdiff_t rs2, vint16mf4x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e16(int16_t *rs1, ptrdiff_t rs2, vint16mf4x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(int16_t *rs1, ptrdiff_t rs2, vint16mf2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(int16_t *rs1, ptrdiff_t rs2, vint16mf2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(int16_t *rs1, ptrdiff_t rs2, vint16mf2x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e16(int16_t *rs1, ptrdiff_t rs2, vint16mf2x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e16(int16_t *rs1, ptrdiff_t rs2, vint16mf2x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e16(int16_t *rs1, ptrdiff_t rs2, vint16mf2x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e16(int16_t *rs1, ptrdiff_t rs2, vint16mf2x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(int16_t *rs1, ptrdiff_t rs2, vint16m1x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(int16_t *rs1, ptrdiff_t rs2, vint16m1x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(int16_t *rs1, ptrdiff_t rs2, vint16m1x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e16(int16_t *rs1, ptrdiff_t rs2, vint16m1x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e16(int16_t *rs1, ptrdiff_t rs2, vint16m1x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e16(int16_t *rs1, ptrdiff_t rs2, vint16m1x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e16(int16_t *rs1, ptrdiff_t rs2, vint16m1x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(int16_t *rs1, ptrdiff_t rs2, vint16m2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(int16_t *rs1, ptrdiff_t rs2, vint16m2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(int16_t *rs1, ptrdiff_t rs2, vint16m2x4_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(int16_t *rs1, ptrdiff_t rs2, vint16m4x2_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(int32_t *rs1, ptrdiff_t rs2, vint32mf2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e32(int32_t *rs1, ptrdiff_t rs2, vint32mf2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e32(int32_t *rs1, ptrdiff_t rs2, vint32mf2x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e32(int32_t *rs1, ptrdiff_t rs2, vint32mf2x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e32(int32_t *rs1, ptrdiff_t rs2, vint32mf2x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e32(int32_t *rs1, ptrdiff_t rs2, vint32mf2x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e32(int32_t *rs1, ptrdiff_t rs2, vint32mf2x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(int32_t *rs1, ptrdiff_t rs2, vint32m1x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e32(int32_t *rs1, ptrdiff_t rs2, vint32m1x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e32(int32_t *rs1, ptrdiff_t rs2, vint32m1x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e32(int32_t *rs1, ptrdiff_t rs2, vint32m1x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e32(int32_t *rs1, ptrdiff_t rs2, vint32m1x6_t vs3,
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                        size_t vl);
void __riscv_vssseg7e32(int32_t *rs1, ptrdiff_t rs2, vint32m1x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e32(int32_t *rs1, ptrdiff_t rs2, vint32m1x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(int32_t *rs1, ptrdiff_t rs2, vint32m2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e32(int32_t *rs1, ptrdiff_t rs2, vint32m2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e32(int32_t *rs1, ptrdiff_t rs2, vint32m2x4_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(int32_t *rs1, ptrdiff_t rs2, vint32m4x2_t vs3,
                        size_t vl);
void __riscv_vssseg2e64(int64_t *rs1, ptrdiff_t rs2, vint64m1x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e64(int64_t *rs1, ptrdiff_t rs2, vint64m1x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e64(int64_t *rs1, ptrdiff_t rs2, vint64m1x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e64(int64_t *rs1, ptrdiff_t rs2, vint64m1x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e64(int64_t *rs1, ptrdiff_t rs2, vint64m1x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e64(int64_t *rs1, ptrdiff_t rs2, vint64m1x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e64(int64_t *rs1, ptrdiff_t rs2, vint64m1x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e64(int64_t *rs1, ptrdiff_t rs2, vint64m2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e64(int64_t *rs1, ptrdiff_t rs2, vint64m2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e64(int64_t *rs1, ptrdiff_t rs2, vint64m2x4_t vs3,
                        size_t vl);
void __riscv_vssseg2e64(int64_t *rs1, ptrdiff_t rs2, vint64m4x2_t vs3,
                        size_t vl);
void __riscv_vssseg2e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x2_t vs3,
                       size_t vl);
void __riscv_vssseg3e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x3_t vs3,
                       size_t vl);
void __riscv_vssseg4e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x4_t vs3,
                       size_t vl);
void __riscv_vssseg5e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x5_t vs3,
                       size_t vl);
void __riscv_vssseg6e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x6_t vs3,
                       size_t vl);
void __riscv_vssseg7e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x7_t vs3,
                       size_t vl);
void __riscv_vssseg8e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf8x8_t vs3,
                       size_t vl);
void __riscv_vssseg2e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x2_t vs3,
                       size_t vl);
void __riscv_vssseg3e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x3_t vs3,
                       size_t vl);
void __riscv_vssseg4e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x4_t vs3,
                       size_t vl);
void __riscv_vssseg5e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x5_t vs3,
                       size_t vl);
void __riscv_vssseg6e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x6_t vs3,
                       size_t vl);
void __riscv_vssseg7e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x7_t vs3,
                       size_t vl);
void __riscv_vssseg8e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf4x8_t vs3,
                       size_t vl);
void __riscv_vssseg2e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x2_t vs3,
                       size_t vl);
void __riscv_vssseg3e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x3_t vs3,
                       size_t vl);
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void __riscv_vssseg4e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x4_t vs3,
                       size_t vl);
void __riscv_vssseg5e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x5_t vs3,
                       size_t vl);
void __riscv_vssseg6e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x6_t vs3,
                       size_t vl);
void __riscv_vssseg7e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x7_t vs3,
                       size_t vl);
void __riscv_vssseg8e8(uint8_t *rs1, ptrdiff_t rs2, vuint8mf2x8_t vs3,
                       size_t vl);
void __riscv_vssseg2e8(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x2_t vs3,
                       size_t vl);
void __riscv_vssseg3e8(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x3_t vs3,
                       size_t vl);
void __riscv_vssseg4e8(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x4_t vs3,
                       size_t vl);
void __riscv_vssseg5e8(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x5_t vs3,
                       size_t vl);
void __riscv_vssseg6e8(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x6_t vs3,
                       size_t vl);
void __riscv_vssseg7e8(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x7_t vs3,
                       size_t vl);
void __riscv_vssseg8e8(uint8_t *rs1, ptrdiff_t rs2, vuint8m1x8_t vs3,
                       size_t vl);
void __riscv_vssseg2e8(uint8_t *rs1, ptrdiff_t rs2, vuint8m2x2_t vs3,
                       size_t vl);
void __riscv_vssseg3e8(uint8_t *rs1, ptrdiff_t rs2, vuint8m2x3_t vs3,
                       size_t vl);
void __riscv_vssseg4e8(uint8_t *rs1, ptrdiff_t rs2, vuint8m2x4_t vs3,
                       size_t vl);
void __riscv_vssseg2e8(uint8_t *rs1, ptrdiff_t rs2, vuint8m4x2_t vs3,
                       size_t vl);
void __riscv_vssseg2e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf4x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf4x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf4x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf4x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf4x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf4x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf4x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf2x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf2x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf2x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf2x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e16(uint16_t *rs1, ptrdiff_t rs2, vuint16mf2x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(uint16_t *rs1, ptrdiff_t rs2, vuint16m1x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(uint16_t *rs1, ptrdiff_t rs2, vuint16m1x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(uint16_t *rs1, ptrdiff_t rs2, vuint16m1x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e16(uint16_t *rs1, ptrdiff_t rs2, vuint16m1x5_t vs3,
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                        size_t vl);
void __riscv_vssseg6e16(uint16_t *rs1, ptrdiff_t rs2, vuint16m1x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e16(uint16_t *rs1, ptrdiff_t rs2, vuint16m1x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e16(uint16_t *rs1, ptrdiff_t rs2, vuint16m1x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(uint16_t *rs1, ptrdiff_t rs2, vuint16m2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e16(uint16_t *rs1, ptrdiff_t rs2, vuint16m2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e16(uint16_t *rs1, ptrdiff_t rs2, vuint16m2x4_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(uint16_t *rs1, ptrdiff_t rs2, vuint16m4x2_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(uint32_t *rs1, ptrdiff_t rs2, vuint32mf2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e32(uint32_t *rs1, ptrdiff_t rs2, vuint32mf2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e32(uint32_t *rs1, ptrdiff_t rs2, vuint32mf2x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e32(uint32_t *rs1, ptrdiff_t rs2, vuint32mf2x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e32(uint32_t *rs1, ptrdiff_t rs2, vuint32mf2x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e32(uint32_t *rs1, ptrdiff_t rs2, vuint32mf2x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e32(uint32_t *rs1, ptrdiff_t rs2, vuint32mf2x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(uint32_t *rs1, ptrdiff_t rs2, vuint32m1x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e32(uint32_t *rs1, ptrdiff_t rs2, vuint32m1x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e32(uint32_t *rs1, ptrdiff_t rs2, vuint32m1x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e32(uint32_t *rs1, ptrdiff_t rs2, vuint32m1x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e32(uint32_t *rs1, ptrdiff_t rs2, vuint32m1x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e32(uint32_t *rs1, ptrdiff_t rs2, vuint32m1x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e32(uint32_t *rs1, ptrdiff_t rs2, vuint32m1x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(uint32_t *rs1, ptrdiff_t rs2, vuint32m2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e32(uint32_t *rs1, ptrdiff_t rs2, vuint32m2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e32(uint32_t *rs1, ptrdiff_t rs2, vuint32m2x4_t vs3,
                        size_t vl);
void __riscv_vssseg2e32(uint32_t *rs1, ptrdiff_t rs2, vuint32m4x2_t vs3,
                        size_t vl);
void __riscv_vssseg2e64(uint64_t *rs1, ptrdiff_t rs2, vuint64m1x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e64(uint64_t *rs1, ptrdiff_t rs2, vuint64m1x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e64(uint64_t *rs1, ptrdiff_t rs2, vuint64m1x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e64(uint64_t *rs1, ptrdiff_t rs2, vuint64m1x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e64(uint64_t *rs1, ptrdiff_t rs2, vuint64m1x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e64(uint64_t *rs1, ptrdiff_t rs2, vuint64m1x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e64(uint64_t *rs1, ptrdiff_t rs2, vuint64m1x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e64(uint64_t *rs1, ptrdiff_t rs2, vuint64m2x2_t vs3,
                        size_t vl);
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void __riscv_vssseg3e64(uint64_t *rs1, ptrdiff_t rs2, vuint64m2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e64(uint64_t *rs1, ptrdiff_t rs2, vuint64m2x4_t vs3,
                        size_t vl);
void __riscv_vssseg2e64(uint64_t *rs1, ptrdiff_t rs2, vuint64m4x2_t vs3,
                        size_t vl);
// masked functions
void __riscv_vssseg2e16(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e16(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e16(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e16(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e16(vbool64_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e16(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e16(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e16(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e16(vbool32_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16m1x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16m1x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16m1x4_t vs3, size_t vl);
void __riscv_vssseg5e16(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16m1x5_t vs3, size_t vl);
void __riscv_vssseg6e16(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16m1x6_t vs3, size_t vl);
void __riscv_vssseg7e16(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16m1x7_t vs3, size_t vl);
void __riscv_vssseg8e16(vbool16_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16m1x8_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool8_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16m2x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool8_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16m2x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool8_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16m2x4_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool4_t vm, _Float16 *rs1, ptrdiff_t rs2,
                        vfloat16m4x2_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool64_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e32(vbool64_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e32(vbool64_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e32(vbool64_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e32(vbool64_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32mf2x6_t vs3, size_t vl);
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void __riscv_vssseg7e32(vbool64_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e32(vbool64_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool32_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32m1x2_t vs3, size_t vl);
void __riscv_vssseg3e32(vbool32_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32m1x3_t vs3, size_t vl);
void __riscv_vssseg4e32(vbool32_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32m1x4_t vs3, size_t vl);
void __riscv_vssseg5e32(vbool32_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32m1x5_t vs3, size_t vl);
void __riscv_vssseg6e32(vbool32_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32m1x6_t vs3, size_t vl);
void __riscv_vssseg7e32(vbool32_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32m1x7_t vs3, size_t vl);
void __riscv_vssseg8e32(vbool32_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32m1x8_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool16_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32m2x2_t vs3, size_t vl);
void __riscv_vssseg3e32(vbool16_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32m2x3_t vs3, size_t vl);
void __riscv_vssseg4e32(vbool16_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32m2x4_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool8_t vm, float *rs1, ptrdiff_t rs2,
                        vfloat32m4x2_t vs3, size_t vl);
void __riscv_vssseg2e64(vbool64_t vm, double *rs1, ptrdiff_t rs2,
                        vfloat64m1x2_t vs3, size_t vl);
void __riscv_vssseg3e64(vbool64_t vm, double *rs1, ptrdiff_t rs2,
                        vfloat64m1x3_t vs3, size_t vl);
void __riscv_vssseg4e64(vbool64_t vm, double *rs1, ptrdiff_t rs2,
                        vfloat64m1x4_t vs3, size_t vl);
void __riscv_vssseg5e64(vbool64_t vm, double *rs1, ptrdiff_t rs2,
                        vfloat64m1x5_t vs3, size_t vl);
void __riscv_vssseg6e64(vbool64_t vm, double *rs1, ptrdiff_t rs2,
                        vfloat64m1x6_t vs3, size_t vl);
void __riscv_vssseg7e64(vbool64_t vm, double *rs1, ptrdiff_t rs2,
                        vfloat64m1x7_t vs3, size_t vl);
void __riscv_vssseg8e64(vbool64_t vm, double *rs1, ptrdiff_t rs2,
                        vfloat64m1x8_t vs3, size_t vl);
void __riscv_vssseg2e64(vbool32_t vm, double *rs1, ptrdiff_t rs2,
                        vfloat64m2x2_t vs3, size_t vl);
void __riscv_vssseg3e64(vbool32_t vm, double *rs1, ptrdiff_t rs2,
                        vfloat64m2x3_t vs3, size_t vl);
void __riscv_vssseg4e64(vbool32_t vm, double *rs1, ptrdiff_t rs2,
                        vfloat64m2x4_t vs3, size_t vl);
void __riscv_vssseg2e64(vbool16_t vm, double *rs1, ptrdiff_t rs2,
                        vfloat64m4x2_t vs3, size_t vl);
void __riscv_vssseg2e8(vbool64_t vm, int8_t *rs1, ptrdiff_t rs2,
                       vint8mf8x2_t vs3, size_t vl);
void __riscv_vssseg3e8(vbool64_t vm, int8_t *rs1, ptrdiff_t rs2,
                       vint8mf8x3_t vs3, size_t vl);
void __riscv_vssseg4e8(vbool64_t vm, int8_t *rs1, ptrdiff_t rs2,
                       vint8mf8x4_t vs3, size_t vl);
void __riscv_vssseg5e8(vbool64_t vm, int8_t *rs1, ptrdiff_t rs2,
                       vint8mf8x5_t vs3, size_t vl);
void __riscv_vssseg6e8(vbool64_t vm, int8_t *rs1, ptrdiff_t rs2,
                       vint8mf8x6_t vs3, size_t vl);
void __riscv_vssseg7e8(vbool64_t vm, int8_t *rs1, ptrdiff_t rs2,
                       vint8mf8x7_t vs3, size_t vl);
void __riscv_vssseg8e8(vbool64_t vm, int8_t *rs1, ptrdiff_t rs2,
                       vint8mf8x8_t vs3, size_t vl);
void __riscv_vssseg2e8(vbool32_t vm, int8_t *rs1, ptrdiff_t rs2,
                       vint8mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e8(vbool32_t vm, int8_t *rs1, ptrdiff_t rs2,
                       vint8mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e8(vbool32_t vm, int8_t *rs1, ptrdiff_t rs2,
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                        vint8mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e8(vbool32_t vm, int8_t *rs1, ptrdiff_t rs2,
                        vint8mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e8(vbool32_t vm, int8_t *rs1, ptrdiff_t rs2,
                        vint8mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e8(vbool32_t vm, int8_t *rs1, ptrdiff_t rs2,
                        vint8mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e8(vbool32_t vm, int8_t *rs1, ptrdiff_t rs2,
                        vint8mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e8(vbool16_t vm, int8_t *rs1, ptrdiff_t rs2,
                        vint8mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e8(vbool16_t vm, int8_t *rs1, ptrdiff_t rs2,
                        vint8mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e8(vbool16_t vm, int8_t *rs1, ptrdiff_t rs2,
                        vint8mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e8(vbool16_t vm, int8_t *rs1, ptrdiff_t rs2,
                        vint8mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e8(vbool16_t vm, int8_t *rs1, ptrdiff_t rs2,
                        vint8mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e8(vbool16_t vm, int8_t *rs1, ptrdiff_t rs2,
                        vint8mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e8(vbool16_t vm, int8_t *rs1, ptrdiff_t rs2,
                        vint8mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e8(vbool8_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m1x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e8(vbool8_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m1x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e8(vbool8_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m1x4_t vs3,
                        size_t vl);
void __riscv_vssseg5e8(vbool8_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m1x5_t vs3,
                        size_t vl);
void __riscv_vssseg6e8(vbool8_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m1x6_t vs3,
                        size_t vl);
void __riscv_vssseg7e8(vbool8_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m1x7_t vs3,
                        size_t vl);
void __riscv_vssseg8e8(vbool8_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m1x8_t vs3,
                        size_t vl);
void __riscv_vssseg2e8(vbool4_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m2x2_t vs3,
                        size_t vl);
void __riscv_vssseg3e8(vbool4_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m2x3_t vs3,
                        size_t vl);
void __riscv_vssseg4e8(vbool4_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m2x4_t vs3,
                        size_t vl);
void __riscv_vssseg2e8(vbool2_t vm, int8_t *rs1, ptrdiff_t rs2, vint8m4x2_t vs3,
                        size_t vl);
void __riscv_vssseg2e16(vbool64_t vm, int16_t *rs1, ptrdiff_t rs2,
                         vint16mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool64_t vm, int16_t *rs1, ptrdiff_t rs2,
                         vint16mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool64_t vm, int16_t *rs1, ptrdiff_t rs2,
                         vint16mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e16(vbool64_t vm, int16_t *rs1, ptrdiff_t rs2,
                         vint16mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e16(vbool64_t vm, int16_t *rs1, ptrdiff_t rs2,
                         vint16mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e16(vbool64_t vm, int16_t *rs1, ptrdiff_t rs2,
                         vint16mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e16(vbool64_t vm, int16_t *rs1, ptrdiff_t rs2,
                         vint16mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool32_t vm, int16_t *rs1, ptrdiff_t rs2,
                         vint16mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool32_t vm, int16_t *rs1, ptrdiff_t rs2,
                         vint16mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool32_t vm, int16_t *rs1, ptrdiff_t rs2,
                         vint16mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e16(vbool32_t vm, int16_t *rs1, ptrdiff_t rs2,
                         vint16mf2x5_t vs3, size_t vl);
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void __riscv_vssseg6e16(vbool32_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e16(vbool32_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e16(vbool32_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool16_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16m1x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool16_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16m1x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool16_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16m1x4_t vs3, size_t vl);
void __riscv_vssseg5e16(vbool16_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16m1x5_t vs3, size_t vl);
void __riscv_vssseg6e16(vbool16_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16m1x6_t vs3, size_t vl);
void __riscv_vssseg7e16(vbool16_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16m1x7_t vs3, size_t vl);
void __riscv_vssseg8e16(vbool16_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16m1x8_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool8_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16m2x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool8_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16m2x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool8_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16m2x4_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool4_t vm, int16_t *rs1, ptrdiff_t rs2,
                        vint16m4x2_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool64_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e32(vbool64_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e32(vbool64_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e32(vbool64_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e32(vbool64_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e32(vbool64_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e32(vbool64_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool32_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32m1x2_t vs3, size_t vl);
void __riscv_vssseg3e32(vbool32_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32m1x3_t vs3, size_t vl);
void __riscv_vssseg4e32(vbool32_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32m1x4_t vs3, size_t vl);
void __riscv_vssseg5e32(vbool32_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32m1x5_t vs3, size_t vl);
void __riscv_vssseg6e32(vbool32_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32m1x6_t vs3, size_t vl);
void __riscv_vssseg7e32(vbool32_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32m1x7_t vs3, size_t vl);
void __riscv_vssseg8e32(vbool32_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32m1x8_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool16_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32m2x2_t vs3, size_t vl);
void __riscv_vssseg3e32(vbool16_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32m2x3_t vs3, size_t vl);
void __riscv_vssseg4e32(vbool16_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32m2x4_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool8_t vm, int32_t *rs1, ptrdiff_t rs2,
                        vint32m4x2_t vs3, size_t vl);
void __riscv_vssseg2e64(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                        vint64m1x2_t vs3, size_t vl);
void __riscv_vssseg3e64(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
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                        vint64m1x3_t vs3, size_t vl);
void __riscv_vssseg4e64(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                        vint64m1x4_t vs3, size_t vl);
void __riscv_vssseg5e64(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                        vint64m1x5_t vs3, size_t vl);
void __riscv_vssseg6e64(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                        vint64m1x6_t vs3, size_t vl);
void __riscv_vssseg7e64(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                        vint64m1x7_t vs3, size_t vl);
void __riscv_vssseg8e64(vbool64_t vm, int64_t *rs1, ptrdiff_t rs2,
                        vint64m1x8_t vs3, size_t vl);
void __riscv_vssseg2e64(vbool32_t vm, int64_t *rs1, ptrdiff_t rs2,
                        vint64m2x2_t vs3, size_t vl);
void __riscv_vssseg3e64(vbool32_t vm, int64_t *rs1, ptrdiff_t rs2,
                        vint64m2x3_t vs3, size_t vl);
void __riscv_vssseg4e64(vbool32_t vm, int64_t *rs1, ptrdiff_t rs2,
                        vint64m2x4_t vs3, size_t vl);
void __riscv_vssseg2e64(vbool16_t vm, int64_t *rs1, ptrdiff_t rs2,
                        vint64m4x2_t vs3, size_t vl);
void __riscv_vssseg2e8(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf8x2_t vs3, size_t vl);
void __riscv_vssseg3e8(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf8x3_t vs3, size_t vl);
void __riscv_vssseg4e8(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf8x4_t vs3, size_t vl);
void __riscv_vssseg5e8(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf8x5_t vs3, size_t vl);
void __riscv_vssseg6e8(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf8x6_t vs3, size_t vl);
void __riscv_vssseg7e8(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf8x7_t vs3, size_t vl);
void __riscv_vssseg8e8(vbool64_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf8x8_t vs3, size_t vl);
void __riscv_vssseg2e8(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e8(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e8(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e8(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e8(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e8(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e8(vbool32_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e8(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e8(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e8(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e8(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e8(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e8(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e8(vbool16_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e8(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8m1x2_t vs3, size_t vl);
void __riscv_vssseg3e8(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8m1x3_t vs3, size_t vl);
void __riscv_vssseg4e8(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8m1x4_t vs3, size_t vl);
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void __riscv_vssseg5e8(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8m1x5_t vs3, size_t vl);
void __riscv_vssseg6e8(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8m1x6_t vs3, size_t vl);
void __riscv_vssseg7e8(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8m1x7_t vs3, size_t vl);
void __riscv_vssseg8e8(vbool8_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8m1x8_t vs3, size_t vl);
void __riscv_vssseg2e8(vbool4_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8m2x2_t vs3, size_t vl);
void __riscv_vssseg3e8(vbool4_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8m2x3_t vs3, size_t vl);
void __riscv_vssseg4e8(vbool4_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8m2x4_t vs3, size_t vl);
void __riscv_vssseg2e8(vbool2_t vm, uint8_t *rs1, ptrdiff_t rs2,
                       vuint8m4x2_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf4x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf4x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf4x4_t vs3, size_t vl);
void __riscv_vssseg5e16(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf4x5_t vs3, size_t vl);
void __riscv_vssseg6e16(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf4x6_t vs3, size_t vl);
void __riscv_vssseg7e16(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf4x7_t vs3, size_t vl);
void __riscv_vssseg8e16(vbool64_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf4x8_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e16(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e16(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e16(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e16(vbool32_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16m1x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16m1x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16m1x4_t vs3, size_t vl);
void __riscv_vssseg5e16(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16m1x5_t vs3, size_t vl);
void __riscv_vssseg6e16(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16m1x6_t vs3, size_t vl);
void __riscv_vssseg7e16(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16m1x7_t vs3, size_t vl);
void __riscv_vssseg8e16(vbool16_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16m1x8_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool8_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16m2x2_t vs3, size_t vl);
void __riscv_vssseg3e16(vbool8_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16m2x3_t vs3, size_t vl);
void __riscv_vssseg4e16(vbool8_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16m2x4_t vs3, size_t vl);
void __riscv_vssseg2e16(vbool4_t vm, uint16_t *rs1, ptrdiff_t rs2,
                        vuint16m4x2_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
```

```
                        vuint32mf2x2_t vs3, size_t vl);
void __riscv_vssseg3e32(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32mf2x3_t vs3, size_t vl);
void __riscv_vssseg4e32(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32mf2x4_t vs3, size_t vl);
void __riscv_vssseg5e32(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32mf2x5_t vs3, size_t vl);
void __riscv_vssseg6e32(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32mf2x6_t vs3, size_t vl);
void __riscv_vssseg7e32(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32mf2x7_t vs3, size_t vl);
void __riscv_vssseg8e32(vbool64_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32mf2x8_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32m1x2_t vs3, size_t vl);
void __riscv_vssseg3e32(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32m1x3_t vs3, size_t vl);
void __riscv_vssseg4e32(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32m1x4_t vs3, size_t vl);
void __riscv_vssseg5e32(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32m1x5_t vs3, size_t vl);
void __riscv_vssseg6e32(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32m1x6_t vs3, size_t vl);
void __riscv_vssseg7e32(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32m1x7_t vs3, size_t vl);
void __riscv_vssseg8e32(vbool32_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32m1x8_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool16_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32m2x2_t vs3, size_t vl);
void __riscv_vssseg3e32(vbool16_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32m2x3_t vs3, size_t vl);
void __riscv_vssseg4e32(vbool16_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32m2x4_t vs3, size_t vl);
void __riscv_vssseg2e32(vbool8_t vm, uint32_t *rs1, ptrdiff_t rs2,
                        vuint32m4x2_t vs3, size_t vl);
void __riscv_vssseg2e64(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                        vuint64m1x2_t vs3, size_t vl);
void __riscv_vssseg3e64(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                        vuint64m1x3_t vs3, size_t vl);
void __riscv_vssseg4e64(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                        vuint64m1x4_t vs3, size_t vl);
void __riscv_vssseg5e64(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                        vuint64m1x5_t vs3, size_t vl);
void __riscv_vssseg6e64(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                        vuint64m1x6_t vs3, size_t vl);
void __riscv_vssseg7e64(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                        vuint64m1x7_t vs3, size_t vl);
void __riscv_vssseg8e64(vbool64_t vm, uint64_t *rs1, ptrdiff_t rs2,
                        vuint64m1x8_t vs3, size_t vl);
void __riscv_vssseg2e64(vbool32_t vm, uint64_t *rs1, ptrdiff_t rs2,
                        vuint64m2x2_t vs3, size_t vl);
void __riscv_vssseg3e64(vbool32_t vm, uint64_t *rs1, ptrdiff_t rs2,
                        vuint64m2x3_t vs3, size_t vl);
void __riscv_vssseg4e64(vbool32_t vm, uint64_t *rs1, ptrdiff_t rs2,
                        vuint64m2x4_t vs3, size_t vl);
void __riscv_vssseg2e64(vbool16_t vm, uint64_t *rs1, ptrdiff_t rs2,
                        vuint64m4x2_t vs3, size_t vl);
```

C.2.5. Vector Indexed Segment Load Intrinsics

```
vfloat16mf4x2_t __riscv_vloxseg2ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei8(const _Float16 *rs1, vuint8mf8_t rs2,
```

```
                                    size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8(const _Float16 *rs1, vuint8m1_t rs2,
                                   size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8(const _Float16 *rs1, vuint8m1_t rs2,
                                   size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8(const _Float16 *rs1, vuint8m1_t rs2,
                                   size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8(const _Float16 *rs1, vuint8m2_t rs2,
                                   size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
```

```
vfloat16mf2x6_t __riscv_vloxseg6ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16(const _Float16 *rs1, vuint16m2_t rs2,
                                    size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16(const _Float16 *rs1, vuint16m2_t rs2,
                                    size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16(const _Float16 *rs1, vuint16m2_t rs2,
                                    size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16(const _Float16 *rs1, vuint16m4_t rs2,
                                    size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei32(const _Float16 *rs1, vuint32m2_t rs2,
```

```
                                    size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32(const _Float16 *rs1, vuint32m4_t rs2,
                                    size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32(const _Float16 *rs1, vuint32m4_t rs2,
                                    size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32(const _Float16 *rs1, vuint32m4_t rs2,
                                    size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32(const _Float16 *rs1, vuint32m8_t rs2,
                                    size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64(const _Float16 *rs1, vuint64m8_t rs2,
                                    size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64(const _Float16 *rs1, vuint64m8_t rs2,
                                    size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64(const _Float16 *rs1, vuint64m8_t rs2,
                                    size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
```

```
vfloat32mf2x6_t __riscv_vloxseg6ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8(const float *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8(const float *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8(const float *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8(const float *rs1, vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16(const float *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16(const float *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei16(const float *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16(const float *rs1, vuint16m2_t rs2,
                                    size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
```

```
vfloat32mf2x4_t __riscv_vloxseg4ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32(const float *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32(const float *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32(const float *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32(const float *rs1, vuint32m4_t rs2,
                                    size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64(const float *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64(const float *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64(const float *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64(const float *rs1, vuint64m8_t rs2,
```

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                                     size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8(const double *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8(const double *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8(const double *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8(const double *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16(const double *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16(const double *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16(const double *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16(const double *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei32(const double *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32(const double *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei32(const double *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei32(const double *rs1, vuint32m2_t rs2,
                                    size_t vl);
```

```
vfloat64m1x2_t __riscv_vloxseg2ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64(const double *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64(const double *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64(const double *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64(const double *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8(const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8(const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8(const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8(const _Float16 *rs1, vuint8m1_t rs2,
                                   size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8(const _Float16 *rs1, vuint8m1_t rs2,
```

```
                                    size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8(const _Float16 *rs1, vuint8m1_t rs2,
                                   size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8(const _Float16 *rs1, vuint8m2_t rs2,
                                   size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16(const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16(const _Float16 *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16(const _Float16 *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16(const _Float16 *rs1, vuint16m2_t rs2,
                                    size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16(const _Float16 *rs1, vuint16m2_t rs2,
                                    size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16(const _Float16 *rs1, vuint16m2_t rs2,
                                    size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16(const _Float16 *rs1, vuint16m4_t rs2,
                                    size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
```

```
vfloat16mf4x8_t __riscv_vluxseg8ei32(const _Float16 *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32(const _Float16 *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32(const _Float16 *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32(const _Float16 *rs1, vuint32m4_t rs2,
                                    size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei32(const _Float16 *rs1, vuint32m4_t rs2,
                                    size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32(const _Float16 *rs1, vuint32m4_t rs2,
                                    size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32(const _Float16 *rs1, vuint32m8_t rs2,
                                    size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64(const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64(const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64(const _Float16 *rs1, vuint64m4_t rs2,
```

```
                                    size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64(const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64(const _Float16 *rs1, vuint64m8_t rs2,
                                    size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64(const _Float16 *rs1, vuint64m8_t rs2,
                                    size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64(const _Float16 *rs1, vuint64m8_t rs2,
                                    size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8(const float *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8(const float *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8(const float *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8(const float *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8(const float *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8(const float *rs1, vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei16(const float *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16(const float *rs1, vuint16mf4_t rs2,
```

```
                                     size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16(const float *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16(const float *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16(const float *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16(const float *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16(const float *rs1, vuint16m2_t rs2,
                                    size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32(const float *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32(const float *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32(const float *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32(const float *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32(const float *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32(const float *rs1, vuint32m4_t rs2,
                                    size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
```

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vfloat32mf2x6_t __riscv_vluxseg6ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei64(const float *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64(const float *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64(const float *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64(const float *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei64(const float *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei64(const float *rs1, vuint64m8_t rs2,
                                    size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8(const double *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8(const double *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8(const double *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8(const double *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei8(const double *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei16(const double *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei16(const double *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16(const double *rs1, vuint16mf2_t rs2,
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                                    size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16(const double *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16(const double *rs1, vuint16m1_t rs2,
                                    size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32(const double *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32(const double *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32(const double *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32(const double *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32(const double *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64(const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64(const double *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64(const double *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64(const double *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64(const double *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
```

```
vint8mf2x6_t __riscv_vloxseg6ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei8(const int8_t *rs1, vuint8m2_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8(const int8_t *rs1, vuint8m2_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8(const int8_t *rs1, vuint8m2_t rs2, size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8(const int8_t *rs1, vuint8m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16(const int8_t *rs1, vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16(const int8_t *rs1, vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16(const int8_t *rs1, vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16(const int8_t *rs1, vuint16m8_t rs2, size_t vl);
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vint8mf8x2_t __riscv_vloxseg2ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32(const int8_t *rs1, vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32(const int8_t *rs1, vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32(const int8_t *rs1, vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei64(const int8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64(const int8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64(const int8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64(const int8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64(const int8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64(const int8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64(const int8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64(const int8_t *rs1, vuint64m2_t rs2,
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                                    size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8(const int16_t *rs1, vuint8mf2_t rs2,
```

```
                                  size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8(const int16_t *rs1, vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei8(const int16_t *rs1, vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8(const int16_t *rs1, vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei8(const int16_t *rs1, vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16(const int16_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16(const int16_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16(const int16_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16(const int16_t *rs1, vuint16m4_t rs2,
                                  size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
```

```
vint16mf4x4_t __riscv_vloxseg4ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x7_t __riscv_vloxseg7ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32(const int16_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32(const int16_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32(const int16_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32(const int16_t *rs1, vuint32m8_t rs2,
                                  size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64(const int16_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64(const int16_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64(const int16_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64(const int16_t *rs1, vuint64m2_t rs2,
```

```
                                    size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64(const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64(const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64(const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16m1x2_t __riscv_vloxseg2ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x4_t __riscv_vloxseg4ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64(const int16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64(const int16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64(const int16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x3_t __riscv_vloxseg3ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x4_t __riscv_vloxseg4ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x6_t __riscv_vloxseg6ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x7_t __riscv_vloxseg7ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x8_t __riscv_vloxseg8ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8(const int32_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8(const int32_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vint32m2x4_t __riscv_vloxseg4ei8(const int32_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8(const int32_t *rs1, vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei16(const int32_t *rs1, vuint16mf4_t rs2,
```

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                                    size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x4_t __riscv_vloxseg4ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x7_t __riscv_vloxseg7ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16(const int32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16(const int32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16(const int32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16(const int32_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32(const int32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint32m1x3_t __riscv_vloxseg3ei32(const int32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32(const int32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32(const int32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint32m1x6_t __riscv_vloxseg6ei32(const int32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint32m1x7_t __riscv_vloxseg7ei32(const int32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32(const int32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32(const int32_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32(const int32_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32(const int32_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32(const int32_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
```

```
vint32mf2x2_t __riscv_vloxseg2ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x4_t __riscv_vloxseg4ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x5_t __riscv_vloxseg5ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x6_t __riscv_vloxseg6ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x7_t __riscv_vloxseg7ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x8_t __riscv_vloxseg8ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m2x2_t __riscv_vloxseg2ei64(const int32_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vint32m2x3_t __riscv_vloxseg3ei64(const int32_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vint32m2x4_t __riscv_vloxseg4ei64(const int32_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vint32m4x2_t __riscv_vloxseg2ei64(const int32_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vint64m1x2_t __riscv_vloxseg2ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x5_t __riscv_vloxseg5ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x6_t __riscv_vloxseg6ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x7_t __riscv_vloxseg7ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x8_t __riscv_vloxseg8ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m2x2_t __riscv_vloxseg2ei8(const int64_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vint64m2x3_t __riscv_vloxseg3ei8(const int64_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vint64m2x4_t __riscv_vloxseg4ei8(const int64_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vint64m4x2_t __riscv_vloxseg2ei8(const int64_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint64m1x5_t __riscv_vloxseg5ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint64m1x6_t __riscv_vloxseg6ei16(const int64_t *rs1, vuint16mf4_t rs2,
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                                    size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vloxseg2ei16(const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vloxseg3ei16(const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vloxseg4ei16(const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16(const int64_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vloxseg5ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vloxseg6ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vloxseg7ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32(const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32(const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vloxseg4ei32(const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vloxseg2ei32(const int64_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64(const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vloxseg3ei64(const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64(const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64(const int64_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8(const int8_t *rs1, vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
```

```
vint8mf4x5_t __riscv_vluxseg5ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8(const int8_t *rs1, vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8(const int8_t *rs1, vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8(const int8_t *rs1, vuint8m1_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei8(const int8_t *rs1, vuint8m2_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8(const int8_t *rs1, vuint8m2_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8(const int8_t *rs1, vuint8m2_t rs2, size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8(const int8_t *rs1, vuint8m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei16(const int8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16(const int8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16(const int8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
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vint8m1x5_t __riscv_vluxseg5ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16(const int8_t *rs1, vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16(const int8_t *rs1, vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16(const int8_t *rs1, vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16(const int8_t *rs1, vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16(const int8_t *rs1, vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32(const int8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei32(const int8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei32(const int8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32(const int8_t *rs1, vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32(const int8_t *rs1, vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32(const int8_t *rs1, vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32(const int8_t *rs1, vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64(const int8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64(const int8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64(const int8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64(const int8_t *rs1, vuint64m1_t rs2,
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                                    size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64(const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64(const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64(const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei64(const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei64(const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei64(const int8_t *rs1, vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei8(const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8(const int16_t *rs1, vuint8mf4_t rs2,
```

```
                                  size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8(const int16_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vint16m1x7_t __riscv_vluxseg7ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8(const int16_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vint16m2x2_t __riscv_vluxseg2ei8(const int16_t *rs1, vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8(const int16_t *rs1, vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8(const int16_t *rs1, vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8(const int16_t *rs1, vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei16(const int16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16(const int16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16(const int16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16(const int16_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16(const int16_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
```

```
vint16m2x4_t __riscv_vluxseg4ei16(const int16_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vint16m4x2_t __riscv_vluxseg2ei16(const int16_t *rs1, vuint16m4_t rs2,
                                  size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32(const int16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32(const int16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x4_t __riscv_vluxseg4ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32(const int16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32(const int16_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vint16m2x3_t __riscv_vluxseg3ei32(const int16_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32(const int16_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32(const int16_t *rs1, vuint32m8_t rs2,
                                  size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64(const int16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64(const int16_t *rs1, vuint64m1_t rs2,
```

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                                    size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64(const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei64(const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64(const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64(const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei64(const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64(const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei64(const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64(const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64(const int16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint16m2x3_t __riscv_vluxseg3ei64(const int16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64(const int16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8(const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8(const int32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8(const int32_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8(const int32_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
```

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vint32m2x4_t __riscv_vluxseg4ei8(const int32_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vint32m4x2_t __riscv_vluxseg2ei8(const int32_t *rs1, vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16(const int32_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16(const int32_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16(const int32_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16(const int32_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint32m2x4_t __riscv_vluxseg4ei16(const int32_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16(const int32_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32(const int32_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32(const int32_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32(const int32_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32(const int32_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32(const int32_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32(const int32_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32(const int32_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32(const int32_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
```

```
vint32m2x2_t __riscv_vluxseg2ei32(const int32_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32(const int32_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32(const int32_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32(const int32_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei64(const int32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x6_t __riscv_vluxseg6ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64(const int32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64(const int32_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64(const int32_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64(const int32_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vint32m4x2_t __riscv_vluxseg2ei64(const int32_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8(const int64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8(const int64_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8(const int64_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8(const int64_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vint64m4x2_t __riscv_vluxseg2ei8(const int64_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vint64m1x2_t __riscv_vluxseg2ei16(const int64_t *rs1, vuint16mf4_t rs2,
```

```
                                    size_t vl);
vint64m1x3_t __riscv_vluxseg3ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16(const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16(const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16(const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16(const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16(const int64_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32(const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vluxseg2ei32(const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32(const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32(const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32(const int64_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vluxseg4ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64(const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64(const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64(const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64(const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64(const int64_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
```

```
vuint8mf8x3_t __riscv_vloxseg3ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8(const uint8_t *rs1, vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8(const uint8_t *rs1, vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8(const uint8_t *rs1, vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8(const uint8_t *rs1, vuint8m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
```

```
vuint8mf4x3_t __riscv_vloxseg3ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16(const uint8_t *rs1, vuint16m4_t rs2,
                                  size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16(const uint8_t *rs1, vuint16m4_t rs2,
                                  size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16(const uint8_t *rs1, vuint16m4_t rs2,
                                  size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16(const uint8_t *rs1, vuint16m8_t rs2,
                                  size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32(const uint8_t *rs1, vuint32m1_t rs2,
```

```
                                    size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32(const uint8_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32(const uint8_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32(const uint8_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
```

```
vuint8mf4x7_t __riscv_vloxseg7ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8(const uint16_t *rs1, vuint8mf2_t rs2,
```

```
                                    size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8(const uint16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8(const uint16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8(const uint16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8(const uint16_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei16(const uint16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16(const uint16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16(const uint16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei16(const uint16_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
```

```
vuint16mf4x3_t __riscv_vloxseg3ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32(const uint16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei32(const uint16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32(const uint16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32(const uint16_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64(const uint16_t *rs1, vuint64m2_t rs2,
```

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                                    size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64(const uint16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64(const uint16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64(const uint16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei8(const uint32_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8(const uint32_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei8(const uint32_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8(const uint32_t *rs1, vuint8m1_t rs2,
                                  size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
```

```
vuint32mf2x3_t __riscv_vloxseg3ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16(const uint32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16(const uint32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16(const uint32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16(const uint32_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32(const uint32_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei32(const uint32_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei32(const uint32_t *rs1, vuint32m2_t rs2,
```

```
                                    size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei32(const uint32_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64(const uint32_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei64(const uint32_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64(const uint32_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64(const uint32_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8(const uint64_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei8(const uint64_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei8(const uint64_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8(const uint64_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
```

```
vuint64m1x5_t __riscv_vloxseg5ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16(const uint64_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16(const uint64_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16(const uint64_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16(const uint64_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei32(const uint64_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32(const uint64_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32(const uint64_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei32(const uint64_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64(const uint64_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64(const uint64_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64(const uint64_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64(const uint64_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8(const uint8_t *rs1, vuint8mf8_t rs2,
```

```
                                  size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8(const uint8_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei8(const uint8_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8(const uint8_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei8(const uint8_t *rs1, vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8(const uint8_t *rs1, vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8(const uint8_t *rs1, vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8(const uint8_t *rs1, vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei8(const uint8_t *rs1, vuint8m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16(const uint8_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16(const uint8_t *rs1, vuint16mf2_t rs2,
```

```
                                    size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16(const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei16(const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16(const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16(const uint8_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16(const uint8_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16(const uint8_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16(const uint8_t *rs1, vuint16m8_t rs2,
                                   size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32(const uint8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
```

```
vuint8mf4x7_t __riscv_vluxseg7ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei32(const uint8_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei32(const uint8_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32(const uint8_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32(const uint8_t *rs1, vuint32m8_t rs2,
                                  size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32(const uint8_t *rs1, vuint32m8_t rs2,
                                  size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei32(const uint8_t *rs1, vuint32m8_t rs2,
                                  size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64(const uint8_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64(const uint8_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64(const uint8_t *rs1, vuint64m4_t rs2,
```

```
                                    size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64(const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei64(const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8(const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei8(const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
```

```
vuint16m1x8_t __riscv_vluxseg8ei8(const uint16_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei8(const uint16_t *rs1, vuint8m1_t rs2,
                                  size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei8(const uint16_t *rs1, vuint8m1_t rs2,
                                  size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8(const uint16_t *rs1, vuint8m1_t rs2,
                                  size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei8(const uint16_t *rs1, vuint8m2_t rs2,
                                  size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei16(const uint16_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei16(const uint16_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16(const uint16_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16(const uint16_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16(const uint16_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei16(const uint16_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei16(const uint16_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32(const uint16_t *rs1, vuint32mf2_t rs2,
```

```
                                    size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32(const uint16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32(const uint16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32(const uint16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32(const uint16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32(const uint16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32(const uint16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32(const uint16_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64(const uint16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
```

```
vuint16mf2x7_t __riscv_vluxseg7ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64(const uint16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64(const uint16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64(const uint16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64(const uint16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64(const uint16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8(const uint32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8(const uint32_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8(const uint32_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8(const uint32_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8(const uint32_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8(const uint32_t *rs1, vuint8m1_t rs2,
                                  size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16(const uint32_t *rs1, vuint16mf4_t rs2,
```

```
                                    size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16(const uint32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16(const uint32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16(const uint32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16(const uint32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei16(const uint32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei16(const uint32_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32(const uint32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32(const uint32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei32(const uint32_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32(const uint32_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32(const uint32_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32(const uint32_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
```

```
vuint32mf2x3_t __riscv_vluxseg3ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64(const uint32_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei64(const uint32_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64(const uint32_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64(const uint32_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei64(const uint32_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64(const uint32_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei8(const uint64_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8(const uint64_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8(const uint64_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei8(const uint64_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8(const uint64_t *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16(const uint64_t *rs1, vuint16mf4_t rs2,
```

```
                                    size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16(const uint64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16(const uint64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16(const uint64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16(const uint64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16(const uint64_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32(const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei32(const uint64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32(const uint64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32(const uint64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei32(const uint64_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64(const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei64(const uint64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64(const uint64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64(const uint64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei64(const uint64_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vloxseg2ei8(vbool64_t vm, const _Float16 *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei8(vbool64_t vm, const _Float16 *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei8(vbool64_t vm, const _Float16 *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8(vbool64_t vm, const _Float16 *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8(vbool64_t vm, const _Float16 *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8(vbool64_t vm, const _Float16 *rs1,
```

```
                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8(vbool64_t vm, const _Float16 *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8(vbool8_t vm, const _Float16 *rs1,
                                   vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8(vbool8_t vm, const _Float16 *rs1,
                                   vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8(vbool8_t vm, const _Float16 *rs1,
                                   vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8(vbool4_t vm, const _Float16 *rs1,
                                   vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
```

```
vfloat16m1x2_t __riscv_vloxseg2ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16(vbool8_t vm, const _Float16 *rs1,
                                    vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16(vbool8_t vm, const _Float16 *rs1,
                                    vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16(vbool8_t vm, const _Float16 *rs1,
                                    vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16(vbool4_t vm, const _Float16 *rs1,
                                    vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32(vbool8_t vm, const _Float16 *rs1,
                                    vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32(vbool8_t vm, const _Float16 *rs1,
```

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                                    vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32(vbool8_t vm, const _Float16 *rs1,
                                    vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32(vbool4_t vm, const _Float16 *rs1,
                                    vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64(vbool8_t vm, const _Float16 *rs1,
                                    vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64(vbool8_t vm, const _Float16 *rs1,
                                    vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64(vbool8_t vm, const _Float16 *rs1,
                                    vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
```

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vfloat32m1x2_t __riscv_vloxseg2ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8(vbool16_t vm, const float *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8(vbool16_t vm, const float *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8(vbool16_t vm, const float *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8(vbool8_t vm, const float *rs1,
                                   vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16(vbool16_t vm, const float *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16(vbool16_t vm, const float *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei16(vbool16_t vm, const float *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16(vbool8_t vm, const float *rs1,
                                    vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32(vbool64_t vm, const float *rs1,
```

```
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32(vbool16_t vm, const float *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32(vbool16_t vm, const float *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32(vbool16_t vm, const float *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32(vbool8_t vm, const float *rs1,
                                    vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64(vbool16_t vm, const float *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64(vbool16_t vm, const float *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64(vbool16_t vm, const float *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64(vbool8_t vm, const float *rs1,
                                    vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
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vfloat64m1x4_t __riscv_vloxseg4ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8(vbool32_t vm, const double *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8(vbool32_t vm, const double *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8(vbool32_t vm, const double *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8(vbool16_t vm, const double *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16(vbool32_t vm, const double *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16(vbool32_t vm, const double *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16(vbool32_t vm, const double *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16(vbool16_t vm, const double *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei32(vbool32_t vm, const double *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32(vbool32_t vm, const double *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei32(vbool32_t vm, const double *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei32(vbool16_t vm, const double *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64(vbool64_t vm, const double *rs1,
```

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                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64(vbool32_t vm, const double *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64(vbool32_t vm, const double *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64(vbool32_t vm, const double *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64(vbool16_t vm, const double *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8(vbool64_t vm, const _Float16 *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8(vbool64_t vm, const _Float16 *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei8(vbool64_t vm, const _Float16 *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8(vbool64_t vm, const _Float16 *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8(vbool64_t vm, const _Float16 *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei8(vbool64_t vm, const _Float16 *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8(vbool64_t vm, const _Float16 *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8(vbool32_t vm, const _Float16 *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8(vbool16_t vm, const _Float16 *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8(vbool8_t vm, const _Float16 *rs1,
                                   vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8(vbool8_t vm, const _Float16 *rs1,
                                   vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8(vbool8_t vm, const _Float16 *rs1,
                                   vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8(vbool4_t vm, const _Float16 *rs1,
                                   vuint8m2_t rs2, size_t vl);
```

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vfloat16mf4x2_t __riscv_vluxseg2ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16(vbool64_t vm, const _Float16 *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16(vbool32_t vm, const _Float16 *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16(vbool16_t vm, const _Float16 *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16(vbool8_t vm, const _Float16 *rs1,
                                    vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16(vbool8_t vm, const _Float16 *rs1,
                                    vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16(vbool8_t vm, const _Float16 *rs1,
                                    vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16(vbool4_t vm, const _Float16 *rs1,
                                    vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei32(vbool64_t vm, const _Float16 *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32(vbool32_t vm, const _Float16 *rs1,
```

```
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32(vbool32_t vm, const _Float16 *rs1,
                                     vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32(vbool16_t vm, const _Float16 *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32(vbool8_t vm, const _Float16 *rs1,
                                    vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei32(vbool8_t vm, const _Float16 *rs1,
                                    vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32(vbool8_t vm, const _Float16 *rs1,
                                    vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32(vbool4_t vm, const _Float16 *rs1,
                                    vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64(vbool64_t vm, const _Float16 *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64(vbool32_t vm, const _Float16 *rs1,
                                     vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
```

```
vfloat16m1x5_t __riscv_vluxseg5ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64(vbool16_t vm, const _Float16 *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64(vbool8_t vm, const _Float16 *rs1,
                                    vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64(vbool8_t vm, const _Float16 *rs1,
                                    vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64(vbool8_t vm, const _Float16 *rs1,
                                    vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8(vbool64_t vm, const float *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8(vbool32_t vm, const float *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8(vbool16_t vm, const float *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8(vbool16_t vm, const float *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8(vbool16_t vm, const float *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8(vbool8_t vm, const float *rs1,
                                   vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16(vbool64_t vm, const float *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16(vbool32_t vm, const float *rs1,
```

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                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16(vbool32_t vm, const float *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16(vbool16_t vm, const float *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16(vbool16_t vm, const float *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16(vbool16_t vm, const float *rs1,
                                    vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16(vbool8_t vm, const float *rs1,
                                    vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32(vbool64_t vm, const float *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32(vbool32_t vm, const float *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32(vbool16_t vm, const float *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32(vbool16_t vm, const float *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32(vbool16_t vm, const float *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32(vbool8_t vm, const float *rs1,
                                    vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
```

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vfloat32mf2x8_t __riscv_vluxseg8ei64(vbool64_t vm, const float *rs1,
                                     vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64(vbool32_t vm, const float *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64(vbool16_t vm, const float *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64(vbool16_t vm, const float *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei64(vbool16_t vm, const float *rs1,
                                    vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei64(vbool8_t vm, const float *rs1,
                                    vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8(vbool64_t vm, const double *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8(vbool32_t vm, const double *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8(vbool32_t vm, const double *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8(vbool32_t vm, const double *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei8(vbool16_t vm, const double *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei16(vbool64_t vm, const double *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei16(vbool32_t vm, const double *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16(vbool32_t vm, const double *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16(vbool32_t vm, const double *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16(vbool16_t vm, const double *rs1,
```

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                                    vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32(vbool64_t vm, const double *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32(vbool32_t vm, const double *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32(vbool32_t vm, const double *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32(vbool32_t vm, const double *rs1,
                                    vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32(vbool16_t vm, const double *rs1,
                                    vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64(vbool64_t vm, const double *rs1,
                                    vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64(vbool32_t vm, const double *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64(vbool32_t vm, const double *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64(vbool32_t vm, const double *rs1,
                                    vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64(vbool16_t vm, const double *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8(vbool64_t vm, const int8_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8(vbool64_t vm, const int8_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8(vbool64_t vm, const int8_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8(vbool64_t vm, const int8_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8(vbool64_t vm, const int8_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8(vbool64_t vm, const int8_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8(vbool64_t vm, const int8_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
```

```
vint8mf4x6_t __riscv_vloxseg6ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x3_t __riscv_vloxseg3ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x5_t __riscv_vloxseg5ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m2x2_t __riscv_vloxseg2ei8(vbool4_t vm, const int8_t *rs1, vuint8m2_t rs2,
                                size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8(vbool4_t vm, const int8_t *rs1, vuint8m2_t rs2,
                                size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8(vbool4_t vm, const int8_t *rs1, vuint8m2_t rs2,
                                size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8(vbool2_t vm, const int8_t *rs1, vuint8m4_t rs2,
                                size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei16(vbool32_t vm, const int8_t *rs1,
                                  vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei16(vbool32_t vm, const int8_t *rs1,
                                  vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei16(vbool32_t vm, const int8_t *rs1,
                                  vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei16(vbool32_t vm, const int8_t *rs1,
                                  vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei16(vbool32_t vm, const int8_t *rs1,
                                  vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16(vbool32_t vm, const int8_t *rs1,
```

```
                                    vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16(vbool32_t vm, const int8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16(vbool4_t vm, const int8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16(vbool4_t vm, const int8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16(vbool4_t vm, const int8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16(vbool2_t vm, const int8_t *rs1,
                                   vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32(vbool32_t vm, const int8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32(vbool32_t vm, const int8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32(vbool32_t vm, const int8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32(vbool32_t vm, const int8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei32(vbool32_t vm, const int8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei32(vbool32_t vm, const int8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32(vbool32_t vm, const int8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
```

```
vint8mf2x2_t __riscv_vloxseg2ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32(vbool4_t vm, const int8_t *rs1,
                                 vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32(vbool4_t vm, const int8_t *rs1,
                                 vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32(vbool4_t vm, const int8_t *rs1,
                                 vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei64(vbool16_t vm, const int8_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei64(vbool16_t vm, const int8_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei64(vbool16_t vm, const int8_t *rs1,
```

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                                    vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei64(vbool16_t vm, const int8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei64(vbool16_t vm, const int8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei64(vbool16_t vm, const int8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei64(vbool16_t vm, const int8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8(vbool8_t vm, const int16_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
```

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vint16m2x3_t __riscv_vloxseg3ei8(vbool8_t vm, const int16_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8(vbool8_t vm, const int16_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei8(vbool4_t vm, const int16_t *rs1,
                                 vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16(vbool8_t vm, const int16_t *rs1,
                                  vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16(vbool8_t vm, const int16_t *rs1,
                                  vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16(vbool8_t vm, const int16_t *rs1,
                                  vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16(vbool4_t vm, const int16_t *rs1,
                                  vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32(vbool64_t vm, const int16_t *rs1,
                                   vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei32(vbool64_t vm, const int16_t *rs1,
                                   vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei32(vbool64_t vm, const int16_t *rs1,
                                   vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32(vbool64_t vm, const int16_t *rs1,
                                   vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32(vbool64_t vm, const int16_t *rs1,
                                   vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32(vbool64_t vm, const int16_t *rs1,
```

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                                    vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32(vbool64_t vm, const int16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32(vbool8_t vm, const int16_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32(vbool8_t vm, const int16_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32(vbool8_t vm, const int16_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32(vbool4_t vm, const int16_t *rs1,
                                   vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64(vbool32_t vm, const int16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64(vbool32_t vm, const int16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64(vbool32_t vm, const int16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64(vbool32_t vm, const int16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64(vbool32_t vm, const int16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64(vbool32_t vm, const int16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64(vbool32_t vm, const int16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
```

```
vint16m1x2_t __riscv_vloxseg2ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64(vbool8_t vm, const int16_t *rs1,
                                  vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64(vbool8_t vm, const int16_t *rs1,
                                  vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64(vbool8_t vm, const int16_t *rs1,
                                  vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8(vbool16_t vm, const int32_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8(vbool16_t vm, const int32_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei8(vbool16_t vm, const int32_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8(vbool8_t vm, const int32_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16(vbool64_t vm, const int32_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei16(vbool64_t vm, const int32_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei16(vbool64_t vm, const int32_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei16(vbool64_t vm, const int32_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16(vbool64_t vm, const int32_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16(vbool64_t vm, const int32_t *rs1,
```

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                                    vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16(vbool64_t vm, const int32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16(vbool16_t vm, const int32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16(vbool16_t vm, const int32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16(vbool16_t vm, const int32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16(vbool8_t vm, const int32_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32(vbool16_t vm, const int32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32(vbool16_t vm, const int32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32(vbool16_t vm, const int32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32(vbool8_t vm, const int32_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei64(vbool64_t vm, const int32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64(vbool64_t vm, const int32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64(vbool64_t vm, const int32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
```

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vint32mf2x5_t __riscv_vloxseg5ei64(vbool64_t vm, const int32_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64(vbool64_t vm, const int32_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei64(vbool64_t vm, const int32_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64(vbool64_t vm, const int32_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei64(vbool16_t vm, const int32_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei64(vbool16_t vm, const int32_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei64(vbool16_t vm, const int32_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei64(vbool8_t vm, const int32_t *rs1,
                                  vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei8(vbool32_t vm, const int64_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei8(vbool32_t vm, const int64_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei8(vbool32_t vm, const int64_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei8(vbool16_t vm, const int64_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16(vbool64_t vm, const int64_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16(vbool64_t vm, const int64_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16(vbool64_t vm, const int64_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei16(vbool64_t vm, const int64_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei16(vbool64_t vm, const int64_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16(vbool64_t vm, const int64_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16(vbool64_t vm, const int64_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei16(vbool32_t vm, const int64_t *rs1,
```

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                                    vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei16(vbool32_t vm, const int64_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei16(vbool32_t vm, const int64_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16(vbool16_t vm, const int64_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32(vbool32_t vm, const int64_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32(vbool32_t vm, const int64_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei32(vbool32_t vm, const int64_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei32(vbool16_t vm, const int64_t *rs1,
                                    vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64(vbool32_t vm, const int64_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei64(vbool32_t vm, const int64_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64(vbool32_t vm, const int64_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64(vbool16_t vm, const int64_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8(vbool64_t vm, const int8_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8(vbool64_t vm, const int8_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8(vbool64_t vm, const int8_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8(vbool64_t vm, const int8_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8(vbool64_t vm, const int8_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8(vbool64_t vm, const int8_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8(vbool64_t vm, const int8_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8(vbool32_t vm, const int8_t *rs1,
                                   vuint8mf4_t rs2, size_t vl);
```

```
vint8mf4x3_t __riscv_vluxseg3ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8(vbool32_t vm, const int8_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8(vbool16_t vm, const int8_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x4_t __riscv_vluxseg4ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8(vbool8_t vm, const int8_t *rs1, vuint8m1_t rs2,
                                size_t vl);
vint8m2x2_t __riscv_vluxseg2ei8(vbool4_t vm, const int8_t *rs1, vuint8m2_t rs2,
                                size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8(vbool4_t vm, const int8_t *rs1, vuint8m2_t rs2,
                                size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8(vbool4_t vm, const int8_t *rs1, vuint8m2_t rs2,
                                size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8(vbool2_t vm, const int8_t *rs1, vuint8m4_t rs2,
                                size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei16(vbool64_t vm, const int8_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16(vbool32_t vm, const int8_t *rs1,
                                  vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16(vbool32_t vm, const int8_t *rs1,
                                  vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16(vbool32_t vm, const int8_t *rs1,
```

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                                    vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16(vbool32_t vm, const int8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16(vbool32_t vm, const int8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16(vbool32_t vm, const int8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16(vbool32_t vm, const int8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16(vbool16_t vm, const int8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16(vbool8_t vm, const int8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16(vbool4_t vm, const int8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16(vbool4_t vm, const int8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16(vbool4_t vm, const int8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16(vbool2_t vm, const int8_t *rs1,
                                   vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32(vbool64_t vm, const int8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32(vbool32_t vm, const int8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32(vbool32_t vm, const int8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32(vbool32_t vm, const int8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei32(vbool32_t vm, const int8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
```

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vint8mf4x6_t __riscv_vluxseg6ei32(vbool32_t vm, const int8_t *rs1,
                                  vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei32(vbool32_t vm, const int8_t *rs1,
                                  vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei32(vbool32_t vm, const int8_t *rs1,
                                  vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei32(vbool16_t vm, const int8_t *rs1,
                                  vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32(vbool8_t vm, const int8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32(vbool4_t vm, const int8_t *rs1,
                                 vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32(vbool4_t vm, const int8_t *rs1,
                                 vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32(vbool4_t vm, const int8_t *rs1,
                                 vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64(vbool64_t vm, const int8_t *rs1,
                                  vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei64(vbool32_t vm, const int8_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei64(vbool32_t vm, const int8_t *rs1,
```

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                                    vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei64(vbool16_t vm, const int8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei64(vbool16_t vm, const int8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei64(vbool16_t vm, const int8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei64(vbool16_t vm, const int8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei64(vbool16_t vm, const int8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei64(vbool16_t vm, const int8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei64(vbool16_t vm, const int8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei64(vbool8_t vm, const int8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei8(vbool64_t vm, const int16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8(vbool32_t vm, const int16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8(vbool16_t vm, const int16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
```

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vint16m1x7_t __riscv_vluxseg7ei8(vbool16_t vm, const int16_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8(vbool16_t vm, const int16_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei8(vbool8_t vm, const int16_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8(vbool8_t vm, const int16_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8(vbool8_t vm, const int16_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8(vbool4_t vm, const int16_t *rs1,
                                 vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei16(vbool64_t vm, const int16_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16(vbool32_t vm, const int16_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16(vbool16_t vm, const int16_t *rs1,
                                  vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16(vbool8_t vm, const int16_t *rs1,
                                  vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16(vbool8_t vm, const int16_t *rs1,
                                  vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei16(vbool8_t vm, const int16_t *rs1,
                                  vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei16(vbool4_t vm, const int16_t *rs1,
                                  vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32(vbool64_t vm, const int16_t *rs1,
                                   vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32(vbool64_t vm, const int16_t *rs1,
                                   vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32(vbool64_t vm, const int16_t *rs1,
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                                    vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32(vbool64_t vm, const int16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32(vbool64_t vm, const int16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32(vbool64_t vm, const int16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32(vbool64_t vm, const int16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32(vbool32_t vm, const int16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32(vbool16_t vm, const int16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32(vbool8_t vm, const int16_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei32(vbool8_t vm, const int16_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32(vbool8_t vm, const int16_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32(vbool4_t vm, const int16_t *rs1,
                                   vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64(vbool64_t vm, const int16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64(vbool32_t vm, const int16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei64(vbool32_t vm, const int16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64(vbool32_t vm, const int16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64(vbool32_t vm, const int16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
```

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vint16mf2x6_t __riscv_vluxseg6ei64(vbool32_t vm, const int16_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64(vbool32_t vm, const int16_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei64(vbool32_t vm, const int16_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64(vbool16_t vm, const int16_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64(vbool8_t vm, const int16_t *rs1,
                                  vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei64(vbool8_t vm, const int16_t *rs1,
                                  vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64(vbool8_t vm, const int16_t *rs1,
                                  vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8(vbool64_t vm, const int32_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8(vbool32_t vm, const int32_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8(vbool16_t vm, const int32_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8(vbool16_t vm, const int32_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei8(vbool16_t vm, const int32_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei8(vbool8_t vm, const int32_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16(vbool64_t vm, const int32_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16(vbool64_t vm, const int32_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16(vbool64_t vm, const int32_t *rs1,
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                                    vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei16(vbool64_t vm, const int32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16(vbool64_t vm, const int32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei16(vbool64_t vm, const int32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16(vbool64_t vm, const int32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16(vbool32_t vm, const int32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16(vbool16_t vm, const int32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16(vbool16_t vm, const int32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei16(vbool16_t vm, const int32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16(vbool8_t vm, const int32_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32(vbool64_t vm, const int32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32(vbool32_t vm, const int32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei32(vbool16_t vm, const int32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32(vbool16_t vm, const int32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32(vbool16_t vm, const int32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32(vbool8_t vm, const int32_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
```

```
vint32mf2x2_t __riscv_vluxseg2ei64(vbool64_t vm, const int32_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64(vbool64_t vm, const int32_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei64(vbool64_t vm, const int32_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64(vbool64_t vm, const int32_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64(vbool64_t vm, const int32_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64(vbool64_t vm, const int32_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei64(vbool64_t vm, const int32_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64(vbool32_t vm, const int32_t *rs1,
                                  vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64(vbool16_t vm, const int32_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64(vbool16_t vm, const int32_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64(vbool16_t vm, const int32_t *rs1,
                                  vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei64(vbool8_t vm, const int32_t *rs1,
                                  vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8(vbool64_t vm, const int64_t *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8(vbool32_t vm, const int64_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8(vbool32_t vm, const int64_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8(vbool32_t vm, const int64_t *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei8(vbool16_t vm, const int64_t *rs1,
                                 vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei16(vbool64_t vm, const int64_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei16(vbool64_t vm, const int64_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16(vbool64_t vm, const int64_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16(vbool64_t vm, const int64_t *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16(vbool64_t vm, const int64_t *rs1,
```

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                                    vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16(vbool64_t vm, const int64_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16(vbool64_t vm, const int64_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16(vbool32_t vm, const int64_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16(vbool32_t vm, const int64_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16(vbool32_t vm, const int64_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16(vbool16_t vm, const int64_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32(vbool64_t vm, const int64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei32(vbool32_t vm, const int64_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32(vbool32_t vm, const int64_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32(vbool32_t vm, const int64_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32(vbool16_t vm, const int64_t *rs1,
                                    vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64(vbool64_t vm, const int64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64(vbool32_t vm, const int64_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64(vbool32_t vm, const int64_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64(vbool32_t vm, const int64_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64(vbool16_t vm, const int64_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8(vbool64_t vm, const uint8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei8(vbool64_t vm, const uint8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8(vbool64_t vm, const uint8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8(vbool64_t vm, const uint8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8(vbool64_t vm, const uint8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
```

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vuint8mf8x7_t __riscv_vloxseg7ei8(vbool64_t vm, const uint8_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8(vbool64_t vm, const uint8_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8(vbool4_t vm, const uint8_t *rs1,
                                 vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8(vbool4_t vm, const uint8_t *rs1,
                                 vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8(vbool4_t vm, const uint8_t *rs1,
                                 vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8(vbool2_t vm, const uint8_t *rs1,
                                 vuint8m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16(vbool64_t vm, const uint8_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16(vbool64_t vm, const uint8_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei16(vbool64_t vm, const uint8_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei16(vbool64_t vm, const uint8_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16(vbool64_t vm, const uint8_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16(vbool64_t vm, const uint8_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16(vbool64_t vm, const uint8_t *rs1,
```

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                                    vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16(vbool4_t vm, const uint8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16(vbool4_t vm, const uint8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16(vbool4_t vm, const uint8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16(vbool2_t vm, const uint8_t *rs1,
                                   vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32(vbool32_t vm, const uint8_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
```

```
vuint8mf4x3_t __riscv_vloxseg3ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32(vbool4_t vm, const uint8_t *rs1,
                                  vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32(vbool4_t vm, const uint8_t *rs1,
                                  vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32(vbool4_t vm, const uint8_t *rs1,
                                  vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei64(vbool32_t vm, const uint8_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64(vbool32_t vm, const uint8_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64(vbool32_t vm, const uint8_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei64(vbool32_t vm, const uint8_t *rs1,
```

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                                    vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64(vbool32_t vm, const uint8_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei64(vbool32_t vm, const uint8_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64(vbool32_t vm, const uint8_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8(vbool16_t vm, const uint16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8(vbool16_t vm, const uint16_t *rs1,
                                   vuint8mf2_t rs2, size_t vl);
```

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vuint16m1x4_t __riscv_vloxseg4ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8(vbool8_t vm, const uint16_t *rs1,
                                  vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8(vbool8_t vm, const uint16_t *rs1,
                                  vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8(vbool8_t vm, const uint16_t *rs1,
                                  vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8(vbool4_t vm, const uint16_t *rs1,
                                  vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei16(vbool8_t vm, const uint16_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16(vbool8_t vm, const uint16_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16(vbool8_t vm, const uint16_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei16(vbool4_t vm, const uint16_t *rs1,
```

```
                                    vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32(vbool64_t vm, const uint16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei32(vbool64_t vm, const uint16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32(vbool64_t vm, const uint16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32(vbool64_t vm, const uint16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32(vbool64_t vm, const uint16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32(vbool64_t vm, const uint16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32(vbool64_t vm, const uint16_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32(vbool32_t vm, const uint16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32(vbool32_t vm, const uint16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32(vbool32_t vm, const uint16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32(vbool32_t vm, const uint16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32(vbool32_t vm, const uint16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32(vbool32_t vm, const uint16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei32(vbool32_t vm, const uint16_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32(vbool16_t vm, const uint16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32(vbool16_t vm, const uint16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei32(vbool16_t vm, const uint16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32(vbool16_t vm, const uint16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32(vbool16_t vm, const uint16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei32(vbool16_t vm, const uint16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32(vbool16_t vm, const uint16_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32(vbool8_t vm, const uint16_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei32(vbool8_t vm, const uint16_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32(vbool8_t vm, const uint16_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32(vbool4_t vm, const uint16_t *rs1,
                                   vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64(vbool64_t vm, const uint16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64(vbool64_t vm, const uint16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64(vbool64_t vm, const uint16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64(vbool64_t vm, const uint16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64(vbool64_t vm, const uint16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64(vbool64_t vm, const uint16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64(vbool64_t vm, const uint16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
```

```
vuint16mf2x3_t __riscv_vloxseg3ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64(vbool8_t vm, const uint16_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64(vbool8_t vm, const uint16_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64(vbool8_t vm, const uint16_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei8(vbool16_t vm, const uint32_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8(vbool16_t vm, const uint32_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei8(vbool16_t vm, const uint32_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8(vbool8_t vm, const uint32_t *rs1,
```

```
                                    vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16(vbool16_t vm, const uint32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16(vbool16_t vm, const uint32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16(vbool16_t vm, const uint32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16(vbool8_t vm, const uint32_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32(vbool16_t vm, const uint32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
```

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vuint32m2x3_t __riscv_vloxseg3ei32(vbool16_t vm, const uint32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei32(vbool16_t vm, const uint32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei32(vbool8_t vm, const uint32_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64(vbool16_t vm, const uint32_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei64(vbool16_t vm, const uint32_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64(vbool16_t vm, const uint32_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64(vbool8_t vm, const uint32_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8(vbool32_t vm, const uint64_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei8(vbool32_t vm, const uint64_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei8(vbool32_t vm, const uint64_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8(vbool16_t vm, const uint64_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16(vbool64_t vm, const uint64_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16(vbool64_t vm, const uint64_t *rs1,
```

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                                    vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16(vbool64_t vm, const uint64_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei16(vbool64_t vm, const uint64_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16(vbool64_t vm, const uint64_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16(vbool64_t vm, const uint64_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16(vbool64_t vm, const uint64_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16(vbool32_t vm, const uint64_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16(vbool32_t vm, const uint64_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16(vbool32_t vm, const uint64_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16(vbool16_t vm, const uint64_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32(vbool64_t vm, const uint64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei32(vbool64_t vm, const uint64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32(vbool64_t vm, const uint64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32(vbool64_t vm, const uint64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei32(vbool64_t vm, const uint64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32(vbool64_t vm, const uint64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32(vbool64_t vm, const uint64_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei32(vbool32_t vm, const uint64_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32(vbool32_t vm, const uint64_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32(vbool32_t vm, const uint64_t *rs1,
                                    vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei32(vbool16_t vm, const uint64_t *rs1,
                                    vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64(vbool64_t vm, const uint64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64(vbool64_t vm, const uint64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64(vbool64_t vm, const uint64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64(vbool64_t vm, const uint64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64(vbool64_t vm, const uint64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64(vbool64_t vm, const uint64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64(vbool64_t vm, const uint64_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64(vbool32_t vm, const uint64_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64(vbool32_t vm, const uint64_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64(vbool32_t vm, const uint64_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64(vbool16_t vm, const uint64_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8(vbool64_t vm, const uint8_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8(vbool64_t vm, const uint8_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
```

```
vuint8mf8x4_t __riscv_vluxseg4ei8(vbool64_t vm, const uint8_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8(vbool64_t vm, const uint8_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei8(vbool64_t vm, const uint8_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8(vbool64_t vm, const uint8_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8(vbool64_t vm, const uint8_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei8(vbool32_t vm, const uint8_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8(vbool16_t vm, const uint8_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei8(vbool8_t vm, const uint8_t *rs1,
                                 vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8(vbool4_t vm, const uint8_t *rs1,
                                 vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8(vbool4_t vm, const uint8_t *rs1,
                                 vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8(vbool4_t vm, const uint8_t *rs1,
                                 vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei8(vbool2_t vm, const uint8_t *rs1,
                                 vuint8m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei16(vbool64_t vm, const uint8_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16(vbool64_t vm, const uint8_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16(vbool64_t vm, const uint8_t *rs1,
                                   vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16(vbool64_t vm, const uint8_t *rs1,
```

```
                                    vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16(vbool64_t vm, const uint8_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16(vbool64_t vm, const uint8_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16(vbool64_t vm, const uint8_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16(vbool32_t vm, const uint8_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei16(vbool16_t vm, const uint8_t *rs1,
                                    vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16(vbool8_t vm, const uint8_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16(vbool4_t vm, const uint8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16(vbool4_t vm, const uint8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16(vbool4_t vm, const uint8_t *rs1,
                                   vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16(vbool2_t vm, const uint8_t *rs1,
                                   vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32(vbool64_t vm, const uint8_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
```

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vuint8mf8x7_t __riscv_vluxseg7ei32(vbool64_t vm, const uint8_t *rs1,
                                   vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32(vbool64_t vm, const uint8_t *rs1,
                                   vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei32(vbool32_t vm, const uint8_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei32(vbool16_t vm, const uint8_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32(vbool8_t vm, const uint8_t *rs1,
                                  vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32(vbool4_t vm, const uint8_t *rs1,
                                  vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32(vbool4_t vm, const uint8_t *rs1,
                                  vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei32(vbool4_t vm, const uint8_t *rs1,
                                  vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64(vbool64_t vm, const uint8_t *rs1,
                                   vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64(vbool32_t vm, const uint8_t *rs1,
```

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                                    vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64(vbool32_t vm, const uint8_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64(vbool32_t vm, const uint8_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64(vbool32_t vm, const uint8_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64(vbool32_t vm, const uint8_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64(vbool32_t vm, const uint8_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64(vbool32_t vm, const uint8_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64(vbool16_t vm, const uint8_t *rs1,
                                    vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei64(vbool8_t vm, const uint8_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8(vbool64_t vm, const uint16_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei8(vbool32_t vm, const uint16_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
```

```
vuint16mf2x8_t __riscv_vluxseg8ei8(vbool32_t vm, const uint16_t *rs1,
                                   vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei8(vbool16_t vm, const uint16_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei8(vbool8_t vm, const uint16_t *rs1,
                                  vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei8(vbool8_t vm, const uint16_t *rs1,
                                  vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8(vbool8_t vm, const uint16_t *rs1,
                                  vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei8(vbool4_t vm, const uint16_t *rs1,
                                  vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei16(vbool64_t vm, const uint16_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei16(vbool32_t vm, const uint16_t *rs1,
                                    vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16(vbool16_t vm, const uint16_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16(vbool8_t vm, const uint16_t *rs1,
```

```
                                    vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16(vbool8_t vm, const uint16_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei16(vbool8_t vm, const uint16_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei16(vbool4_t vm, const uint16_t *rs1,
                                    vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32(vbool64_t vm, const uint16_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32(vbool64_t vm, const uint16_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32(vbool64_t vm, const uint16_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32(vbool64_t vm, const uint16_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32(vbool64_t vm, const uint16_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32(vbool64_t vm, const uint16_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32(vbool64_t vm, const uint16_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32(vbool32_t vm, const uint16_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32(vbool32_t vm, const uint16_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32(vbool32_t vm, const uint16_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei32(vbool32_t vm, const uint16_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32(vbool32_t vm, const uint16_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32(vbool32_t vm, const uint16_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32(vbool32_t vm, const uint16_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32(vbool16_t vm, const uint16_t *rs1,
                                    vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32(vbool16_t vm, const uint16_t *rs1,
                                    vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei32(vbool16_t vm, const uint16_t *rs1,
                                    vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32(vbool16_t vm, const uint16_t *rs1,
                                    vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32(vbool16_t vm, const uint16_t *rs1,
                                    vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32(vbool16_t vm, const uint16_t *rs1,
                                    vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32(vbool16_t vm, const uint16_t *rs1,
                                    vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32(vbool8_t vm, const uint16_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32(vbool8_t vm, const uint16_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32(vbool8_t vm, const uint16_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32(vbool4_t vm, const uint16_t *rs1,
                                    vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64(vbool64_t vm, const uint16_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64(vbool64_t vm, const uint16_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64(vbool64_t vm, const uint16_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64(vbool64_t vm, const uint16_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64(vbool64_t vm, const uint16_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
```

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vuint16mf4x7_t __riscv_vluxseg7ei64(vbool64_t vm, const uint16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64(vbool64_t vm, const uint16_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64(vbool32_t vm, const uint16_t *rs1,
                                    vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64(vbool16_t vm, const uint16_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64(vbool8_t vm, const uint16_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64(vbool8_t vm, const uint16_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64(vbool8_t vm, const uint16_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8(vbool64_t vm, const uint32_t *rs1,
                                   vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8(vbool32_t vm, const uint32_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8(vbool16_t vm, const uint32_t *rs1,
```

```
                                  vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8(vbool16_t vm, const uint32_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8(vbool16_t vm, const uint32_t *rs1,
                                  vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8(vbool8_t vm, const uint32_t *rs1,
                                  vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16(vbool64_t vm, const uint32_t *rs1,
                                    vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16(vbool32_t vm, const uint32_t *rs1,
                                   vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16(vbool16_t vm, const uint32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16(vbool16_t vm, const uint32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei16(vbool16_t vm, const uint32_t *rs1,
                                   vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei16(vbool8_t vm, const uint32_t *rs1,
                                   vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32(vbool64_t vm, const uint32_t *rs1,
                                    vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
```

```
vuint32m1x7_t __riscv_vluxseg7ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32(vbool32_t vm, const uint32_t *rs1,
                                   vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei32(vbool16_t vm, const uint32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32(vbool16_t vm, const uint32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32(vbool16_t vm, const uint32_t *rs1,
                                   vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32(vbool8_t vm, const uint32_t *rs1,
                                   vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64(vbool64_t vm, const uint32_t *rs1,
                                    vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei64(vbool32_t vm, const uint32_t *rs1,
                                   vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64(vbool16_t vm, const uint32_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64(vbool16_t vm, const uint32_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei64(vbool16_t vm, const uint32_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64(vbool8_t vm, const uint32_t *rs1,
                                   vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei8(vbool64_t vm, const uint64_t *rs1,
                                  vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8(vbool32_t vm, const uint64_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8(vbool32_t vm, const uint64_t *rs1,
                                  vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei8(vbool32_t vm, const uint64_t *rs1,
```

```
                                    vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8(vbool16_t vm, const uint64_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16(vbool64_t vm, const uint64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16(vbool64_t vm, const uint64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16(vbool64_t vm, const uint64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16(vbool64_t vm, const uint64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei16(vbool64_t vm, const uint64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16(vbool64_t vm, const uint64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16(vbool64_t vm, const uint64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16(vbool32_t vm, const uint64_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16(vbool32_t vm, const uint64_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16(vbool32_t vm, const uint64_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16(vbool16_t vm, const uint64_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32(vbool64_t vm, const uint64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei32(vbool64_t vm, const uint64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32(vbool64_t vm, const uint64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32(vbool64_t vm, const uint64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32(vbool64_t vm, const uint64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32(vbool64_t vm, const uint64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32(vbool64_t vm, const uint64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei32(vbool32_t vm, const uint64_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32(vbool32_t vm, const uint64_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32(vbool32_t vm, const uint64_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei32(vbool16_t vm, const uint64_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64(vbool64_t vm, const uint64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64(vbool64_t vm, const uint64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64(vbool64_t vm, const uint64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64(vbool64_t vm, const uint64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64(vbool64_t vm, const uint64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64(vbool64_t vm, const uint64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64(vbool64_t vm, const uint64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei64(vbool32_t vm, const uint64_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64(vbool32_t vm, const uint64_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64(vbool32_t vm, const uint64_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
```

```
vuint64m4x2_t __riscv_vluxseg2ei64(vbool16_t vm, const uint64_t *rs1,
                                   vuint64m4_t rs2, size_t vl);
```

C.2.6. Vector Indexed Segment Store Intrinsics

```
void __riscv_vsoxseg2ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(_Float16 *rs1, vuint8m1_t vs2, vfloat16m2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(_Float16 *rs1, vuint8m1_t vs2, vfloat16m2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(_Float16 *rs1, vuint8m1_t vs2, vfloat16m2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(_Float16 *rs1, vuint8m2_t vs2, vfloat16m4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x6_t vs3,
                          size_t vl);
```

```
void __riscv_vsoxseg7ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(_Float16 *rs1, vuint16m2_t vs2, vfloat16m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(_Float16 *rs1, vuint16m2_t vs2, vfloat16m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(_Float16 *rs1, vuint16m2_t vs2, vfloat16m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(_Float16 *rs1, vuint16m4_t vs2, vfloat16m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x8_t vs3,
```

```
                          size_t vl);
void __riscv_vsoxseg2ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(_Float16 *rs1, vuint32m4_t vs2, vfloat16m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(_Float16 *rs1, vuint32m4_t vs2, vfloat16m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(_Float16 *rs1, vuint32m4_t vs2, vfloat16m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(_Float16 *rs1, vuint32m8_t vs2, vfloat16m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(_Float16 *rs1, vuint64m8_t vs2, vfloat16m2x2_t vs3,
                          size_t vl);
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void __riscv_vsoxseg3ei64(_Float16 *rs1, vuint64m8_t vs2, vfloat16m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(_Float16 *rs1, vuint64m8_t vs2, vfloat16m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(float *rs1, vuint8mf2_t vs2, vfloat32m2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(float *rs1, vuint8mf2_t vs2, vfloat32m2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(float *rs1, vuint8mf2_t vs2, vfloat32m2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(float *rs1, vuint8m1_t vs2, vfloat32m4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x8_t vs3,
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                          size_t vl);
void __riscv_vsoxseg2ei16(float *rs1, vuint16m1_t vs2, vfloat32m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(float *rs1, vuint16m1_t vs2, vfloat32m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(float *rs1, vuint16m1_t vs2, vfloat32m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(float *rs1, vuint16m2_t vs2, vfloat32m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(float *rs1, vuint32m2_t vs2, vfloat32m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(float *rs1, vuint32m2_t vs2, vfloat32m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(float *rs1, vuint32m2_t vs2, vfloat32m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(float *rs1, vuint32m4_t vs2, vfloat32m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x5_t vs3,
                          size_t vl);
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void __riscv_vsoxseg6ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(float *rs1, vuint64m4_t vs2, vfloat32m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(float *rs1, vuint64m4_t vs2, vfloat32m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(float *rs1, vuint64m4_t vs2, vfloat32m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(float *rs1, vuint64m8_t vs2, vfloat32m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(double *rs1, vuint8mf4_t vs2, vfloat64m2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(double *rs1, vuint8mf4_t vs2, vfloat64m2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(double *rs1, vuint8mf4_t vs2, vfloat64m2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(double *rs1, vuint8mf2_t vs2, vfloat64m4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(double *rs1, vuint16mf2_t vs2, vfloat64m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(double *rs1, vuint16mf2_t vs2, vfloat64m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(double *rs1, vuint16mf2_t vs2, vfloat64m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(double *rs1, vuint16m1_t vs2, vfloat64m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x6_t vs3,
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                          size_t vl);
void __riscv_vsoxseg7ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(double *rs1, vuint32m1_t vs2, vfloat64m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(double *rs1, vuint32m1_t vs2, vfloat64m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(double *rs1, vuint32m1_t vs2, vfloat64m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(double *rs1, vuint32m2_t vs2, vfloat64m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(double *rs1, vuint64m2_t vs2, vfloat64m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(double *rs1, vuint64m2_t vs2, vfloat64m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(double *rs1, vuint64m2_t vs2, vfloat64m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(double *rs1, vuint64m4_t vs2, vfloat64m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(_Float16 *rs1, vuint8mf8_t vs2, vfloat16mf4x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(_Float16 *rs1, vuint8mf4_t vs2, vfloat16mf2x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x3_t vs3,
                         size_t vl);
```

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void __riscv_vsuxseg4ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(_Float16 *rs1, vuint8mf2_t vs2, vfloat16m1x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(_Float16 *rs1, vuint8m1_t vs2, vfloat16m2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(_Float16 *rs1, vuint8m1_t vs2, vfloat16m2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(_Float16 *rs1, vuint8m1_t vs2, vfloat16m2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(_Float16 *rs1, vuint8m2_t vs2, vfloat16m4x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(_Float16 *rs1, vuint16mf4_t vs2, vfloat16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(_Float16 *rs1, vuint16mf2_t vs2, vfloat16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(_Float16 *rs1, vuint16m1_t vs2, vfloat16m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(_Float16 *rs1, vuint16m2_t vs2, vfloat16m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(_Float16 *rs1, vuint16m2_t vs2, vfloat16m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(_Float16 *rs1, vuint16m2_t vs2, vfloat16m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(_Float16 *rs1, vuint16m4_t vs2, vfloat16m4x2_t vs3,
```

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                          size_t vl);
void __riscv_vsuxseg2ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(_Float16 *rs1, vuint32mf2_t vs2, vfloat16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(_Float16 *rs1, vuint32m1_t vs2, vfloat16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(_Float16 *rs1, vuint32m2_t vs2, vfloat16m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(_Float16 *rs1, vuint32m4_t vs2, vfloat16m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(_Float16 *rs1, vuint32m4_t vs2, vfloat16m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(_Float16 *rs1, vuint32m4_t vs2, vfloat16m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(_Float16 *rs1, vuint32m8_t vs2, vfloat16m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(_Float16 *rs1, vuint64m1_t vs2, vfloat16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x2_t vs3,
                          size_t vl);
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void __riscv_vsuxseg3ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(_Float16 *rs1, vuint64m2_t vs2, vfloat16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(_Float16 *rs1, vuint64m4_t vs2, vfloat16m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(_Float16 *rs1, vuint64m8_t vs2, vfloat16m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(_Float16 *rs1, vuint64m8_t vs2, vfloat16m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(_Float16 *rs1, vuint64m8_t vs2, vfloat16m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(float *rs1, vuint8mf8_t vs2, vfloat32mf2x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(float *rs1, vuint8mf4_t vs2, vfloat32m1x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(float *rs1, vuint8mf2_t vs2, vfloat32m2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(float *rs1, vuint8mf2_t vs2, vfloat32m2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(float *rs1, vuint8mf2_t vs2, vfloat32m2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(float *rs1, vuint8m1_t vs2, vfloat32m4x2_t vs3,
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                          size_t vl);
void __riscv_vsuxseg2ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(float *rs1, vuint16mf4_t vs2, vfloat32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(float *rs1, vuint16mf2_t vs2, vfloat32m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(float *rs1, vuint16m1_t vs2, vfloat32m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(float *rs1, vuint16m1_t vs2, vfloat32m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(float *rs1, vuint16m1_t vs2, vfloat32m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(float *rs1, vuint16m2_t vs2, vfloat32m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(float *rs1, vuint32mf2_t vs2, vfloat32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(float *rs1, vuint32m1_t vs2, vfloat32m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(float *rs1, vuint32m2_t vs2, vfloat32m2x2_t vs3,
                          size_t vl);
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void __riscv_vsuxseg3ei32(float *rs1, vuint32m2_t vs2, vfloat32m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(float *rs1, vuint32m2_t vs2, vfloat32m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(float *rs1, vuint32m4_t vs2, vfloat32m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(float *rs1, vuint64m1_t vs2, vfloat32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(float *rs1, vuint64m2_t vs2, vfloat32m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(float *rs1, vuint64m4_t vs2, vfloat32m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(float *rs1, vuint64m4_t vs2, vfloat32m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(float *rs1, vuint64m4_t vs2, vfloat32m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(float *rs1, vuint64m8_t vs2, vfloat32m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(double *rs1, vuint8mf8_t vs2, vfloat64m1x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(double *rs1, vuint8mf4_t vs2, vfloat64m2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(double *rs1, vuint8mf4_t vs2, vfloat64m2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(double *rs1, vuint8mf4_t vs2, vfloat64m2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(double *rs1, vuint8mf2_t vs2, vfloat64m4x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x3_t vs3,
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                          size_t vl);
void __riscv_vsuxseg4ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(double *rs1, vuint16mf4_t vs2, vfloat64m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(double *rs1, vuint16mf2_t vs2, vfloat64m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(double *rs1, vuint16mf2_t vs2, vfloat64m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(double *rs1, vuint16mf2_t vs2, vfloat64m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(double *rs1, vuint16m1_t vs2, vfloat64m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(double *rs1, vuint32mf2_t vs2, vfloat64m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(double *rs1, vuint32m1_t vs2, vfloat64m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(double *rs1, vuint32m1_t vs2, vfloat64m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(double *rs1, vuint32m1_t vs2, vfloat64m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(double *rs1, vuint32m2_t vs2, vfloat64m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(double *rs1, vuint64m1_t vs2, vfloat64m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(double *rs1, vuint64m2_t vs2, vfloat64m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(double *rs1, vuint64m2_t vs2, vfloat64m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(double *rs1, vuint64m2_t vs2, vfloat64m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(double *rs1, vuint64m4_t vs2, vfloat64m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x3_t vs3,
                         size_t vl);
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void __riscv_vsoxseg4ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int8_t *rs1, vuint8m2_t vs2, vint8m2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int8_t *rs1, vuint8m2_t vs2, vint8m2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int8_t *rs1, vuint8m2_t vs2, vint8m2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int8_t *rs1, vuint8m4_t vs2, vint8m4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x5_t vs3,
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                          size_t vl);
void __riscv_vsoxseg6ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int8_t *rs1, vuint16m4_t vs2, vint8m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(int8_t *rs1, vuint16m4_t vs2, vint8m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(int8_t *rs1, vuint16m4_t vs2, vint8m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int8_t *rs1, vuint16m8_t vs2, vint8m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x6_t vs3,
                          size_t vl);
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void __riscv_vsoxseg7ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int8_t *rs1, vuint32m8_t vs2, vint8m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int8_t *rs1, vuint32m8_t vs2, vint8m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int8_t *rs1, vuint32m8_t vs2, vint8m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x2_t vs3,
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                          size_t vl);
void __riscv_vsoxseg3ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x7_t vs3,
                         size_t vl);
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void __riscv_vsoxseg8ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int16_t *rs1, vuint8m1_t vs2, vint16m2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int16_t *rs1, vuint8m1_t vs2, vint16m2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int16_t *rs1, vuint8m1_t vs2, vint16m2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int16_t *rs1, vuint8m2_t vs2, vint16m4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int16_t *rs1, vuint16m2_t vs2, vint16m2x2_t vs3,
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                          size_t vl);
void __riscv_vsoxseg3ei16(int16_t *rs1, vuint16m2_t vs2, vint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(int16_t *rs1, vuint16m2_t vs2, vint16m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int16_t *rs1, vuint16m4_t vs2, vint16m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int16_t *rs1, vuint32m4_t vs2, vint16m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int16_t *rs1, vuint32m4_t vs2, vint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int16_t *rs1, vuint32m4_t vs2, vint16m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int16_t *rs1, vuint32m8_t vs2, vint16m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x6_t vs3,
                          size_t vl);
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void __riscv_vsoxseg7ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int16_t *rs1, vuint64m8_t vs2, vint16m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int16_t *rs1, vuint64m8_t vs2, vint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int16_t *rs1, vuint64m8_t vs2, vint16m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int32_t *rs1, vuint8mf2_t vs2, vint32m2x2_t vs3,
```

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                          size_t vl);
void __riscv_vsoxseg3ei8(int32_t *rs1, vuint8mf2_t vs2, vint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei8(int32_t *rs1, vuint8mf2_t vs2, vint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(int32_t *rs1, vuint8m1_t vs2, vint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg5ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x5_t vs3,
                           size_t vl);
void __riscv_vsoxseg6ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x6_t vs3,
                           size_t vl);
void __riscv_vsoxseg7ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x7_t vs3,
                           size_t vl);
void __riscv_vsoxseg8ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x8_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg5ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x5_t vs3,
                           size_t vl);
void __riscv_vsoxseg6ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x6_t vs3,
                           size_t vl);
void __riscv_vsoxseg7ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x7_t vs3,
                           size_t vl);
void __riscv_vsoxseg8ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x8_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei16(int32_t *rs1, vuint16m1_t vs2, vint32m2x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei16(int32_t *rs1, vuint16m1_t vs2, vint32m2x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei16(int32_t *rs1, vuint16m1_t vs2, vint32m2x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei16(int32_t *rs1, vuint16m2_t vs2, vint32m4x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg5ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x5_t vs3,
                           size_t vl);
void __riscv_vsoxseg6ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x6_t vs3,
                           size_t vl);
void __riscv_vsoxseg7ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x7_t vs3,
                           size_t vl);
void __riscv_vsoxseg8ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x8_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg5ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x5_t vs3,
                           size_t vl);
void __riscv_vsoxseg6ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x6_t vs3,
                           size_t vl);
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void __riscv_vsoxseg7ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int32_t *rs1, vuint32m2_t vs2, vint32m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int32_t *rs1, vuint32m2_t vs2, vint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int32_t *rs1, vuint32m2_t vs2, vint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int32_t *rs1, vuint32m4_t vs2, vint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int32_t *rs1, vuint64m4_t vs2, vint32m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int32_t *rs1, vuint64m4_t vs2, vint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int32_t *rs1, vuint64m4_t vs2, vint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int32_t *rs1, vuint64m8_t vs2, vint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(int64_t *rs1, vuint8mf4_t vs2, vint64m2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(int64_t *rs1, vuint8mf4_t vs2, vint64m2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(int64_t *rs1, vuint8mf4_t vs2, vint64m2x4_t vs3,
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                          size_t vl);
void __riscv_vsoxseg2ei8(int64_t *rs1, vuint8mf2_t vs2, vint64m4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int64_t *rs1, vuint16mf2_t vs2, vint64m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(int64_t *rs1, vuint16mf2_t vs2, vint64m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(int64_t *rs1, vuint16mf2_t vs2, vint64m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(int64_t *rs1, vuint16m1_t vs2, vint64m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int64_t *rs1, vuint32m1_t vs2, vint64m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(int64_t *rs1, vuint32m1_t vs2, vint64m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(int64_t *rs1, vuint32m1_t vs2, vint64m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(int64_t *rs1, vuint32m2_t vs2, vint64m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(int64_t *rs1, vuint64m2_t vs2, vint64m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(int64_t *rs1, vuint64m2_t vs2, vint64m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(int64_t *rs1, vuint64m2_t vs2, vint64m2x4_t vs3,
                          size_t vl);
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void __riscv_vsoxseg2ei64(int64_t *rs1, vuint64m4_t vs2, vint64m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(int8_t *rs1, vuint8mf8_t vs2, vint8mf8x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(int8_t *rs1, vuint8mf4_t vs2, vint8mf4x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(int8_t *rs1, vuint8mf2_t vs2, vint8mf2x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(int8_t *rs1, vuint8m1_t vs2, vint8m1x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(int8_t *rs1, vuint8m2_t vs2, vint8m2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int8_t *rs1, vuint8m2_t vs2, vint8m2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int8_t *rs1, vuint8m2_t vs2, vint8m2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(int8_t *rs1, vuint8m4_t vs2, vint8m4x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x2_t vs3,
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                          size_t vl);
void __riscv_vsuxseg3ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(int8_t *rs1, vuint16mf4_t vs2, vint8mf8x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(int8_t *rs1, vuint16mf2_t vs2, vint8mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(int8_t *rs1, vuint16m1_t vs2, vint8mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(int8_t *rs1, vuint16m2_t vs2, vint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(int8_t *rs1, vuint16m4_t vs2, vint8m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(int8_t *rs1, vuint16m4_t vs2, vint8m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(int8_t *rs1, vuint16m4_t vs2, vint8m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(int8_t *rs1, vuint16m8_t vs2, vint8m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x3_t vs3,
                          size_t vl);
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void __riscv_vsuxseg4ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(int8_t *rs1, vuint32mf2_t vs2, vint8mf8x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(int8_t *rs1, vuint32m1_t vs2, vint8mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(int8_t *rs1, vuint32m2_t vs2, vint8mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(int8_t *rs1, vuint32m4_t vs2, vint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int8_t *rs1, vuint32m8_t vs2, vint8m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(int8_t *rs1, vuint32m8_t vs2, vint8m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(int8_t *rs1, vuint32m8_t vs2, vint8m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x6_t vs3,
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                          size_t vl);
void __riscv_vsuxseg7ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(int8_t *rs1, vuint64m1_t vs2, vint8mf8x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(int8_t *rs1, vuint64m2_t vs2, vint8mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(int8_t *rs1, vuint64m4_t vs2, vint8mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(int8_t *rs1, vuint64m8_t vs2, vint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(int16_t *rs1, vuint8mf8_t vs2, vint16mf4x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x4_t vs3,
                         size_t vl);
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void __riscv_vsuxseg5ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(int16_t *rs1, vuint8mf4_t vs2, vint16mf2x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(int16_t *rs1, vuint8mf2_t vs2, vint16m1x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(int16_t *rs1, vuint8m1_t vs2, vint16m2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int16_t *rs1, vuint8m1_t vs2, vint16m2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int16_t *rs1, vuint8m1_t vs2, vint16m2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(int16_t *rs1, vuint8m2_t vs2, vint16m4x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(int16_t *rs1, vuint16mf4_t vs2, vint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(int16_t *rs1, vuint16mf2_t vs2, vint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x6_t vs3,
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                          size_t vl);
void __riscv_vsuxseg7ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(int16_t *rs1, vuint16m1_t vs2, vint16m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(int16_t *rs1, vuint16m2_t vs2, vint16m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(int16_t *rs1, vuint16m2_t vs2, vint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(int16_t *rs1, vuint16m2_t vs2, vint16m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(int16_t *rs1, vuint16m4_t vs2, vint16m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(int16_t *rs1, vuint32mf2_t vs2, vint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(int16_t *rs1, vuint32m1_t vs2, vint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(int16_t *rs1, vuint32m2_t vs2, vint16m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int16_t *rs1, vuint32m4_t vs2, vint16m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(int16_t *rs1, vuint32m4_t vs2, vint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(int16_t *rs1, vuint32m4_t vs2, vint16m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int16_t *rs1, vuint32m8_t vs2, vint16m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x3_t vs3,
                          size_t vl);
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void __riscv_vsuxseg4ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(int16_t *rs1, vuint64m1_t vs2, vint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(int16_t *rs1, vuint64m2_t vs2, vint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(int16_t *rs1, vuint64m4_t vs2, vint16m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int16_t *rs1, vuint64m8_t vs2, vint16m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int16_t *rs1, vuint64m8_t vs2, vint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(int16_t *rs1, vuint64m8_t vs2, vint16m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(int32_t *rs1, vuint8mf8_t vs2, vint32mf2x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x6_t vs3,
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                          size_t vl);
void __riscv_vsuxseg7ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei8(int32_t *rs1, vuint8mf4_t vs2, vint32m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(int32_t *rs1, vuint8mf2_t vs2, vint32m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei8(int32_t *rs1, vuint8mf2_t vs2, vint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei8(int32_t *rs1, vuint8mf2_t vs2, vint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(int32_t *rs1, vuint8m1_t vs2, vint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei16(int32_t *rs1, vuint16mf4_t vs2, vint32mf2x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei16(int32_t *rs1, vuint16mf2_t vs2, vint32m1x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(int32_t *rs1, vuint16m1_t vs2, vint32m2x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(int32_t *rs1, vuint16m1_t vs2, vint32m2x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(int32_t *rs1, vuint16m1_t vs2, vint32m2x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(int32_t *rs1, vuint16m2_t vs2, vint32m4x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei32(int32_t *rs1, vuint32mf2_t vs2, vint32mf2x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x3_t vs3,
                           size_t vl);
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void __riscv_vsuxseg4ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(int32_t *rs1, vuint32m1_t vs2, vint32m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int32_t *rs1, vuint32m2_t vs2, vint32m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(int32_t *rs1, vuint32m2_t vs2, vint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(int32_t *rs1, vuint32m2_t vs2, vint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(int32_t *rs1, vuint32m4_t vs2, vint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(int32_t *rs1, vuint64m1_t vs2, vint32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(int32_t *rs1, vuint64m2_t vs2, vint32m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int32_t *rs1, vuint64m4_t vs2, vint32m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int32_t *rs1, vuint64m4_t vs2, vint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(int32_t *rs1, vuint64m4_t vs2, vint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int32_t *rs1, vuint64m8_t vs2, vint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(int64_t *rs1, vuint8mf8_t vs2, vint64m1x8_t vs3,
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                          size_t vl);
void __riscv_vsuxseg2ei8(int64_t *rs1, vuint8mf4_t vs2, vint64m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei8(int64_t *rs1, vuint8mf4_t vs2, vint64m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei8(int64_t *rs1, vuint8mf4_t vs2, vint64m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(int64_t *rs1, vuint8mf2_t vs2, vint64m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei16(int64_t *rs1, vuint16mf4_t vs2, vint64m1x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(int64_t *rs1, vuint16mf2_t vs2, vint64m2x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(int64_t *rs1, vuint16mf2_t vs2, vint64m2x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(int64_t *rs1, vuint16mf2_t vs2, vint64m2x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(int64_t *rs1, vuint16m1_t vs2, vint64m4x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei32(int64_t *rs1, vuint32mf2_t vs2, vint64m1x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei32(int64_t *rs1, vuint32m1_t vs2, vint64m2x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei32(int64_t *rs1, vuint32m1_t vs2, vint64m2x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei32(int64_t *rs1, vuint32m1_t vs2, vint64m2x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei32(int64_t *rs1, vuint32m2_t vs2, vint64m4x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei64(int64_t *rs1, vuint64m1_t vs2, vint64m1x8_t vs3,
                           size_t vl);
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void __riscv_vsuxseg2ei64(int64_t *rs1, vuint64m2_t vs2, vint64m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(int64_t *rs1, vuint64m2_t vs2, vint64m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(int64_t *rs1, vuint64m2_t vs2, vint64m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(int64_t *rs1, vuint64m4_t vs2, vint64m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(uint8_t *rs1, vuint8m2_t vs2, vuint8m2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint8_t *rs1, vuint8m2_t vs2, vuint8m2x3_t vs3,
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                          size_t vl);
void __riscv_vsoxseg4ei8(uint8_t *rs1, vuint8m2_t vs2, vuint8m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(uint8_t *rs1, vuint8m4_t vs2, vuint8m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(uint8_t *rs1, vuint16m4_t vs2, vuint8m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(uint8_t *rs1, vuint16m4_t vs2, vuint8m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(uint8_t *rs1, vuint16m4_t vs2, vuint8m2x4_t vs3,
                          size_t vl);
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void __riscv_vsoxseg2ei16(uint8_t *rs1, vuint16m8_t vs2, vuint8m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint8_t *rs1, vuint32m8_t vs2, vuint8m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(uint8_t *rs1, vuint32m8_t vs2, vuint8m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(uint8_t *rs1, vuint32m8_t vs2, vuint8m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x3_t vs3,
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                          size_t vl);
void __riscv_vsoxseg4ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x8_t vs3,
                         size_t vl);
```

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void __riscv_vsoxseg2ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(uint16_t *rs1, vuint8m1_t vs2, vuint16m2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint16_t *rs1, vuint8m1_t vs2, vuint16m2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(uint16_t *rs1, vuint8m1_t vs2, vuint16m2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(uint16_t *rs1, vuint8m2_t vs2, vuint16m4x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x3_t vs3,
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                          size_t vl);
void __riscv_vsoxseg4ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(uint16_t *rs1, vuint16m2_t vs2, vuint16m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei16(uint16_t *rs1, vuint16m2_t vs2, vuint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei16(uint16_t *rs1, vuint16m2_t vs2, vuint16m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(uint16_t *rs1, vuint16m4_t vs2, vuint16m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint16_t *rs1, vuint32m4_t vs2, vuint16m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(uint16_t *rs1, vuint32m4_t vs2, vuint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(uint16_t *rs1, vuint32m4_t vs2, vuint16m2x4_t vs3,
                          size_t vl);
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void __riscv_vsoxseg2ei32(uint16_t *rs1, vuint32m8_t vs2, vuint16m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint16_t *rs1, vuint64m8_t vs2, vuint16m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint16_t *rs1, vuint64m8_t vs2, vuint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(uint16_t *rs1, vuint64m8_t vs2, vuint16m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x5_t vs3,
                         size_t vl);
void __riscv_vsoxseg6ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x6_t vs3,
                         size_t vl);
void __riscv_vsoxseg7ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x7_t vs3,
                         size_t vl);
void __riscv_vsoxseg8ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x8_t vs3,
                         size_t vl);
void __riscv_vsoxseg2ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x3_t vs3,
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                          size_t vl);
void __riscv_vsoxseg4ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(uint32_t *rs1, vuint8mf2_t vs2, vuint32m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei8(uint32_t *rs1, vuint8mf2_t vs2, vuint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei8(uint32_t *rs1, vuint8mf2_t vs2, vuint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(uint32_t *rs1, vuint8m1_t vs2, vuint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg5ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x5_t vs3,
                           size_t vl);
void __riscv_vsoxseg6ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x6_t vs3,
                           size_t vl);
void __riscv_vsoxseg7ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x7_t vs3,
                           size_t vl);
void __riscv_vsoxseg8ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x8_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg5ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x5_t vs3,
                           size_t vl);
void __riscv_vsoxseg6ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x6_t vs3,
                           size_t vl);
void __riscv_vsoxseg7ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x7_t vs3,
                           size_t vl);
void __riscv_vsoxseg8ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x8_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei16(uint32_t *rs1, vuint16m1_t vs2, vuint32m2x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei16(uint32_t *rs1, vuint16m1_t vs2, vuint32m2x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei16(uint32_t *rs1, vuint16m1_t vs2, vuint32m2x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei16(uint32_t *rs1, vuint16m2_t vs2, vuint32m4x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg5ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x5_t vs3,
                           size_t vl);
void __riscv_vsoxseg6ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x6_t vs3,
                           size_t vl);
void __riscv_vsoxseg7ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x7_t vs3,
                           size_t vl);
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void __riscv_vsoxseg8ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint32_t *rs1, vuint32m2_t vs2, vuint32m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei32(uint32_t *rs1, vuint32m2_t vs2, vuint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei32(uint32_t *rs1, vuint32m2_t vs2, vuint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei32(uint32_t *rs1, vuint32m4_t vs2, vuint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg5ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x5_t vs3,
                          size_t vl);
void __riscv_vsoxseg6ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint32_t *rs1, vuint64m4_t vs2, vuint32m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint32_t *rs1, vuint64m4_t vs2, vuint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(uint32_t *rs1, vuint64m4_t vs2, vuint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint32_t *rs1, vuint64m8_t vs2, vuint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x2_t vs3,
                         size_t vl);
void __riscv_vsoxseg3ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x3_t vs3,
                         size_t vl);
void __riscv_vsoxseg4ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x4_t vs3,
                         size_t vl);
void __riscv_vsoxseg5ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x5_t vs3,
```

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                          size_t vl);
void __riscv_vsoxseg6ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(uint64_t *rs1, vuint8mf4_t vs2, vuint64m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei8(uint64_t *rs1, vuint8mf4_t vs2, vuint64m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei8(uint64_t *rs1, vuint8mf4_t vs2, vuint64m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei8(uint64_t *rs1, vuint8mf2_t vs2, vuint64m4x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg5ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x5_t vs3,
                           size_t vl);
void __riscv_vsoxseg6ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x6_t vs3,
                           size_t vl);
void __riscv_vsoxseg7ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x7_t vs3,
                           size_t vl);
void __riscv_vsoxseg8ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x8_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei16(uint64_t *rs1, vuint16mf2_t vs2, vuint64m2x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei16(uint64_t *rs1, vuint16mf2_t vs2, vuint64m2x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei16(uint64_t *rs1, vuint16mf2_t vs2, vuint64m2x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei16(uint64_t *rs1, vuint16m1_t vs2, vuint64m4x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg5ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x5_t vs3,
                           size_t vl);
void __riscv_vsoxseg6ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x6_t vs3,
                           size_t vl);
void __riscv_vsoxseg7ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x7_t vs3,
                           size_t vl);
void __riscv_vsoxseg8ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x8_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei32(uint64_t *rs1, vuint32m1_t vs2, vuint64m2x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei32(uint64_t *rs1, vuint32m1_t vs2, vuint64m2x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei32(uint64_t *rs1, vuint32m1_t vs2, vuint64m2x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei32(uint64_t *rs1, vuint32m2_t vs2, vuint64m4x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg2ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x2_t vs3,
                           size_t vl);
void __riscv_vsoxseg3ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x3_t vs3,
                           size_t vl);
void __riscv_vsoxseg4ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x4_t vs3,
                           size_t vl);
void __riscv_vsoxseg5ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x5_t vs3,
                           size_t vl);
```

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void __riscv_vsoxseg6ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x6_t vs3,
                          size_t vl);
void __riscv_vsoxseg7ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x7_t vs3,
                          size_t vl);
void __riscv_vsoxseg8ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x8_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint64_t *rs1, vuint64m2_t vs2, vuint64m2x2_t vs3,
                          size_t vl);
void __riscv_vsoxseg3ei64(uint64_t *rs1, vuint64m2_t vs2, vuint64m2x3_t vs3,
                          size_t vl);
void __riscv_vsoxseg4ei64(uint64_t *rs1, vuint64m2_t vs2, vuint64m2x4_t vs3,
                          size_t vl);
void __riscv_vsoxseg2ei64(uint64_t *rs1, vuint64m4_t vs2, vuint64m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(uint8_t *rs1, vuint8mf8_t vs2, vuint8mf8x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(uint8_t *rs1, vuint8mf4_t vs2, vuint8mf4x7_t vs3,
                         size_t vl);
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                         size_t vl);
void __riscv_vsuxseg2ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(uint8_t *rs1, vuint8mf2_t vs2, vuint8mf2x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x7_t vs3,
```

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                          size_t vl);
void __riscv_vsuxseg8ei8(uint8_t *rs1, vuint8m1_t vs2, vuint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(uint8_t *rs1, vuint8m2_t vs2, vuint8m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei8(uint8_t *rs1, vuint8m2_t vs2, vuint8m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei8(uint8_t *rs1, vuint8m2_t vs2, vuint8m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(uint8_t *rs1, vuint8m4_t vs2, vuint8m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei16(uint8_t *rs1, vuint16mf4_t vs2, vuint8mf8x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei16(uint8_t *rs1, vuint16mf2_t vs2, vuint8mf4x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei16(uint8_t *rs1, vuint16m1_t vs2, vuint8mf2x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei16(uint8_t *rs1, vuint16m2_t vs2, vuint8m1x8_t vs3,
                           size_t vl);
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void __riscv_vsuxseg2ei16(uint8_t *rs1, vuint16m4_t vs2, vuint8m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(uint8_t *rs1, vuint16m4_t vs2, vuint8m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(uint8_t *rs1, vuint16m4_t vs2, vuint8m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(uint8_t *rs1, vuint16m8_t vs2, vuint8m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(uint8_t *rs1, vuint32mf2_t vs2, vuint8mf8x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(uint8_t *rs1, vuint32m1_t vs2, vuint8mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(uint8_t *rs1, vuint32m2_t vs2, vuint8mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(uint8_t *rs1, vuint32m4_t vs2, vuint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint8_t *rs1, vuint32m8_t vs2, vuint8m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(uint8_t *rs1, vuint32m8_t vs2, vuint8m2x3_t vs3,
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                          size_t vl);
void __riscv_vsuxseg4ei32(uint8_t *rs1, vuint32m8_t vs2, vuint8m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(uint8_t *rs1, vuint64m1_t vs2, vuint8mf8x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(uint8_t *rs1, vuint64m2_t vs2, vuint8mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(uint8_t *rs1, vuint64m4_t vs2, vuint8mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(uint8_t *rs1, vuint64m8_t vs2, vuint8m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x5_t vs3,
                         size_t vl);
```

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void __riscv_vsuxseg6ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(uint16_t *rs1, vuint8mf8_t vs2, vuint16mf4x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(uint16_t *rs1, vuint8mf4_t vs2, vuint16mf2x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x7_t vs3,
                         size_t vl);
void __riscv_vsuxseg8ei8(uint16_t *rs1, vuint8mf2_t vs2, vuint16m1x8_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(uint16_t *rs1, vuint8m1_t vs2, vuint16m2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(uint16_t *rs1, vuint8m1_t vs2, vuint16m2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(uint16_t *rs1, vuint8m1_t vs2, vuint16m2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei8(uint16_t *rs1, vuint8m2_t vs2, vuint16m4x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg2ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(uint16_t *rs1, vuint16mf4_t vs2, vuint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x7_t vs3,
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                          size_t vl);
void __riscv_vsuxseg8ei16(uint16_t *rs1, vuint16mf2_t vs2, vuint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei16(uint16_t *rs1, vuint16m1_t vs2, vuint16m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(uint16_t *rs1, vuint16m2_t vs2, vuint16m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei16(uint16_t *rs1, vuint16m2_t vs2, vuint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei16(uint16_t *rs1, vuint16m2_t vs2, vuint16m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(uint16_t *rs1, vuint16m4_t vs2, vuint16m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(uint16_t *rs1, vuint32mf2_t vs2, vuint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(uint16_t *rs1, vuint32m1_t vs2, vuint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(uint16_t *rs1, vuint32m2_t vs2, vuint16m1x8_t vs3,
                          size_t vl);
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void __riscv_vsuxseg2ei32(uint16_t *rs1, vuint32m4_t vs2, vuint16m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(uint16_t *rs1, vuint32m4_t vs2, vuint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(uint16_t *rs1, vuint32m4_t vs2, vuint16m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint16_t *rs1, vuint32m8_t vs2, vuint16m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(uint16_t *rs1, vuint64m1_t vs2, vuint16mf4x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(uint16_t *rs1, vuint64m2_t vs2, vuint16mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(uint16_t *rs1, vuint64m4_t vs2, vuint16m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint16_t *rs1, vuint64m8_t vs2, vuint16m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint16_t *rs1, vuint64m8_t vs2, vuint16m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint16_t *rs1, vuint64m8_t vs2, vuint16m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x2_t vs3,
                         size_t vl);
void __riscv_vsuxseg3ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x3_t vs3,
                         size_t vl);
void __riscv_vsuxseg4ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x4_t vs3,
                         size_t vl);
void __riscv_vsuxseg5ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x5_t vs3,
                         size_t vl);
void __riscv_vsuxseg6ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x6_t vs3,
                         size_t vl);
void __riscv_vsuxseg7ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x7_t vs3,
```

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                          size_t vl);
void __riscv_vsuxseg8ei8(uint32_t *rs1, vuint8mf8_t vs2, vuint32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei8(uint32_t *rs1, vuint8mf4_t vs2, vuint32m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(uint32_t *rs1, vuint8mf2_t vs2, vuint32m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei8(uint32_t *rs1, vuint8mf2_t vs2, vuint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei8(uint32_t *rs1, vuint8mf2_t vs2, vuint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(uint32_t *rs1, vuint8m1_t vs2, vuint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei16(uint32_t *rs1, vuint16mf4_t vs2, vuint32mf2x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei16(uint32_t *rs1, vuint16mf2_t vs2, vuint32m1x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(uint32_t *rs1, vuint16m1_t vs2, vuint32m2x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(uint32_t *rs1, vuint16m1_t vs2, vuint32m2x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(uint32_t *rs1, vuint16m1_t vs2, vuint32m2x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(uint32_t *rs1, vuint16m2_t vs2, vuint32m4x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x4_t vs3,
                           size_t vl);
```

```
void __riscv_vsuxseg5ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(uint32_t *rs1, vuint32mf2_t vs2, vuint32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei32(uint32_t *rs1, vuint32m1_t vs2, vuint32m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint32_t *rs1, vuint32m2_t vs2, vuint32m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei32(uint32_t *rs1, vuint32m2_t vs2, vuint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei32(uint32_t *rs1, vuint32m2_t vs2, vuint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei32(uint32_t *rs1, vuint32m4_t vs2, vuint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(uint32_t *rs1, vuint64m1_t vs2, vuint32mf2x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(uint32_t *rs1, vuint64m2_t vs2, vuint32m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint32_t *rs1, vuint64m4_t vs2, vuint32m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint32_t *rs1, vuint64m4_t vs2, vuint32m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint32_t *rs1, vuint64m4_t vs2, vuint32m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint32_t *rs1, vuint64m8_t vs2, vuint32m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x2_t vs3,
```

```
                          size_t vl);
void __riscv_vsuxseg3ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei8(uint64_t *rs1, vuint8mf8_t vs2, vuint64m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(uint64_t *rs1, vuint8mf4_t vs2, vuint64m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei8(uint64_t *rs1, vuint8mf4_t vs2, vuint64m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei8(uint64_t *rs1, vuint8mf4_t vs2, vuint64m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei8(uint64_t *rs1, vuint8mf2_t vs2, vuint64m4x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei16(uint64_t *rs1, vuint16mf4_t vs2, vuint64m1x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(uint64_t *rs1, vuint16mf2_t vs2, vuint64m2x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei16(uint64_t *rs1, vuint16mf2_t vs2, vuint64m2x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei16(uint64_t *rs1, vuint16mf2_t vs2, vuint64m2x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei16(uint64_t *rs1, vuint16m1_t vs2, vuint64m4x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg5ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x5_t vs3,
                           size_t vl);
void __riscv_vsuxseg6ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x6_t vs3,
                           size_t vl);
void __riscv_vsuxseg7ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x7_t vs3,
                           size_t vl);
void __riscv_vsuxseg8ei32(uint64_t *rs1, vuint32mf2_t vs2, vuint64m1x8_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei32(uint64_t *rs1, vuint32m1_t vs2, vuint64m2x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg3ei32(uint64_t *rs1, vuint32m1_t vs2, vuint64m2x3_t vs3,
                           size_t vl);
void __riscv_vsuxseg4ei32(uint64_t *rs1, vuint32m1_t vs2, vuint64m2x4_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei32(uint64_t *rs1, vuint32m2_t vs2, vuint64m4x2_t vs3,
                           size_t vl);
void __riscv_vsuxseg2ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x2_t vs3,
                           size_t vl);
```

```
void __riscv_vsuxseg3ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg5ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x5_t vs3,
                          size_t vl);
void __riscv_vsuxseg6ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x6_t vs3,
                          size_t vl);
void __riscv_vsuxseg7ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x7_t vs3,
                          size_t vl);
void __riscv_vsuxseg8ei64(uint64_t *rs1, vuint64m1_t vs2, vuint64m1x8_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint64_t *rs1, vuint64m2_t vs2, vuint64m2x2_t vs3,
                          size_t vl);
void __riscv_vsuxseg3ei64(uint64_t *rs1, vuint64m2_t vs2, vuint64m2x3_t vs3,
                          size_t vl);
void __riscv_vsuxseg4ei64(uint64_t *rs1, vuint64m2_t vs2, vuint64m2x4_t vs3,
                          size_t vl);
void __riscv_vsuxseg2ei64(uint64_t *rs1, vuint64m4_t vs2, vuint64m4x2_t vs3,
                          size_t vl);
// masked functions
void __riscv_vsoxseg2ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                         vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                         vfloat16m2x3_t vs3, size_t vl);
```

```
void __riscv_vsoxseg4ei8(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                         vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool4_t vm, _Float16 *rs1, vuint8m2_t vs2,
                         vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool8_t vm, _Float16 *rs1, vuint16m2_t vs2,
                          vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool8_t vm, _Float16 *rs1, vuint16m2_t vs2,
                          vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool8_t vm, _Float16 *rs1, vuint16m2_t vs2,
                          vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool4_t vm, _Float16 *rs1, vuint16m4_t vs2,
                          vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
```

```
                          vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool8_t vm, _Float16 *rs1, vuint32m4_t vs2,
                          vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool8_t vm, _Float16 *rs1, vuint32m4_t vs2,
                          vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool8_t vm, _Float16 *rs1, vuint32m4_t vs2,
                          vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool4_t vm, _Float16 *rs1, vuint32m8_t vs2,
                          vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x2_t vs3, size_t vl);
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void __riscv_vsoxseg3ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool8_t vm, _Float16 *rs1, vuint64m8_t vs2,
                          vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool8_t vm, _Float16 *rs1, vuint64m8_t vs2,
                          vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool8_t vm, _Float16 *rs1, vuint64m8_t vs2,
                          vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                         vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                         vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                         vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                         vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                         vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                         vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                         vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                         vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                         vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                         vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool8_t vm, float *rs1, vuint8m1_t vs2,
                         vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                          vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                          vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                          vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                          vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                          vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                          vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
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                          vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                          vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                          vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                          vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                          vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                          vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                          vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                          vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                          vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                          vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                          vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool8_t vm, float *rs1, vuint16m2_t vs2,
                          vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                          vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                          vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                          vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                          vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                          vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                          vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                          vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool16_t vm, float *rs1, vuint32m2_t vs2,
                          vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool16_t vm, float *rs1, vuint32m2_t vs2,
                          vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool16_t vm, float *rs1, vuint32m2_t vs2,
                          vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool8_t vm, float *rs1, vuint32m4_t vs2,
                          vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x5_t vs3, size_t vl);
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void __riscv_vsoxseg6ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool16_t vm, float *rs1, vuint64m4_t vs2,
                          vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool16_t vm, float *rs1, vuint64m4_t vs2,
                          vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool16_t vm, float *rs1, vuint64m4_t vs2,
                          vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool8_t vm, float *rs1, vuint64m8_t vs2,
                          vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool32_t vm, double *rs1, vuint8mf4_t vs2,
                         vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool32_t vm, double *rs1, vuint8mf4_t vs2,
                         vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool32_t vm, double *rs1, vuint8mf4_t vs2,
                         vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool16_t vm, double *rs1, vuint8mf2_t vs2,
                         vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                          vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                          vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                          vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                          vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                          vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                          vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                          vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool32_t vm, double *rs1, vuint16mf2_t vs2,
                          vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool32_t vm, double *rs1, vuint16mf2_t vs2,
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                          vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool32_t vm, double *rs1, vuint16mf2_t vs2,
                          vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool16_t vm, double *rs1, vuint16m1_t vs2,
                          vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                          vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                          vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                          vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                          vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                          vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                          vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                          vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool32_t vm, double *rs1, vuint32m1_t vs2,
                          vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool32_t vm, double *rs1, vuint32m1_t vs2,
                          vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool32_t vm, double *rs1, vuint32m1_t vs2,
                          vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool16_t vm, double *rs1, vuint32m2_t vs2,
                          vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                          vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                          vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                          vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                          vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                          vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                          vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                          vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool32_t vm, double *rs1, vuint64m2_t vs2,
                          vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool32_t vm, double *rs1, vuint64m2_t vs2,
                          vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool32_t vm, double *rs1, vuint64m2_t vs2,
                          vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool16_t vm, double *rs1, vuint64m4_t vs2,
                          vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool64_t vm, _Float16 *rs1, vuint8mf8_t vs2,
                         vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x3_t vs3, size_t vl);
```

```
void __riscv_vsuxseg4ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool32_t vm, _Float16 *rs1, vuint8mf4_t vs2,
                         vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool16_t vm, _Float16 *rs1, vuint8mf2_t vs2,
                         vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                         vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                         vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool8_t vm, _Float16 *rs1, vuint8m1_t vs2,
                         vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool4_t vm, _Float16 *rs1, vuint8m2_t vs2,
                         vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool64_t vm, _Float16 *rs1, vuint16mf4_t vs2,
                          vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool32_t vm, _Float16 *rs1, vuint16mf2_t vs2,
                          vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
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                          vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool16_t vm, _Float16 *rs1, vuint16m1_t vs2,
                          vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool8_t vm, _Float16 *rs1, vuint16m2_t vs2,
                          vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool8_t vm, _Float16 *rs1, vuint16m2_t vs2,
                          vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool8_t vm, _Float16 *rs1, vuint16m2_t vs2,
                          vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool4_t vm, _Float16 *rs1, vuint16m4_t vs2,
                          vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool64_t vm, _Float16 *rs1, vuint32mf2_t vs2,
                          vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool32_t vm, _Float16 *rs1, vuint32m1_t vs2,
                          vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool16_t vm, _Float16 *rs1, vuint32m2_t vs2,
                          vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool8_t vm, _Float16 *rs1, vuint32m4_t vs2,
                          vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool8_t vm, _Float16 *rs1, vuint32m4_t vs2,
                          vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool8_t vm, _Float16 *rs1, vuint32m4_t vs2,
                          vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool4_t vm, _Float16 *rs1, vuint32m8_t vs2,
                          vfloat16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x2_t vs3, size_t vl);
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void __riscv_vsuxseg3ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool64_t vm, _Float16 *rs1, vuint64m1_t vs2,
                          vfloat16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool32_t vm, _Float16 *rs1, vuint64m2_t vs2,
                          vfloat16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool16_t vm, _Float16 *rs1, vuint64m4_t vs2,
                          vfloat16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool8_t vm, _Float16 *rs1, vuint64m8_t vs2,
                          vfloat16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool8_t vm, _Float16 *rs1, vuint64m8_t vs2,
                          vfloat16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool8_t vm, _Float16 *rs1, vuint64m8_t vs2,
                          vfloat16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool64_t vm, float *rs1, vuint8mf8_t vs2,
                         vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                         vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                         vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                         vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
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                          vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                          vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                          vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool32_t vm, float *rs1, vuint8mf4_t vs2,
                          vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                          vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                          vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool16_t vm, float *rs1, vuint8mf2_t vs2,
                          vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool8_t vm, float *rs1, vuint8m1_t vs2,
                          vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                           vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                           vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                           vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                           vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                           vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                           vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool64_t vm, float *rs1, vuint16mf4_t vs2,
                           vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                           vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                           vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                           vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                           vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                           vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                           vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool32_t vm, float *rs1, vuint16mf2_t vs2,
                           vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                           vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                           vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool16_t vm, float *rs1, vuint16m1_t vs2,
                           vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool8_t vm, float *rs1, vuint16m2_t vs2,
                           vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                           vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                           vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                           vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                           vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                           vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                           vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool64_t vm, float *rs1, vuint32mf2_t vs2,
                           vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                           vfloat32m1x2_t vs3, size_t vl);
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void __riscv_vsuxseg3ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool32_t vm, float *rs1, vuint32m1_t vs2,
                          vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool16_t vm, float *rs1, vuint32m2_t vs2,
                          vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool16_t vm, float *rs1, vuint32m2_t vs2,
                          vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool16_t vm, float *rs1, vuint32m2_t vs2,
                          vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool8_t vm, float *rs1, vuint32m4_t vs2,
                          vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool64_t vm, float *rs1, vuint64m1_t vs2,
                          vfloat32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool32_t vm, float *rs1, vuint64m2_t vs2,
                          vfloat32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool16_t vm, float *rs1, vuint64m4_t vs2,
                          vfloat32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool16_t vm, float *rs1, vuint64m4_t vs2,
                          vfloat32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool16_t vm, float *rs1, vuint64m4_t vs2,
                          vfloat32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool8_t vm, float *rs1, vuint64m8_t vs2,
                          vfloat32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                         vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
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                          vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool64_t vm, double *rs1, vuint8mf8_t vs2,
                          vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool32_t vm, double *rs1, vuint8mf4_t vs2,
                          vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool32_t vm, double *rs1, vuint8mf4_t vs2,
                          vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool32_t vm, double *rs1, vuint8mf4_t vs2,
                          vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool16_t vm, double *rs1, vuint8mf2_t vs2,
                          vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                           vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                           vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                           vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                           vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                           vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                           vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool64_t vm, double *rs1, vuint16mf4_t vs2,
                           vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool32_t vm, double *rs1, vuint16mf2_t vs2,
                           vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool32_t vm, double *rs1, vuint16mf2_t vs2,
                           vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool32_t vm, double *rs1, vuint16mf2_t vs2,
                           vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool16_t vm, double *rs1, vuint16m1_t vs2,
                           vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                           vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                           vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                           vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                           vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                           vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                           vfloat64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool64_t vm, double *rs1, vuint32mf2_t vs2,
                           vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool32_t vm, double *rs1, vuint32m1_t vs2,
                           vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool32_t vm, double *rs1, vuint32m1_t vs2,
                           vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool32_t vm, double *rs1, vuint32m1_t vs2,
                           vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool16_t vm, double *rs1, vuint32m2_t vs2,
                           vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                           vfloat64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                           vfloat64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                           vfloat64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                           vfloat64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                           vfloat64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                           vfloat64m1x7_t vs3, size_t vl);
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void __riscv_vsuxseg8ei64(vbool64_t vm, double *rs1, vuint64m1_t vs2,
                          vfloat64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool32_t vm, double *rs1, vuint64m2_t vs2,
                          vfloat64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool32_t vm, double *rs1, vuint64m2_t vs2,
                          vfloat64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool32_t vm, double *rs1, vuint64m2_t vs2,
                          vfloat64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool16_t vm, double *rs1, vuint64m4_t vs2,
                          vfloat64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                         vint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                         vint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                         vint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                         vint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                         vint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                         vint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                         vint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
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                          vint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
                         vint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
                         vint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool2_t vm, int8_t *rs1, vuint8m4_t vs2,
                         vint8m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                          vint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                          vint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                          vint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                          vint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                          vint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                          vint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                          vint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                          vint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                          vint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                          vint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                          vint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                          vint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                          vint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                          vint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                          vint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                          vint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                          vint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                          vint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                          vint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                          vint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                          vint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                          vint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                          vint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                          vint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                          vint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                          vint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                          vint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                          vint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                          vint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                          vint8m2x3_t vs3, size_t vl);
```

```
void __riscv_vsoxseg4ei16(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                          vint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool2_t vm, int8_t *rs1, vuint16m8_t vs2,
                          vint8m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
                          vint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
                          vint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
                          vint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
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                          vint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x7_t vs3, size_t vl);
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void __riscv_vsoxseg8ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool8_t vm, int16_t *rs1, vuint8m1_t vs2,
                         vint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool8_t vm, int16_t *rs1, vuint8m1_t vs2,
                         vint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool8_t vm, int16_t *rs1, vuint8m1_t vs2,
                         vint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool4_t vm, int16_t *rs1, vuint8m2_t vs2,
                         vint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
```

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                          vint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool8_t vm, int16_t *rs1, vuint16m2_t vs2,
                          vint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool8_t vm, int16_t *rs1, vuint16m2_t vs2,
                          vint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool8_t vm, int16_t *rs1, vuint16m2_t vs2,
                          vint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool4_t vm, int16_t *rs1, vuint16m4_t vs2,
                          vint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool8_t vm, int16_t *rs1, vuint32m4_t vs2,
                          vint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool8_t vm, int16_t *rs1, vuint32m4_t vs2,
                          vint16m2x3_t vs3, size_t vl);
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void __riscv_vsoxseg4ei32(vbool8_t vm, int16_t *rs1, vuint32m4_t vs2,
                          vint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool4_t vm, int16_t *rs1, vuint32m8_t vs2,
                          vint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool8_t vm, int16_t *rs1, vuint64m8_t vs2,
                          vint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool8_t vm, int16_t *rs1, vuint64m8_t vs2,
                          vint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool8_t vm, int16_t *rs1, vuint64m8_t vs2,
                          vint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                         vint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                         vint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                         vint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                         vint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                         vint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                         vint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                         vint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
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                          vint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool16_t vm, int32_t *rs1, vuint8mf2_t vs2,
                          vint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool16_t vm, int32_t *rs1, vuint8mf2_t vs2,
                          vint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool16_t vm, int32_t *rs1, vuint8mf2_t vs2,
                          vint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool8_t vm, int32_t *rs1, vuint8m1_t vs2,
                          vint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool16_t vm, int32_t *rs1, vuint16m1_t vs2,
                           vint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool16_t vm, int32_t *rs1, vuint16m1_t vs2,
                           vint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool16_t vm, int32_t *rs1, vuint16m1_t vs2,
                           vint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool8_t vm, int32_t *rs1, vuint16m2_t vs2,
                           vint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                           vint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                           vint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                           vint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                           vint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                           vint32mf2x6_t vs3, size_t vl);
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void __riscv_vsoxseg7ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                          vint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                          vint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool16_t vm, int32_t *rs1, vuint32m2_t vs2,
                          vint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool16_t vm, int32_t *rs1, vuint32m2_t vs2,
                          vint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool16_t vm, int32_t *rs1, vuint32m2_t vs2,
                          vint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool8_t vm, int32_t *rs1, vuint32m4_t vs2,
                          vint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool16_t vm, int32_t *rs1, vuint64m4_t vs2,
                          vint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool16_t vm, int32_t *rs1, vuint64m4_t vs2,
                          vint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool16_t vm, int32_t *rs1, vuint64m4_t vs2,
                          vint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool8_t vm, int32_t *rs1, vuint64m8_t vs2,
                          vint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                         vint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                         vint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
```

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                          vint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                          vint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                          vint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                          vint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                          vint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool32_t vm, int64_t *rs1, vuint8mf4_t vs2,
                          vint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool32_t vm, int64_t *rs1, vuint8mf4_t vs2,
                          vint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool32_t vm, int64_t *rs1, vuint8mf4_t vs2,
                          vint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool16_t vm, int64_t *rs1, vuint8mf2_t vs2,
                          vint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                           vint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                           vint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                           vint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                           vint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                           vint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                           vint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                           vint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool32_t vm, int64_t *rs1, vuint16mf2_t vs2,
                           vint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool32_t vm, int64_t *rs1, vuint16mf2_t vs2,
                           vint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool32_t vm, int64_t *rs1, vuint16mf2_t vs2,
                           vint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool16_t vm, int64_t *rs1, vuint16m1_t vs2,
                           vint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                           vint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                           vint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                           vint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                           vint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                           vint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                           vint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                           vint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool32_t vm, int64_t *rs1, vuint32m1_t vs2,
                           vint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool32_t vm, int64_t *rs1, vuint32m1_t vs2,
                           vint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool32_t vm, int64_t *rs1, vuint32m1_t vs2,
                           vint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool16_t vm, int64_t *rs1, vuint32m2_t vs2,
                           vint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                           vint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                           vint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                           vint64m1x4_t vs3, size_t vl);
```

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void __riscv_vsoxseg5ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                          vint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                          vint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                          vint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                          vint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool32_t vm, int64_t *rs1, vuint64m2_t vs2,
                          vint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool32_t vm, int64_t *rs1, vuint64m2_t vs2,
                          vint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool32_t vm, int64_t *rs1, vuint64m2_t vs2,
                          vint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool16_t vm, int64_t *rs1, vuint64m4_t vs2,
                          vint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool64_t vm, int8_t *rs1, vuint8mf8_t vs2,
                         vint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool32_t vm, int8_t *rs1, vuint8mf4_t vs2,
                         vint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool16_t vm, int8_t *rs1, vuint8mf2_t vs2,
                         vint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                         vint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                         vint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                         vint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                         vint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
```

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                          vint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                          vint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool8_t vm, int8_t *rs1, vuint8m1_t vs2,
                          vint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
                          vint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
                          vint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool4_t vm, int8_t *rs1, vuint8m2_t vs2,
                          vint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool2_t vm, int8_t *rs1, vuint8m4_t vs2,
                          vint8m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                           vint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                           vint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                           vint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                           vint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                           vint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                           vint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool64_t vm, int8_t *rs1, vuint16mf4_t vs2,
                           vint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                           vint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                           vint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                           vint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                           vint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                           vint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                           vint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool32_t vm, int8_t *rs1, vuint16mf2_t vs2,
                           vint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                           vint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                           vint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                           vint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                           vint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                           vint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                           vint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool16_t vm, int8_t *rs1, vuint16m1_t vs2,
                           vint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                           vint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                           vint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                           vint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                           vint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                           vint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                           vint8m1x7_t vs3, size_t vl);
```

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void __riscv_vsuxseg8ei16(vbool8_t vm, int8_t *rs1, vuint16m2_t vs2,
                          vint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                          vint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                          vint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool4_t vm, int8_t *rs1, vuint16m4_t vs2,
                          vint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool2_t vm, int8_t *rs1, vuint16m8_t vs2,
                          vint8m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool64_t vm, int8_t *rs1, vuint32mf2_t vs2,
                          vint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool32_t vm, int8_t *rs1, vuint32m1_t vs2,
                          vint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool16_t vm, int8_t *rs1, vuint32m2_t vs2,
                          vint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool8_t vm, int8_t *rs1, vuint32m4_t vs2,
                          vint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
```

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                          vint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
                          vint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool4_t vm, int8_t *rs1, vuint32m8_t vs2,
                          vint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool64_t vm, int8_t *rs1, vuint64m1_t vs2,
                          vint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool32_t vm, int8_t *rs1, vuint64m2_t vs2,
                          vint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool16_t vm, int8_t *rs1, vuint64m4_t vs2,
                          vint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool8_t vm, int8_t *rs1, vuint64m8_t vs2,
                          vint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x4_t vs3, size_t vl);
```

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void __riscv_vsuxseg5ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool64_t vm, int16_t *rs1, vuint8mf8_t vs2,
                         vint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool32_t vm, int16_t *rs1, vuint8mf4_t vs2,
                         vint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool16_t vm, int16_t *rs1, vuint8mf2_t vs2,
                         vint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool8_t vm, int16_t *rs1, vuint8m1_t vs2,
                         vint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool8_t vm, int16_t *rs1, vuint8m1_t vs2,
                         vint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool8_t vm, int16_t *rs1, vuint8m1_t vs2,
                         vint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool4_t vm, int16_t *rs1, vuint8m2_t vs2,
                         vint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool64_t vm, int16_t *rs1, vuint16mf4_t vs2,
                          vint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
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                          vint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool32_t vm, int16_t *rs1, vuint16mf2_t vs2,
                          vint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool16_t vm, int16_t *rs1, vuint16m1_t vs2,
                          vint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool8_t vm, int16_t *rs1, vuint16m2_t vs2,
                          vint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool8_t vm, int16_t *rs1, vuint16m2_t vs2,
                          vint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool8_t vm, int16_t *rs1, vuint16m2_t vs2,
                          vint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool4_t vm, int16_t *rs1, vuint16m4_t vs2,
                          vint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool64_t vm, int16_t *rs1, vuint32mf2_t vs2,
                          vint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool32_t vm, int16_t *rs1, vuint32m1_t vs2,
                          vint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x7_t vs3, size_t vl);
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void __riscv_vsuxseg8ei32(vbool16_t vm, int16_t *rs1, vuint32m2_t vs2,
                          vint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool8_t vm, int16_t *rs1, vuint32m4_t vs2,
                          vint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool8_t vm, int16_t *rs1, vuint32m4_t vs2,
                          vint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool8_t vm, int16_t *rs1, vuint32m4_t vs2,
                          vint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool4_t vm, int16_t *rs1, vuint32m8_t vs2,
                          vint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool64_t vm, int16_t *rs1, vuint64m1_t vs2,
                          vint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool32_t vm, int16_t *rs1, vuint64m2_t vs2,
                          vint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool16_t vm, int16_t *rs1, vuint64m4_t vs2,
                          vint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool8_t vm, int16_t *rs1, vuint64m8_t vs2,
                          vint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool8_t vm, int16_t *rs1, vuint64m8_t vs2,
                          vint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool8_t vm, int16_t *rs1, vuint64m8_t vs2,
                          vint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                         vint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                         vint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                         vint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                         vint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
```

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                          vint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                          vint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool64_t vm, int32_t *rs1, vuint8mf8_t vs2,
                          vint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool32_t vm, int32_t *rs1, vuint8mf4_t vs2,
                          vint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool16_t vm, int32_t *rs1, vuint8mf2_t vs2,
                          vint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool16_t vm, int32_t *rs1, vuint8mf2_t vs2,
                          vint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool16_t vm, int32_t *rs1, vuint8mf2_t vs2,
                          vint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool8_t vm, int32_t *rs1, vuint8m1_t vs2,
                          vint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool64_t vm, int32_t *rs1, vuint16mf4_t vs2,
                           vint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool32_t vm, int32_t *rs1, vuint16mf2_t vs2,
                           vint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool16_t vm, int32_t *rs1, vuint16m1_t vs2,
                           vint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool16_t vm, int32_t *rs1, vuint16m1_t vs2,
                           vint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool16_t vm, int32_t *rs1, vuint16m1_t vs2,
                           vint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool8_t vm, int32_t *rs1, vuint16m2_t vs2,
                           vint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                           vint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                           vint32mf2x3_t vs3, size_t vl);
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void __riscv_vsuxseg4ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                          vint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                          vint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                          vint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                          vint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool64_t vm, int32_t *rs1, vuint32mf2_t vs2,
                          vint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool32_t vm, int32_t *rs1, vuint32m1_t vs2,
                          vint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool16_t vm, int32_t *rs1, vuint32m2_t vs2,
                          vint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool16_t vm, int32_t *rs1, vuint32m2_t vs2,
                          vint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool16_t vm, int32_t *rs1, vuint32m2_t vs2,
                          vint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool8_t vm, int32_t *rs1, vuint32m4_t vs2,
                          vint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool64_t vm, int32_t *rs1, vuint64m1_t vs2,
                          vint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool32_t vm, int32_t *rs1, vuint64m2_t vs2,
                          vint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool16_t vm, int32_t *rs1, vuint64m4_t vs2,
                          vint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool16_t vm, int32_t *rs1, vuint64m4_t vs2,
                          vint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool16_t vm, int32_t *rs1, vuint64m4_t vs2,
                          vint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool8_t vm, int32_t *rs1, vuint64m8_t vs2,
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                          vint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                         vint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                         vint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                         vint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                         vint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                         vint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                         vint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool64_t vm, int64_t *rs1, vuint8mf8_t vs2,
                         vint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool32_t vm, int64_t *rs1, vuint8mf4_t vs2,
                         vint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool32_t vm, int64_t *rs1, vuint8mf4_t vs2,
                         vint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool32_t vm, int64_t *rs1, vuint8mf4_t vs2,
                         vint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool16_t vm, int64_t *rs1, vuint8mf2_t vs2,
                         vint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                          vint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                          vint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                          vint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                          vint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                          vint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                          vint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool64_t vm, int64_t *rs1, vuint16mf4_t vs2,
                          vint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool32_t vm, int64_t *rs1, vuint16mf2_t vs2,
                          vint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool32_t vm, int64_t *rs1, vuint16mf2_t vs2,
                          vint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool32_t vm, int64_t *rs1, vuint16mf2_t vs2,
                          vint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool16_t vm, int64_t *rs1, vuint16m1_t vs2,
                          vint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                          vint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                          vint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                          vint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                          vint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                          vint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                          vint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool64_t vm, int64_t *rs1, vuint32mf2_t vs2,
                          vint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool32_t vm, int64_t *rs1, vuint32m1_t vs2,
                          vint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool32_t vm, int64_t *rs1, vuint32m1_t vs2,
                          vint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool32_t vm, int64_t *rs1, vuint32m1_t vs2,
                          vint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool16_t vm, int64_t *rs1, vuint32m2_t vs2,
                          vint64m4x2_t vs3, size_t vl);
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void __riscv_vsuxseg2ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                          vint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                          vint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                          vint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                          vint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                          vint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                          vint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool64_t vm, int64_t *rs1, vuint64m1_t vs2,
                          vint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool32_t vm, int64_t *rs1, vuint64m2_t vs2,
                          vint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool32_t vm, int64_t *rs1, vuint64m2_t vs2,
                          vint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool32_t vm, int64_t *rs1, vuint64m2_t vs2,
                          vint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool16_t vm, int64_t *rs1, vuint64m4_t vs2,
                          vint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                         vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
```

```
                          vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                          vuint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                          vuint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                          vuint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool2_t vm, uint8_t *rs1, vuint8m4_t vs2,
                          vuint8m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                           vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                           vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                           vuint8m1x4_t vs3, size_t vl);
```

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void __riscv_vsoxseg5ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                          vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                          vuint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                          vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                          vuint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                          vuint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                          vuint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                          vuint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool2_t vm, uint8_t *rs1, vuint16m8_t vs2,
                          vuint8m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
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                          vuint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                          vuint8m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                          vuint8m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                          vuint8m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x8_t vs3, size_t vl);
```

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void __riscv_vsoxseg2ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
                         vuint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
                         vuint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
                         vuint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool4_t vm, uint16_t *rs1, vuint8m2_t vs2,
                         vuint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
```

```
                          vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool8_t vm, uint16_t *rs1, vuint16m2_t vs2,
                          vuint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool8_t vm, uint16_t *rs1, vuint16m2_t vs2,
                          vuint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool8_t vm, uint16_t *rs1, vuint16m2_t vs2,
                          vuint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool4_t vm, uint16_t *rs1, vuint16m4_t vs2,
                          vuint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x4_t vs3, size_t vl);
```

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void __riscv_vsoxseg5ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool8_t vm, uint16_t *rs1, vuint32m4_t vs2,
                          vuint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool8_t vm, uint16_t *rs1, vuint32m4_t vs2,
                          vuint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool8_t vm, uint16_t *rs1, vuint32m4_t vs2,
                          vuint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool4_t vm, uint16_t *rs1, vuint32m8_t vs2,
                          vuint16m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool8_t vm, uint16_t *rs1, vuint64m8_t vs2,
                          vuint16m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool8_t vm, uint16_t *rs1, vuint64m8_t vs2,
                          vuint16m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool8_t vm, uint16_t *rs1, vuint64m8_t vs2,
                          vuint16m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                         vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
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                          vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                          vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                          vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                          vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                          vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                          vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                          vuint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                          vuint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                          vuint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                          vuint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                          vuint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                          vuint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                          vuint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool16_t vm, uint32_t *rs1, vuint8mf2_t vs2,
                          vuint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool16_t vm, uint32_t *rs1, vuint8mf2_t vs2,
                          vuint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool16_t vm, uint32_t *rs1, vuint8mf2_t vs2,
                          vuint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool8_t vm, uint32_t *rs1, vuint8m1_t vs2,
                          vuint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                           vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                           vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                           vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                           vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                           vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                           vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                           vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                           vuint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                           vuint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                           vuint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                           vuint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                           vuint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                           vuint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                           vuint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool16_t vm, uint32_t *rs1, vuint16m1_t vs2,
                           vuint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool16_t vm, uint32_t *rs1, vuint16m1_t vs2,
                           vuint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool16_t vm, uint32_t *rs1, vuint16m1_t vs2,
                           vuint32m2x4_t vs3, size_t vl);
```

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void __riscv_vsoxseg2ei16(vbool8_t vm, uint32_t *rs1, vuint16m2_t vs2,
                          vuint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool16_t vm, uint32_t *rs1, vuint32m2_t vs2,
                          vuint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool16_t vm, uint32_t *rs1, vuint32m2_t vs2,
                          vuint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool16_t vm, uint32_t *rs1, vuint32m2_t vs2,
                          vuint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool8_t vm, uint32_t *rs1, vuint32m4_t vs2,
                          vuint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool16_t vm, uint32_t *rs1, vuint64m4_t vs2,
```

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                          vuint32m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool16_t vm, uint32_t *rs1, vuint64m4_t vs2,
                          vuint32m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool16_t vm, uint32_t *rs1, vuint64m4_t vs2,
                          vuint32m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool8_t vm, uint32_t *rs1, vuint64m8_t vs2,
                          vuint32m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool32_t vm, uint64_t *rs1, vuint8mf4_t vs2,
                         vuint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei8(vbool32_t vm, uint64_t *rs1, vuint8mf4_t vs2,
                         vuint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei8(vbool32_t vm, uint64_t *rs1, vuint8mf4_t vs2,
                         vuint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei8(vbool16_t vm, uint64_t *rs1, vuint8mf2_t vs2,
                         vuint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool32_t vm, uint64_t *rs1, vuint16mf2_t vs2,
                          vuint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei16(vbool32_t vm, uint64_t *rs1, vuint16mf2_t vs2,
                          vuint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei16(vbool32_t vm, uint64_t *rs1, vuint16mf2_t vs2,
                          vuint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei16(vbool16_t vm, uint64_t *rs1, vuint16m1_t vs2,
                          vuint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool32_t vm, uint64_t *rs1, vuint32m1_t vs2,
                          vuint64m2x2_t vs3, size_t vl);
```

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void __riscv_vsoxseg3ei32(vbool32_t vm, uint64_t *rs1, vuint32m1_t vs2,
                          vuint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei32(vbool32_t vm, uint64_t *rs1, vuint32m1_t vs2,
                          vuint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei32(vbool16_t vm, uint64_t *rs1, vuint32m2_t vs2,
                          vuint64m4x2_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x4_t vs3, size_t vl);
void __riscv_vsoxseg5ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x5_t vs3, size_t vl);
void __riscv_vsoxseg6ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x6_t vs3, size_t vl);
void __riscv_vsoxseg7ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x7_t vs3, size_t vl);
void __riscv_vsoxseg8ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x8_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool32_t vm, uint64_t *rs1, vuint64m2_t vs2,
                          vuint64m2x2_t vs3, size_t vl);
void __riscv_vsoxseg3ei64(vbool32_t vm, uint64_t *rs1, vuint64m2_t vs2,
                          vuint64m2x3_t vs3, size_t vl);
void __riscv_vsoxseg4ei64(vbool32_t vm, uint64_t *rs1, vuint64m2_t vs2,
                          vuint64m2x4_t vs3, size_t vl);
void __riscv_vsoxseg2ei64(vbool16_t vm, uint64_t *rs1, vuint64m4_t vs2,
                          vuint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool64_t vm, uint8_t *rs1, vuint8mf8_t vs2,
                         vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool32_t vm, uint8_t *rs1, vuint8mf4_t vs2,
                         vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                         vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
```

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                          vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool16_t vm, uint8_t *rs1, vuint8mf2_t vs2,
                          vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool8_t vm, uint8_t *rs1, vuint8m1_t vs2,
                          vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                          vuint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                          vuint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool4_t vm, uint8_t *rs1, vuint8m2_t vs2,
                          vuint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool2_t vm, uint8_t *rs1, vuint8m4_t vs2,
                          vuint8m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool64_t vm, uint8_t *rs1, vuint16mf4_t vs2,
                           vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool32_t vm, uint8_t *rs1, vuint16mf2_t vs2,
                           vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool16_t vm, uint8_t *rs1, vuint16m1_t vs2,
                           vuint8mf2x8_t vs3, size_t vl);
```

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void __riscv_vsuxseg2ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                          vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                          vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                          vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                          vuint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                          vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                          vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool8_t vm, uint8_t *rs1, vuint16m2_t vs2,
                          vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                          vuint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                          vuint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool4_t vm, uint8_t *rs1, vuint16m4_t vs2,
                          vuint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool2_t vm, uint8_t *rs1, vuint16m8_t vs2,
                          vuint8m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool64_t vm, uint8_t *rs1, vuint32mf2_t vs2,
                          vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool32_t vm, uint8_t *rs1, vuint32m1_t vs2,
                          vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool16_t vm, uint8_t *rs1, vuint32m2_t vs2,
                          vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
```

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                          vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool8_t vm, uint8_t *rs1, vuint32m4_t vs2,
                          vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                          vuint8m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                          vuint8m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool4_t vm, uint8_t *rs1, vuint32m8_t vs2,
                          vuint8m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool64_t vm, uint8_t *rs1, vuint64m1_t vs2,
                          vuint8mf8x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool32_t vm, uint8_t *rs1, vuint64m2_t vs2,
                          vuint8mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool16_t vm, uint8_t *rs1, vuint64m4_t vs2,
                          vuint8mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x5_t vs3, size_t vl);
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void __riscv_vsuxseg6ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool8_t vm, uint8_t *rs1, vuint64m8_t vs2,
                          vuint8m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool64_t vm, uint16_t *rs1, vuint8mf8_t vs2,
                         vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool32_t vm, uint16_t *rs1, vuint8mf4_t vs2,
                         vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool16_t vm, uint16_t *rs1, vuint8mf2_t vs2,
                         vuint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
                         vuint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
                         vuint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool8_t vm, uint16_t *rs1, vuint8m1_t vs2,
                         vuint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool4_t vm, uint16_t *rs1, vuint8m2_t vs2,
                         vuint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
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                          vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool64_t vm, uint16_t *rs1, vuint16mf4_t vs2,
                          vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool32_t vm, uint16_t *rs1, vuint16mf2_t vs2,
                          vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool16_t vm, uint16_t *rs1, vuint16m1_t vs2,
                          vuint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool8_t vm, uint16_t *rs1, vuint16m2_t vs2,
                          vuint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool8_t vm, uint16_t *rs1, vuint16m2_t vs2,
                          vuint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool8_t vm, uint16_t *rs1, vuint16m2_t vs2,
                          vuint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool4_t vm, uint16_t *rs1, vuint16m4_t vs2,
                          vuint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool64_t vm, uint16_t *rs1, vuint32mf2_t vs2,
                          vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool32_t vm, uint16_t *rs1, vuint32m1_t vs2,
                          vuint16mf2x8_t vs3, size_t vl);
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void __riscv_vsuxseg2ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool16_t vm, uint16_t *rs1, vuint32m2_t vs2,
                          vuint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool8_t vm, uint16_t *rs1, vuint32m4_t vs2,
                          vuint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool8_t vm, uint16_t *rs1, vuint32m4_t vs2,
                          vuint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool8_t vm, uint16_t *rs1, vuint32m4_t vs2,
                          vuint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool4_t vm, uint16_t *rs1, vuint32m8_t vs2,
                          vuint16m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool64_t vm, uint16_t *rs1, vuint64m1_t vs2,
                          vuint16mf4x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool32_t vm, uint16_t *rs1, vuint64m2_t vs2,
                          vuint16mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool16_t vm, uint16_t *rs1, vuint64m4_t vs2,
                          vuint16m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool8_t vm, uint16_t *rs1, vuint64m8_t vs2,
                          vuint16m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool8_t vm, uint16_t *rs1, vuint64m8_t vs2,
```

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                          vuint16m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool8_t vm, uint16_t *rs1, vuint64m8_t vs2,
                          vuint16m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                         vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                         vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                         vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                         vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                         vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                         vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool64_t vm, uint32_t *rs1, vuint8mf8_t vs2,
                         vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                         vuint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                         vuint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                         vuint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                         vuint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                         vuint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                         vuint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool32_t vm, uint32_t *rs1, vuint8mf4_t vs2,
                         vuint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool16_t vm, uint32_t *rs1, vuint8mf2_t vs2,
                         vuint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool16_t vm, uint32_t *rs1, vuint8mf2_t vs2,
                         vuint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool16_t vm, uint32_t *rs1, vuint8mf2_t vs2,
                         vuint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool8_t vm, uint32_t *rs1, vuint8m1_t vs2,
                         vuint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                          vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                          vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                          vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                          vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                          vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                          vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool64_t vm, uint32_t *rs1, vuint16mf4_t vs2,
                          vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                          vuint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                          vuint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                          vuint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                          vuint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                          vuint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                          vuint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool32_t vm, uint32_t *rs1, vuint16mf2_t vs2,
                          vuint32m1x8_t vs3, size_t vl);
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void __riscv_vsuxseg2ei16(vbool16_t vm, uint32_t *rs1, vuint16m1_t vs2,
                          vuint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool16_t vm, uint32_t *rs1, vuint16m1_t vs2,
                          vuint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool16_t vm, uint32_t *rs1, vuint16m1_t vs2,
                          vuint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool8_t vm, uint32_t *rs1, vuint16m2_t vs2,
                          vuint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool64_t vm, uint32_t *rs1, vuint32mf2_t vs2,
                          vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool32_t vm, uint32_t *rs1, vuint32m1_t vs2,
                          vuint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool16_t vm, uint32_t *rs1, vuint32m2_t vs2,
                          vuint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool16_t vm, uint32_t *rs1, vuint32m2_t vs2,
                          vuint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool16_t vm, uint32_t *rs1, vuint32m2_t vs2,
                          vuint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool8_t vm, uint32_t *rs1, vuint32m4_t vs2,
                          vuint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool64_t vm, uint32_t *rs1, vuint64m1_t vs2,
                          vuint32mf2x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
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                          vuint32m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool32_t vm, uint32_t *rs1, vuint64m2_t vs2,
                          vuint32m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool16_t vm, uint32_t *rs1, vuint64m4_t vs2,
                          vuint32m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool16_t vm, uint32_t *rs1, vuint64m4_t vs2,
                          vuint32m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool16_t vm, uint32_t *rs1, vuint64m4_t vs2,
                          vuint32m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool8_t vm, uint32_t *rs1, vuint64m8_t vs2,
                          vuint32m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei8(vbool64_t vm, uint64_t *rs1, vuint8mf8_t vs2,
                         vuint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool32_t vm, uint64_t *rs1, vuint8mf4_t vs2,
                         vuint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei8(vbool32_t vm, uint64_t *rs1, vuint8mf4_t vs2,
                         vuint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei8(vbool32_t vm, uint64_t *rs1, vuint8mf4_t vs2,
                         vuint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei8(vbool16_t vm, uint64_t *rs1, vuint8mf2_t vs2,
                         vuint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei16(vbool64_t vm, uint64_t *rs1, vuint16mf4_t vs2,
                          vuint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool32_t vm, uint64_t *rs1, vuint16mf2_t vs2,
                          vuint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei16(vbool32_t vm, uint64_t *rs1, vuint16mf2_t vs2,
                          vuint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei16(vbool32_t vm, uint64_t *rs1, vuint16mf2_t vs2,
                          vuint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei16(vbool16_t vm, uint64_t *rs1, vuint16m1_t vs2,
                          vuint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x6_t vs3, size_t vl);
```

```
void __riscv_vsuxseg7ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei32(vbool64_t vm, uint64_t *rs1, vuint32mf2_t vs2,
                          vuint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool32_t vm, uint64_t *rs1, vuint32m1_t vs2,
                          vuint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei32(vbool32_t vm, uint64_t *rs1, vuint32m1_t vs2,
                          vuint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei32(vbool32_t vm, uint64_t *rs1, vuint32m1_t vs2,
                          vuint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei32(vbool16_t vm, uint64_t *rs1, vuint32m2_t vs2,
                          vuint64m4x2_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x4_t vs3, size_t vl);
void __riscv_vsuxseg5ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x5_t vs3, size_t vl);
void __riscv_vsuxseg6ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x6_t vs3, size_t vl);
void __riscv_vsuxseg7ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x7_t vs3, size_t vl);
void __riscv_vsuxseg8ei64(vbool64_t vm, uint64_t *rs1, vuint64m1_t vs2,
                          vuint64m1x8_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool32_t vm, uint64_t *rs1, vuint64m2_t vs2,
                          vuint64m2x2_t vs3, size_t vl);
void __riscv_vsuxseg3ei64(vbool32_t vm, uint64_t *rs1, vuint64m2_t vs2,
                          vuint64m2x3_t vs3, size_t vl);
void __riscv_vsuxseg4ei64(vbool32_t vm, uint64_t *rs1, vuint64m2_t vs2,
                          vuint64m2x4_t vs3, size_t vl);
void __riscv_vsuxseg2ei64(vbool16_t vm, uint64_t *rs1, vuint64m4_t vs2,
                          vuint64m4x2_t vs3, size_t vl);
```

C.3. Vector Integer Arithmetic Intrinsics

C.3.1. Vector Single-Width Integer Add and Subtract Intrinsics

```
vint8mf8_t __riscv_vadd(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vadd(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vadd(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vadd(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vadd(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vadd(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vadd(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vadd(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vadd(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vadd(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vadd(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vadd(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vadd(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vadd(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vadd(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vadd(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vadd(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vadd(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vadd(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vadd(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vadd(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vadd(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vadd(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vadd(vint16m4_t vs2, int16_t rs1, size_t vl);
```

```
vint16m8_t __riscv_vadd(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vadd(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vadd(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vadd(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vadd(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vadd(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vadd(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vadd(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vadd(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vadd(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vadd(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vadd(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vadd(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vadd(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vadd(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vadd(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vadd(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vadd(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vadd(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vadd(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vsub(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsub(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsub(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsub(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsub(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsub(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vsub(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsub(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vsub(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsub(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vsub(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsub(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vsub(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsub(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsub(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsub(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsub(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsub(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vsub(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsub(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vsub(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsub(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vsub(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsub(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vsub(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsub(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsub(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsub(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vsub(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsub(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vsub(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsub(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vsub(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsub(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vsub(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsub(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vsub(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsub(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vsub(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsub(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vsub(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsub(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vsub(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsub(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrsub(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrsub(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrsub(vint8mf2_t vs2, int8_t rs1, size_t vl);
```

```
vint8m1_t __riscv_vrsub(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vrsub(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vrsub(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vrsub(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrsub(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrsub(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vrsub(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vrsub(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vrsub(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vrsub(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrsub(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vrsub(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vrsub(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vrsub(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vrsub(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vrsub(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vrsub(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vrsub(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vrsub(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vneg(vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vneg(vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vneg(vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vneg(vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vneg(vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vneg(vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vneg(vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vneg(vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vneg(vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vneg(vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vneg(vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vneg(vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vneg(vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vneg(vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vneg(vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vneg(vint32m2_t vs, size_t vl);
vint32m4_t __riscv_vneg(vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vneg(vint32m8_t vs, size_t vl);
vint64m1_t __riscv_vneg(vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vneg(vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vneg(vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vneg(vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vadd(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vadd(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vadd(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vadd(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vadd(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vadd(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vadd(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vadd(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vadd(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vadd(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vadd(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vadd(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vadd(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vadd(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vadd(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vadd(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vadd(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vadd(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vadd(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vadd(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vadd(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vadd(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vadd(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vadd(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vadd(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vadd(vuint16m8_t vs2, uint16_t rs1, size_t vl);
```

```
vuint32mf2_t __riscv_vadd(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vadd(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vadd(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vadd(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vadd(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vadd(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vadd(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vadd(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vadd(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vadd(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vadd(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vadd(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vadd(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vadd(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vadd(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vadd(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vadd(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vadd(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsub(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsub(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsub(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsub(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsub(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsub(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsub(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsub(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsub(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsub(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsub(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsub(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsub(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsub(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsub(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsub(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsub(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsub(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsub(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsub(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsub(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsub(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsub(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsub(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsub(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsub(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsub(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsub(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsub(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsub(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsub(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsub(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsub(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsub(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsub(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsub(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsub(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsub(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsub(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsub(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsub(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsub(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsub(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsub(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vrsub(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vrsub(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vrsub(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vrsub(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vrsub(vuint8m2_t vs2, uint8_t rs1, size_t vl);
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vuint8m4_t __riscv_vrsub(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vrsub(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vrsub(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vrsub(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vrsub(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vrsub(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vrsub(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vrsub(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vrsub(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vrsub(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vrsub(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vrsub(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vrsub(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vrsub(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vrsub(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vrsub(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vrsub(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vadd(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vint8mf8_t __riscv_vadd(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vadd(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vint8mf4_t __riscv_vadd(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vadd(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vint8mf2_t __riscv_vadd(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vadd(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vadd(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vadd(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vadd(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vadd(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vadd(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vadd(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vadd(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vadd(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                         size_t vl);
vint16mf4_t __riscv_vadd(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vadd(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                         size_t vl);
vint16mf2_t __riscv_vadd(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vadd(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vint16m1_t __riscv_vadd(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vadd(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vadd(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vadd(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vadd(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vadd(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vadd(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vadd(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                         size_t vl);
vint32mf2_t __riscv_vadd(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vadd(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vint32m1_t __riscv_vadd(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vadd(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vint32m2_t __riscv_vadd(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vadd(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vadd(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vadd(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vadd(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vadd(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vint64m1_t __riscv_vadd(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vadd(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
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                        size_t vl);
vint64m2_t __riscv_vadd(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vadd(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vint64m4_t __riscv_vadd(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vadd(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vadd(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vsub(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vint8mf8_t __riscv_vsub(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsub(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vint8mf4_t __riscv_vsub(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsub(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vint8mf2_t __riscv_vsub(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vsub(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsub(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vsub(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsub(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vsub(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsub(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vsub(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsub(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsub(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                         size_t vl);
vint16mf4_t __riscv_vsub(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsub(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                         size_t vl);
vint16mf2_t __riscv_vsub(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vsub(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vint16m1_t __riscv_vsub(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vsub(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsub(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vsub(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsub(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vsub(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsub(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsub(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                         size_t vl);
vint32mf2_t __riscv_vsub(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vsub(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vint32m1_t __riscv_vsub(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vsub(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vint32m2_t __riscv_vsub(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vsub(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsub(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vsub(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsub(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vsub(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vint64m1_t __riscv_vsub(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vsub(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vint64m2_t __riscv_vsub(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vsub(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vint64m4_t __riscv_vsub(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vsub(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsub(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrsub(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrsub(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrsub(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vrsub(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
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vint8m2_t __riscv_vrsub(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vrsub(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vrsub(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrsub(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                          size_t vl);
vint16mf2_t __riscv_vrsub(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                          size_t vl);
vint16m1_t __riscv_vrsub(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vrsub(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vrsub(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vrsub(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrsub(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                          size_t vl);
vint32m1_t __riscv_vrsub(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vrsub(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vrsub(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vrsub(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vrsub(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vrsub(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vrsub(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vrsub(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vneg(vbool64_t vm, vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vneg(vbool32_t vm, vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vneg(vbool16_t vm, vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vneg(vbool8_t vm, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vneg(vbool4_t vm, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vneg(vbool2_t vm, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vneg(vbool1_t vm, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vneg(vbool64_t vm, vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vneg(vbool32_t vm, vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vneg(vbool16_t vm, vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vneg(vbool8_t vm, vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vneg(vbool4_t vm, vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vneg(vbool2_t vm, vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vneg(vbool64_t vm, vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vneg(vbool32_t vm, vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vneg(vbool16_t vm, vint32m2_t vs, size_t vl);
vint32m4_t __riscv_vneg(vbool8_t vm, vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vneg(vbool4_t vm, vint32m8_t vs, size_t vl);
vint64m1_t __riscv_vneg(vbool64_t vm, vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vneg(vbool32_t vm, vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vneg(vbool16_t vm, vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vneg(vbool8_t vm, vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vadd(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                         size_t vl);
vuint8mf8_t __riscv_vadd(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vadd(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                         size_t vl);
vuint8mf4_t __riscv_vadd(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vadd(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                         size_t vl);
vuint8mf2_t __riscv_vadd(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vadd(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vadd(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vadd(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vadd(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vadd(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vadd(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vadd(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vadd(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vadd(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                          size_t vl);
vuint16mf4_t __riscv_vadd(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                          size_t vl);
vuint16mf2_t __riscv_vadd(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                          size_t vl);
vuint16mf2_t __riscv_vadd(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
```

```
                          size_t vl);
vuint16m1_t __riscv_vadd(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                         size_t vl);
vuint16m1_t __riscv_vadd(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                         size_t vl);
vuint16m2_t __riscv_vadd(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                         size_t vl);
vuint16m2_t __riscv_vadd(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vadd(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                         size_t vl);
vuint16m4_t __riscv_vadd(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vadd(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                         size_t vl);
vuint16m8_t __riscv_vadd(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vadd(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vuint32mf2_t __riscv_vadd(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m1_t __riscv_vadd(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                         size_t vl);
vuint32m1_t __riscv_vadd(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                         size_t vl);
vuint32m2_t __riscv_vadd(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                         size_t vl);
vuint32m2_t __riscv_vadd(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                         size_t vl);
vuint32m4_t __riscv_vadd(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                         size_t vl);
vuint32m4_t __riscv_vadd(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vadd(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                         size_t vl);
vuint32m8_t __riscv_vadd(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vadd(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                         size_t vl);
vuint64m1_t __riscv_vadd(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m2_t __riscv_vadd(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                         size_t vl);
vuint64m2_t __riscv_vadd(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m4_t __riscv_vadd(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                         size_t vl);
vuint64m4_t __riscv_vadd(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m8_t __riscv_vadd(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                         size_t vl);
vuint64m8_t __riscv_vadd(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsub(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                         size_t vl);
vuint8mf8_t __riscv_vsub(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsub(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                         size_t vl);
vuint8mf4_t __riscv_vsub(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsub(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                         size_t vl);
vuint8mf2_t __riscv_vsub(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsub(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsub(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsub(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsub(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsub(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsub(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsub(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsub(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsub(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                          size_t vl);
vuint16mf4_t __riscv_vsub(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
```

```
                          size_t vl);
vuint16mf2_t __riscv_vsub(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                          size_t vl);
vuint16mf2_t __riscv_vsub(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m1_t __riscv_vsub(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                         size_t vl);
vuint16m1_t __riscv_vsub(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                         size_t vl);
vuint16m2_t __riscv_vsub(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                         size_t vl);
vuint16m2_t __riscv_vsub(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsub(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                         size_t vl);
vuint16m4_t __riscv_vsub(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsub(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                         size_t vl);
vuint16m8_t __riscv_vsub(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsub(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vuint32mf2_t __riscv_vsub(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m1_t __riscv_vsub(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                         size_t vl);
vuint32m1_t __riscv_vsub(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                         size_t vl);
vuint32m2_t __riscv_vsub(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                         size_t vl);
vuint32m2_t __riscv_vsub(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                         size_t vl);
vuint32m4_t __riscv_vsub(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                         size_t vl);
vuint32m4_t __riscv_vsub(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsub(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                         size_t vl);
vuint32m8_t __riscv_vsub(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsub(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                         size_t vl);
vuint64m1_t __riscv_vsub(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m2_t __riscv_vsub(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                         size_t vl);
vuint64m2_t __riscv_vsub(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m4_t __riscv_vsub(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                         size_t vl);
vuint64m4_t __riscv_vsub(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m8_t __riscv_vsub(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                         size_t vl);
vuint64m8_t __riscv_vsub(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vrsub(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                          size_t vl);
vuint8mf4_t __riscv_vrsub(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                          size_t vl);
vuint8mf2_t __riscv_vrsub(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                          size_t vl);
vuint8m1_t __riscv_vrsub(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vrsub(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vrsub(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vrsub(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vrsub(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                           size_t vl);
vuint16mf2_t __riscv_vrsub(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m1_t __riscv_vrsub(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                          size_t vl);
```

```
vuint16m2_t __riscv_vrsub(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m4_t __riscv_vrsub(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m8_t __riscv_vrsub(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                          size_t vl);
vuint32mf2_t __riscv_vrsub(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m1_t __riscv_vrsub(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m2_t __riscv_vrsub(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m4_t __riscv_vrsub(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m8_t __riscv_vrsub(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                          size_t vl);
vuint64m1_t __riscv_vrsub(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m2_t __riscv_vrsub(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m4_t __riscv_vrsub(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m8_t __riscv_vrsub(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                          size_t vl);
```

C.3.2. Vector Widening Integer Add/Subtract Intrinsics

```
vint16mf4_t __riscv_vwadd_vv(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_vx(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwadd_wv(vint16mf4_t vs2, vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_wx(vint16mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_vv(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_vx(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_wv(vint16mf2_t vs2, vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_wx(vint16mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_vv(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_vx(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_wv(vint16m1_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_wx(vint16m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_vv(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_vx(vint8m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_wv(vint16m2_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_wx(vint16m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_vv(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_vx(vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_wv(vint16m4_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_wx(vint16m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_vv(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_vx(vint8m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_wv(vint16m8_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_wx(vint16m8_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_vv(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_vx(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_wv(vint32mf2_t vs2, vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_wx(vint32mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_vv(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_vx(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_wv(vint32m1_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_wx(vint32m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_vv(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_vx(vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_wv(vint32m2_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_wx(vint32m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_vv(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_vx(vint16m2_t vs2, int16_t rs1, size_t vl);
```

```
vint32m4_t __riscv_vwadd_wv(vint32m4_t vs2, vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_wx(vint32m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_vv(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_vx(vint16m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_wv(vint32m8_t vs2, vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_wx(vint32m8_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_vv(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_vx(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_wv(vint64m1_t vs2, vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_wx(vint64m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_vv(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_vx(vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_wv(vint64m2_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_wx(vint64m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_vv(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_vx(vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_wv(vint64m4_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_wx(vint64m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_vv(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_vx(vint32m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_wv(vint64m8_t vs2, vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_wx(vint64m8_t vs2, int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_vv(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_vx(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_wv(vint16mf4_t vs2, vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_wx(vint16mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_vv(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_vx(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_wv(vint16mf2_t vs2, vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_wx(vint16mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_vv(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_vx(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_wv(vint16m1_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_wx(vint16m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_vv(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_vx(vint8m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_wv(vint16m2_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_wx(vint16m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_vv(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_vx(vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_wv(vint16m4_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_wx(vint16m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_vv(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_vx(vint8m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_wv(vint16m8_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_wx(vint16m8_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_vv(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_vx(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_wv(vint32mf2_t vs2, vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_wx(vint32mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_vv(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_vx(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_wv(vint32m1_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_wx(vint32m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_vv(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_vx(vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_wv(vint32m2_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_wx(vint32m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_vv(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_vx(vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_wv(vint32m4_t vs2, vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_wx(vint32m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_vv(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_vx(vint16m4_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_wv(vint32m8_t vs2, vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_wx(vint32m8_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_vv(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
```

```
vint64m1_t __riscv_vwsub_vx(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_wv(vint64m1_t vs2, vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_wx(vint64m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_vv(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_vx(vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_wv(vint64m2_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_wx(vint64m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_vv(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_vx(vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_wv(vint64m4_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_wx(vint64m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_vv(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_vx(vint32m4_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_wv(vint64m8_t vs2, vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_wx(vint64m8_t vs2, int32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vv(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vx(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wv(vuint16mf4_t vs2, vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wx(vuint16mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vv(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vx(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wv(vuint16mf2_t vs2, vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wx(vuint16mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vv(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vx(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wv(vuint16m1_t vs2, vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wx(vuint16m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vv(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vx(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wv(vuint16m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wx(vuint16m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vv(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vx(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wv(vuint16m4_t vs2, vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wx(vuint16m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vv(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vx(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wv(vuint16m8_t vs2, vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wx(vuint16m8_t vs2, uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_vv(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_vx(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_wv(vuint32mf2_t vs2, vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_wx(vuint32mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vv(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vx(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wv(vuint32m1_t vs2, vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wx(vuint32m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vv(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vx(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wv(vuint32m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wx(vuint32m2_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vv(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vx(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wv(vuint32m4_t vs2, vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wx(vuint32m4_t vs2, uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vv(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vx(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wv(vuint32m8_t vs2, vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wx(vuint32m8_t vs2, uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vv(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vx(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wv(vuint64m1_t vs2, vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wx(vuint64m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vv(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vx(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wv(vuint64m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wx(vuint64m2_t vs2, uint32_t rs1, size_t vl);
```

```
vuint64m4_t __riscv_vwaddu_vv(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vx(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wv(vuint64m4_t vs2, vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wx(vuint64m4_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vv(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vx(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wv(vuint64m8_t vs2, vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wx(vuint64m8_t vs2, uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vv(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vx(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wv(vuint16mf4_t vs2, vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wx(vuint16mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vv(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vx(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wv(vuint16mf2_t vs2, vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wx(vuint16mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vv(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vx(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wv(vuint16m1_t vs2, vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wx(vuint16m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vv(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vx(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wv(vuint16m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wx(vuint16m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vv(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vx(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wv(vuint16m4_t vs2, vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wx(vuint16m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vv(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vx(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wv(vuint16m8_t vs2, vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wx(vuint16m8_t vs2, uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_vv(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_vx(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_wv(vuint32mf2_t vs2, vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_wx(vuint32mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vv(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vx(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wv(vuint32m1_t vs2, vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wx(vuint32m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vv(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vx(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wv(vuint32m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wx(vuint32m2_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vv(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vx(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wv(vuint32m4_t vs2, vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wx(vuint32m4_t vs2, uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vv(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vx(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wv(vuint32m8_t vs2, vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wx(vuint32m8_t vs2, uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_vv(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwsubu_vx(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_wv(vuint64m1_t vs2, vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwsubu_wx(vuint64m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_vv(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_vx(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wv(vuint64m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wx(vuint64m2_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vv(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vx(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wv(vuint64m4_t vs2, vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wx(vuint64m4_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vv(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vx(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wv(vuint64m8_t vs2, vuint32m4_t vs1, size_t vl);
```

```
vuint64m8_t __riscv_vwsubu_wx(vuint64m8_t vs2, uint32_t rs1, size_t vl);
// masked functions
vint16mf4_t __riscv_vwadd_vv(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                             size_t vl);
vint16mf4_t __riscv_vwadd_vx(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                             size_t vl);
vint16mf4_t __riscv_vwadd_wv(vbool64_t vm, vint16mf4_t vs2, vint8mf8_t vs1,
                             size_t vl);
vint16mf4_t __riscv_vwadd_wx(vbool64_t vm, vint16mf4_t vs2, int8_t rs1,
                             size_t vl);
vint16mf2_t __riscv_vwadd_vv(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                             size_t vl);
vint16mf2_t __riscv_vwadd_vx(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                             size_t vl);
vint16mf2_t __riscv_vwadd_wv(vbool32_t vm, vint16mf2_t vs2, vint8mf4_t vs1,
                             size_t vl);
vint16mf2_t __riscv_vwadd_wx(vbool32_t vm, vint16mf2_t vs2, int8_t rs1,
                             size_t vl);
vint16m1_t __riscv_vwadd_vv(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                            size_t vl);
vint16m1_t __riscv_vwadd_vx(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                            size_t vl);
vint16m1_t __riscv_vwadd_wv(vbool16_t vm, vint16m1_t vs2, vint8mf2_t vs1,
                            size_t vl);
vint16m1_t __riscv_vwadd_wx(vbool16_t vm, vint16m1_t vs2, int8_t rs1,
                            size_t vl);
vint16m2_t __riscv_vwadd_vv(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                            size_t vl);
vint16m2_t __riscv_vwadd_vx(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_wv(vbool8_t vm, vint16m2_t vs2, vint8m1_t vs1,
                            size_t vl);
vint16m2_t __riscv_vwadd_wx(vbool8_t vm, vint16m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_vv(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                            size_t vl);
vint16m4_t __riscv_vwadd_vx(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_wv(vbool4_t vm, vint16m4_t vs2, vint8m2_t vs1,
                            size_t vl);
vint16m4_t __riscv_vwadd_wx(vbool4_t vm, vint16m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_vv(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                            size_t vl);
vint16m8_t __riscv_vwadd_vx(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_wv(vbool2_t vm, vint16m8_t vs2, vint8m4_t vs1,
                            size_t vl);
vint16m8_t __riscv_vwadd_wx(vbool2_t vm, vint16m8_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_vv(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                             size_t vl);
vint32mf2_t __riscv_vwadd_vx(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                             size_t vl);
vint32mf2_t __riscv_vwadd_wv(vbool64_t vm, vint32mf2_t vs2, vint16mf4_t vs1,
                             size_t vl);
vint32mf2_t __riscv_vwadd_wx(vbool64_t vm, vint32mf2_t vs2, int16_t rs1,
                             size_t vl);
vint32m1_t __riscv_vwadd_vv(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint32m1_t __riscv_vwadd_vx(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint32m1_t __riscv_vwadd_wv(vbool32_t vm, vint32m1_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint32m1_t __riscv_vwadd_wx(vbool32_t vm, vint32m1_t vs2, int16_t rs1,
                            size_t vl);
vint32m2_t __riscv_vwadd_vv(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                            size_t vl);
vint32m2_t __riscv_vwadd_vx(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                            size_t vl);
vint32m2_t __riscv_vwadd_wv(vbool16_t vm, vint32m2_t vs2, vint16m1_t vs1,
                            size_t vl);
vint32m2_t __riscv_vwadd_wx(vbool16_t vm, vint32m2_t vs2, int16_t rs1,
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                            size_t vl);
vint32m4_t __riscv_vwadd_vv(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                            size_t vl);
vint32m4_t __riscv_vwadd_vx(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                            size_t vl);
vint32m4_t __riscv_vwadd_wv(vbool8_t vm, vint32m4_t vs2, vint16m2_t vs1,
                            size_t vl);
vint32m4_t __riscv_vwadd_wx(vbool8_t vm, vint32m4_t vs2, int16_t rs1,
                            size_t vl);
vint32m8_t __riscv_vwadd_vv(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                            size_t vl);
vint32m8_t __riscv_vwadd_vx(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                            size_t vl);
vint32m8_t __riscv_vwadd_wv(vbool4_t vm, vint32m8_t vs2, vint16m4_t vs1,
                            size_t vl);
vint32m8_t __riscv_vwadd_wx(vbool4_t vm, vint32m8_t vs2, int16_t rs1,
                            size_t vl);
vint64m1_t __riscv_vwadd_vv(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint64m1_t __riscv_vwadd_vx(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                            size_t vl);
vint64m1_t __riscv_vwadd_wv(vbool64_t vm, vint64m1_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint64m1_t __riscv_vwadd_wx(vbool64_t vm, vint64m1_t vs2, int32_t rs1,
                            size_t vl);
vint64m2_t __riscv_vwadd_vv(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                            size_t vl);
vint64m2_t __riscv_vwadd_vx(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                            size_t vl);
vint64m2_t __riscv_vwadd_wv(vbool32_t vm, vint64m2_t vs2, vint32m1_t vs1,
                            size_t vl);
vint64m2_t __riscv_vwadd_wx(vbool32_t vm, vint64m2_t vs2, int32_t rs1,
                            size_t vl);
vint64m4_t __riscv_vwadd_vv(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                            size_t vl);
vint64m4_t __riscv_vwadd_vx(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                            size_t vl);
vint64m4_t __riscv_vwadd_wv(vbool16_t vm, vint64m4_t vs2, vint32m2_t vs1,
                            size_t vl);
vint64m4_t __riscv_vwadd_wx(vbool16_t vm, vint64m4_t vs2, int32_t rs1,
                            size_t vl);
vint64m8_t __riscv_vwadd_vv(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                            size_t vl);
vint64m8_t __riscv_vwadd_vx(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                            size_t vl);
vint64m8_t __riscv_vwadd_wv(vbool8_t vm, vint64m8_t vs2, vint32m4_t vs1,
                            size_t vl);
vint64m8_t __riscv_vwadd_wx(vbool8_t vm, vint64m8_t vs2, int32_t rs1,
                            size_t vl);
vint16mf4_t __riscv_vwsub_vv(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                             size_t vl);
vint16mf4_t __riscv_vwsub_vx(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                             size_t vl);
vint16mf4_t __riscv_vwsub_wv(vbool64_t vm, vint16mf4_t vs2, vint8mf8_t vs1,
                             size_t vl);
vint16mf4_t __riscv_vwsub_wx(vbool64_t vm, vint16mf4_t vs2, int8_t rs1,
                             size_t vl);
vint16mf2_t __riscv_vwsub_vv(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                             size_t vl);
vint16mf2_t __riscv_vwsub_vx(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                             size_t vl);
vint16mf2_t __riscv_vwsub_wv(vbool32_t vm, vint16mf2_t vs2, vint8mf4_t vs1,
                             size_t vl);
vint16mf2_t __riscv_vwsub_wx(vbool32_t vm, vint16mf2_t vs2, int8_t rs1,
                             size_t vl);
vint16m1_t __riscv_vwsub_vv(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                            size_t vl);
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```
vint16m1_t __riscv_vwsub_vx(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                            size_t vl);
vint16m1_t __riscv_vwsub_wv(vbool16_t vm, vint16m1_t vs2, vint8mf2_t vs1,
                            size_t vl);
vint16m1_t __riscv_vwsub_wx(vbool16_t vm, vint16m1_t vs2, int8_t rs1,
                            size_t vl);
vint16m2_t __riscv_vwsub_vv(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                            size_t vl);
vint16m2_t __riscv_vwsub_vx(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_wv(vbool8_t vm, vint16m2_t vs2, vint8m1_t vs1,
                            size_t vl);
vint16m2_t __riscv_vwsub_wx(vbool8_t vm, vint16m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_vv(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                            size_t vl);
vint16m4_t __riscv_vwsub_vx(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_wv(vbool4_t vm, vint16m4_t vs2, vint8m2_t vs1,
                            size_t vl);
vint16m4_t __riscv_vwsub_wx(vbool4_t vm, vint16m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_vv(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                            size_t vl);
vint16m8_t __riscv_vwsub_vx(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_wv(vbool2_t vm, vint16m8_t vs2, vint8m4_t vs1,
                            size_t vl);
vint16m8_t __riscv_vwsub_wx(vbool2_t vm, vint16m8_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_vv(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                             size_t vl);
vint32mf2_t __riscv_vwsub_vx(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                             size_t vl);
vint32mf2_t __riscv_vwsub_wv(vbool64_t vm, vint32mf2_t vs2, vint16mf4_t vs1,
                             size_t vl);
vint32mf2_t __riscv_vwsub_wx(vbool64_t vm, vint32mf2_t vs2, int16_t rs1,
                             size_t vl);
vint32m1_t __riscv_vwsub_vv(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint32m1_t __riscv_vwsub_vx(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint32m1_t __riscv_vwsub_wv(vbool32_t vm, vint32m1_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint32m1_t __riscv_vwsub_wx(vbool32_t vm, vint32m1_t vs2, int16_t rs1,
                            size_t vl);
vint32m2_t __riscv_vwsub_vv(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                            size_t vl);
vint32m2_t __riscv_vwsub_vx(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                            size_t vl);
vint32m2_t __riscv_vwsub_wv(vbool16_t vm, vint32m2_t vs2, vint16m1_t vs1,
                            size_t vl);
vint32m2_t __riscv_vwsub_wx(vbool16_t vm, vint32m2_t vs2, int16_t rs1,
                            size_t vl);
vint32m4_t __riscv_vwsub_vv(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                            size_t vl);
vint32m4_t __riscv_vwsub_vx(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                            size_t vl);
vint32m4_t __riscv_vwsub_wv(vbool8_t vm, vint32m4_t vs2, vint16m2_t vs1,
                            size_t vl);
vint32m4_t __riscv_vwsub_wx(vbool8_t vm, vint32m4_t vs2, int16_t rs1,
                            size_t vl);
vint32m8_t __riscv_vwsub_vv(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                            size_t vl);
vint32m8_t __riscv_vwsub_vx(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                            size_t vl);
vint32m8_t __riscv_vwsub_wv(vbool4_t vm, vint32m8_t vs2, vint16m4_t vs1,
                            size_t vl);
vint32m8_t __riscv_vwsub_wx(vbool4_t vm, vint32m8_t vs2, int16_t rs1,
                            size_t vl);
vint64m1_t __riscv_vwsub_vv(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint64m1_t __riscv_vwsub_vx(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
```

```
                            size_t vl);
vint64m1_t __riscv_vwsub_wv(vbool64_t vm, vint64m1_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint64m1_t __riscv_vwsub_wx(vbool64_t vm, vint64m1_t vs2, int32_t rs1,
                            size_t vl);
vint64m2_t __riscv_vwsub_vv(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                            size_t vl);
vint64m2_t __riscv_vwsub_vx(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                            size_t vl);
vint64m2_t __riscv_vwsub_wv(vbool32_t vm, vint64m2_t vs2, vint32m1_t vs1,
                            size_t vl);
vint64m2_t __riscv_vwsub_wx(vbool32_t vm, vint64m2_t vs2, int32_t rs1,
                            size_t vl);
vint64m4_t __riscv_vwsub_vv(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                            size_t vl);
vint64m4_t __riscv_vwsub_vx(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                            size_t vl);
vint64m4_t __riscv_vwsub_wv(vbool16_t vm, vint64m4_t vs2, vint32m2_t vs1,
                            size_t vl);
vint64m4_t __riscv_vwsub_wx(vbool16_t vm, vint64m4_t vs2, int32_t rs1,
                            size_t vl);
vint64m8_t __riscv_vwsub_vv(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                            size_t vl);
vint64m8_t __riscv_vwsub_vx(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                            size_t vl);
vint64m8_t __riscv_vwsub_wv(vbool8_t vm, vint64m8_t vs2, vint32m4_t vs1,
                            size_t vl);
vint64m8_t __riscv_vwsub_wx(vbool8_t vm, vint64m8_t vs2, int32_t rs1,
                            size_t vl);
vuint16mf4_t __riscv_vwaddu_vv(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                               size_t vl);
vuint16mf4_t __riscv_vwaddu_vx(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                               size_t vl);
vuint16mf4_t __riscv_vwaddu_wv(vbool64_t vm, vuint16mf4_t vs2, vuint8mf8_t vs1,
                               size_t vl);
vuint16mf4_t __riscv_vwaddu_wx(vbool64_t vm, vuint16mf4_t vs2, uint8_t rs1,
                               size_t vl);
vuint16mf2_t __riscv_vwaddu_vv(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                               size_t vl);
vuint16mf2_t __riscv_vwaddu_vx(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                               size_t vl);
vuint16mf2_t __riscv_vwaddu_wv(vbool32_t vm, vuint16mf2_t vs2, vuint8mf4_t vs1,
                               size_t vl);
vuint16mf2_t __riscv_vwaddu_wx(vbool32_t vm, vuint16mf2_t vs2, uint8_t rs1,
                               size_t vl);
vuint16m1_t __riscv_vwaddu_vv(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vwaddu_vx(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                              size_t vl);
vuint16m1_t __riscv_vwaddu_wv(vbool16_t vm, vuint16m1_t vs2, vuint8mf2_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vwaddu_wx(vbool16_t vm, vuint16m1_t vs2, uint8_t rs1,
                              size_t vl);
vuint16m2_t __riscv_vwaddu_vv(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint16m2_t __riscv_vwaddu_vx(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                              size_t vl);
vuint16m2_t __riscv_vwaddu_wv(vbool8_t vm, vuint16m2_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint16m2_t __riscv_vwaddu_wx(vbool8_t vm, vuint16m2_t vs2, uint8_t rs1,
                              size_t vl);
vuint16m4_t __riscv_vwaddu_vv(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                              size_t vl);
vuint16m4_t __riscv_vwaddu_vx(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                              size_t vl);
vuint16m4_t __riscv_vwaddu_wv(vbool4_t vm, vuint16m4_t vs2, vuint8m2_t vs1,
                              size_t vl);
```

```
vuint16m4_t __riscv_vwaddu_wx(vbool4_t vm, vuint16m4_t vs2, uint8_t rs1,
                              size_t vl);
vuint16m8_t __riscv_vwaddu_vv(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                              size_t vl);
vuint16m8_t __riscv_vwaddu_vx(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                              size_t vl);
vuint16m8_t __riscv_vwaddu_wv(vbool2_t vm, vuint16m8_t vs2, vuint8m4_t vs1,
                              size_t vl);
vuint16m8_t __riscv_vwaddu_wx(vbool2_t vm, vuint16m8_t vs2, uint8_t rs1,
                              size_t vl);
vuint32mf2_t __riscv_vwaddu_vv(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                               size_t vl);
vuint32mf2_t __riscv_vwaddu_vx(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                               size_t vl);
vuint32mf2_t __riscv_vwaddu_wv(vbool64_t vm, vuint32mf2_t vs2, vuint16mf4_t vs1,
                               size_t vl);
vuint32mf2_t __riscv_vwaddu_wx(vbool64_t vm, vuint32mf2_t vs2, uint16_t rs1,
                               size_t vl);
vuint32m1_t __riscv_vwaddu_vv(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vwaddu_vx(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m1_t __riscv_vwaddu_wv(vbool32_t vm, vuint32m1_t vs2, vuint16mf2_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vwaddu_wx(vbool32_t vm, vuint32m1_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m2_t __riscv_vwaddu_vv(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint32m2_t __riscv_vwaddu_vx(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m2_t __riscv_vwaddu_wv(vbool16_t vm, vuint32m2_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint32m2_t __riscv_vwaddu_wx(vbool16_t vm, vuint32m2_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m4_t __riscv_vwaddu_vv(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                              size_t vl);
vuint32m4_t __riscv_vwaddu_vx(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m4_t __riscv_vwaddu_wv(vbool8_t vm, vuint32m4_t vs2, vuint16m2_t vs1,
                              size_t vl);
vuint32m4_t __riscv_vwaddu_wx(vbool8_t vm, vuint32m4_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m8_t __riscv_vwaddu_vv(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                              size_t vl);
vuint32m8_t __riscv_vwaddu_vx(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m8_t __riscv_vwaddu_wv(vbool4_t vm, vuint32m8_t vs2, vuint16m4_t vs1,
                              size_t vl);
vuint32m8_t __riscv_vwaddu_wx(vbool4_t vm, vuint32m8_t vs2, uint16_t rs1,
                              size_t vl);
vuint64m1_t __riscv_vwaddu_vv(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vwaddu_vx(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m1_t __riscv_vwaddu_wv(vbool64_t vm, vuint64m1_t vs2, vuint32mf2_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vwaddu_wx(vbool64_t vm, vuint64m1_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m2_t __riscv_vwaddu_vv(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint64m2_t __riscv_vwaddu_vx(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m2_t __riscv_vwaddu_wv(vbool32_t vm, vuint64m2_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint64m2_t __riscv_vwaddu_wx(vbool32_t vm, vuint64m2_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m4_t __riscv_vwaddu_vv(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
```

```
                                size_t vl);
vuint64m4_t __riscv_vwaddu_vx(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m4_t __riscv_vwaddu_wv(vbool16_t vm, vuint64m4_t vs2, vuint32m2_t vs1,
                                size_t vl);
vuint64m4_t __riscv_vwaddu_wx(vbool16_t vm, vuint64m4_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m8_t __riscv_vwaddu_vv(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                                size_t vl);
vuint64m8_t __riscv_vwaddu_vx(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m8_t __riscv_vwaddu_wv(vbool8_t vm, vuint64m8_t vs2, vuint32m4_t vs1,
                                size_t vl);
vuint64m8_t __riscv_vwaddu_wx(vbool8_t vm, vuint64m8_t vs2, uint32_t rs1,
                                size_t vl);
vuint16mf4_t __riscv_vwsubu_vv(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                                 size_t vl);
vuint16mf4_t __riscv_vwsubu_vx(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16mf4_t __riscv_vwsubu_wv(vbool64_t vm, vuint16mf4_t vs2, vuint8mf8_t vs1,
                                 size_t vl);
vuint16mf4_t __riscv_vwsubu_wx(vbool64_t vm, vuint16mf4_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16mf2_t __riscv_vwsubu_vv(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                                 size_t vl);
vuint16mf2_t __riscv_vwsubu_vx(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16mf2_t __riscv_vwsubu_wv(vbool32_t vm, vuint16mf2_t vs2, vuint8mf4_t vs1,
                                 size_t vl);
vuint16mf2_t __riscv_vwsubu_wx(vbool32_t vm, vuint16mf2_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16m1_t __riscv_vwsubu_vv(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                                size_t vl);
vuint16m1_t __riscv_vwsubu_vx(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                size_t vl);
vuint16m1_t __riscv_vwsubu_wv(vbool16_t vm, vuint16m1_t vs2, vuint8mf2_t vs1,
                                size_t vl);
vuint16m1_t __riscv_vwsubu_wx(vbool16_t vm, vuint16m1_t vs2, uint8_t rs1,
                                size_t vl);
vuint16m2_t __riscv_vwsubu_vv(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                                size_t vl);
vuint16m2_t __riscv_vwsubu_vx(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                                size_t vl);
vuint16m2_t __riscv_vwsubu_wv(vbool8_t vm, vuint16m2_t vs2, vuint8m1_t vs1,
                                size_t vl);
vuint16m2_t __riscv_vwsubu_wx(vbool8_t vm, vuint16m2_t vs2, uint8_t rs1,
                                size_t vl);
vuint16m4_t __riscv_vwsubu_vv(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                                size_t vl);
vuint16m4_t __riscv_vwsubu_vx(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                                size_t vl);
vuint16m4_t __riscv_vwsubu_wv(vbool4_t vm, vuint16m4_t vs2, vuint8m2_t vs1,
                                size_t vl);
vuint16m4_t __riscv_vwsubu_wx(vbool4_t vm, vuint16m4_t vs2, uint8_t rs1,
                                size_t vl);
vuint16m8_t __riscv_vwsubu_vv(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                                size_t vl);
vuint16m8_t __riscv_vwsubu_vx(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                                size_t vl);
vuint16m8_t __riscv_vwsubu_wv(vbool2_t vm, vuint16m8_t vs2, vuint8m4_t vs1,
                                size_t vl);
vuint16m8_t __riscv_vwsubu_wx(vbool2_t vm, vuint16m8_t vs2, uint8_t rs1,
                                size_t vl);
vuint32mf2_t __riscv_vwsubu_vv(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                                 size_t vl);
vuint32mf2_t __riscv_vwsubu_vx(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                                 size_t vl);
```

```
vuint32mf2_t __riscv_vwsubu_wv(vbool64_t vm, vuint32mf2_t vs2, vuint16mf4_t vs1,
                               size_t vl);
vuint32mf2_t __riscv_vwsubu_wx(vbool64_t vm, vuint32mf2_t vs2, uint16_t rs1,
                               size_t vl);
vuint32m1_t __riscv_vwsubu_vv(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vwsubu_vx(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m1_t __riscv_vwsubu_wv(vbool32_t vm, vuint32m1_t vs2, vuint16mf2_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vwsubu_wx(vbool32_t vm, vuint32m1_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m2_t __riscv_vwsubu_vv(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint32m2_t __riscv_vwsubu_vx(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m2_t __riscv_vwsubu_wv(vbool16_t vm, vuint32m2_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint32m2_t __riscv_vwsubu_wx(vbool16_t vm, vuint32m2_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m4_t __riscv_vwsubu_vv(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                              size_t vl);
vuint32m4_t __riscv_vwsubu_vx(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m4_t __riscv_vwsubu_wv(vbool8_t vm, vuint32m4_t vs2, vuint16m2_t vs1,
                              size_t vl);
vuint32m4_t __riscv_vwsubu_wx(vbool8_t vm, vuint32m4_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m8_t __riscv_vwsubu_vv(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                              size_t vl);
vuint32m8_t __riscv_vwsubu_vx(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m8_t __riscv_vwsubu_wv(vbool4_t vm, vuint32m8_t vs2, vuint16m4_t vs1,
                              size_t vl);
vuint32m8_t __riscv_vwsubu_wx(vbool4_t vm, vuint32m8_t vs2, uint16_t rs1,
                              size_t vl);
vuint64m1_t __riscv_vwsubu_vv(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vwsubu_vx(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m1_t __riscv_vwsubu_wv(vbool64_t vm, vuint64m1_t vs2, vuint32mf2_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vwsubu_wx(vbool64_t vm, vuint64m1_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m2_t __riscv_vwsubu_vv(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint64m2_t __riscv_vwsubu_vx(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m2_t __riscv_vwsubu_wv(vbool32_t vm, vuint64m2_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint64m2_t __riscv_vwsubu_wx(vbool32_t vm, vuint64m2_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m4_t __riscv_vwsubu_vv(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                              size_t vl);
vuint64m4_t __riscv_vwsubu_vx(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m4_t __riscv_vwsubu_wv(vbool16_t vm, vuint64m4_t vs2, vuint32m2_t vs1,
                              size_t vl);
vuint64m4_t __riscv_vwsubu_wx(vbool16_t vm, vuint64m4_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m8_t __riscv_vwsubu_vv(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                              size_t vl);
vuint64m8_t __riscv_vwsubu_vx(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m8_t __riscv_vwsubu_wv(vbool8_t vm, vuint64m8_t vs2, vuint32m4_t vs1,
                              size_t vl);
vuint64m8_t __riscv_vwsubu_wx(vbool8_t vm, vuint64m8_t vs2, uint32_t rs1,
```

```
                                size_t vl);
```

C.3.3. Vector Integer Widening Intrinsics

```
vint16mf4_t __riscv_vwcvt_x(vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwcvt_x(vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwcvt_x(vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwcvt_x(vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwcvt_x(vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwcvt_x(vint8m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwcvtu_x(vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwcvtu_x(vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwcvtu_x(vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwcvtu_x(vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwcvtu_x(vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwcvtu_x(vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwcvt_x(vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwcvt_x(vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwcvt_x(vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwcvt_x(vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwcvt_x(vint16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwcvtu_x(vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwcvtu_x(vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwcvtu_x(vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwcvtu_x(vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwcvtu_x(vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwcvt_x(vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwcvt_x(vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwcvt_x(vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwcvt_x(vint32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwcvtu_x(vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwcvtu_x(vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwcvtu_x(vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vwcvtu_x(vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vwcvt_x(vbool64_t vm, vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwcvt_x(vbool32_t vm, vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwcvt_x(vbool16_t vm, vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwcvt_x(vbool8_t vm, vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwcvt_x(vbool4_t vm, vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwcvt_x(vbool2_t vm, vint8m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwcvtu_x(vbool64_t vm, vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwcvtu_x(vbool32_t vm, vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwcvtu_x(vbool16_t vm, vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwcvtu_x(vbool8_t vm, vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwcvtu_x(vbool4_t vm, vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwcvtu_x(vbool2_t vm, vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwcvt_x(vbool64_t vm, vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwcvt_x(vbool32_t vm, vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwcvt_x(vbool16_t vm, vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwcvt_x(vbool8_t vm, vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwcvt_x(vbool4_t vm, vint16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwcvtu_x(vbool64_t vm, vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwcvtu_x(vbool32_t vm, vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwcvtu_x(vbool16_t vm, vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwcvtu_x(vbool8_t vm, vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwcvtu_x(vbool4_t vm, vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwcvt_x(vbool64_t vm, vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwcvt_x(vbool32_t vm, vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwcvt_x(vbool16_t vm, vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwcvt_x(vbool8_t vm, vint32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwcvtu_x(vbool64_t vm, vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwcvtu_x(vbool32_t vm, vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwcvtu_x(vbool16_t vm, vuint32m2_t vs2, size_t vl);
```

```
vuint64m8_t __riscv_vwcvtu_x(vbool8_t vm, vuint32m4_t vs2, size_t vl);
```

C.3.4. Vector Integer Extension Intrinsics

```
vint16mf4_t __riscv_vsext_vf2(vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vsext_vf2(vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vsext_vf2(vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vsext_vf2(vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vsext_vf2(vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vsext_vf2(vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf4(vint8mf8_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf4(vint8mf4_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf4(vint8mf2_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf4(vint8m1_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf4(vint8m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf8(vint8mf8_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf8(vint8mf4_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf8(vint8mf2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf8(vint8m1_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf2(vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf2(vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf2(vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf2(vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf2(vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf4(vint16mf4_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf4(vint16mf2_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf4(vint16m1_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf4(vint16m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf2(vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf2(vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf2(vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf2(vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vzext_vf2(vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vzext_vf2(vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vzext_vf2(vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vzext_vf2(vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vzext_vf2(vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vzext_vf2(vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf4(vuint8mf8_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf4(vuint8mf4_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf4(vuint8mf2_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf4(vuint8m1_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf4(vuint8m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf8(vuint8mf8_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf8(vuint8mf4_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf8(vuint8mf2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf8(vuint8m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf2(vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf2(vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf2(vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf2(vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf2(vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf4(vuint16mf4_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf4(vuint16mf2_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf4(vuint16m1_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf4(vuint16m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf2(vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf2(vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf2(vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf2(vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vsext_vf2(vbool64_t vm, vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vsext_vf2(vbool32_t vm, vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vsext_vf2(vbool16_t vm, vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vsext_vf2(vbool8_t vm, vint8m1_t vs2, size_t vl);
```

```
vint16m4_t __riscv_vsext_vf2(vbool4_t vm, vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vsext_vf2(vbool2_t vm, vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf4(vbool64_t vm, vint8mf8_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf4(vbool32_t vm, vint8mf4_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf4(vbool16_t vm, vint8mf2_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf4(vbool8_t vm, vint8m1_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf4(vbool4_t vm, vint8m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf8(vbool64_t vm, vint8mf8_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf8(vbool32_t vm, vint8mf4_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf8(vbool16_t vm, vint8mf2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf8(vbool8_t vm, vint8m1_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf2(vbool64_t vm, vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf2(vbool32_t vm, vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf2(vbool16_t vm, vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf2(vbool8_t vm, vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf2(vbool4_t vm, vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf4(vbool64_t vm, vint16mf4_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf4(vbool32_t vm, vint16mf2_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf4(vbool16_t vm, vint16m1_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf4(vbool8_t vm, vint16m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf2(vbool64_t vm, vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf2(vbool32_t vm, vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf2(vbool16_t vm, vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf2(vbool8_t vm, vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vzext_vf2(vbool64_t vm, vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vzext_vf2(vbool32_t vm, vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vzext_vf2(vbool16_t vm, vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vzext_vf2(vbool8_t vm, vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vzext_vf2(vbool4_t vm, vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vzext_vf2(vbool2_t vm, vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf4(vbool64_t vm, vuint8mf8_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf4(vbool32_t vm, vuint8mf4_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf4(vbool16_t vm, vuint8mf2_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf4(vbool8_t vm, vuint8m1_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf4(vbool4_t vm, vuint8m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf8(vbool64_t vm, vuint8mf8_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf8(vbool32_t vm, vuint8mf4_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf8(vbool16_t vm, vuint8mf2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf8(vbool8_t vm, vuint8m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf2(vbool64_t vm, vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf2(vbool32_t vm, vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf2(vbool16_t vm, vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf2(vbool8_t vm, vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf2(vbool4_t vm, vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf4(vbool64_t vm, vuint16mf4_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf4(vbool32_t vm, vuint16mf2_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf4(vbool16_t vm, vuint16m1_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf4(vbool8_t vm, vuint16m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf2(vbool64_t vm, vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf2(vbool32_t vm, vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf2(vbool16_t vm, vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf2(vbool8_t vm, vuint32m4_t vs2, size_t vl);
```

C.3.5. Vector Integer Add-with-Carry / Subtract-with-Borrow Intrinsics

```
vint8mf8_t __riscv_vadc(vint8mf8_t vs2, vint8mf8_t vs1, vbool64_t v0,
                        size_t vl);
vint8mf8_t __riscv_vadc(vint8mf8_t vs2, int8_t rs1, vbool64_t v0, size_t vl);
vint8mf4_t __riscv_vadc(vint8mf4_t vs2, vint8mf4_t vs1, vbool32_t v0,
                        size_t vl);
vint8mf4_t __riscv_vadc(vint8mf4_t vs2, int8_t rs1, vbool32_t v0, size_t vl);
vint8mf2_t __riscv_vadc(vint8mf2_t vs2, vint8mf2_t vs1, vbool16_t v0,
                        size_t vl);
vint8mf2_t __riscv_vadc(vint8mf2_t vs2, int8_t rs1, vbool16_t v0, size_t vl);
vint8m1_t __riscv_vadc(vint8m1_t vs2, vint8m1_t vs1, vbool8_t v0, size_t vl);
```

```
vint8m1_t __riscv_vadc(vint8m1_t vs2, int8_t rs1, vbool8_t v0, size_t vl);
vint8m2_t __riscv_vadc(vint8m2_t vs2, vint8m2_t vs1, vbool4_t v0, size_t vl);
vint8m2_t __riscv_vadc(vint8m2_t vs2, int8_t rs1, vbool4_t v0, size_t vl);
vint8m4_t __riscv_vadc(vint8m4_t vs2, vint8m4_t vs1, vbool2_t v0, size_t vl);
vint8m4_t __riscv_vadc(vint8m4_t vs2, int8_t rs1, vbool2_t v0, size_t vl);
vint8m8_t __riscv_vadc(vint8m8_t vs2, vint8m8_t vs1, vbool1_t v0, size_t vl);
vint8m8_t __riscv_vadc(vint8m8_t vs2, int8_t rs1, vbool1_t v0, size_t vl);
vint16mf4_t __riscv_vadc(vint16mf4_t vs2, vint16mf4_t vs1, vbool64_t v0,
                         size_t vl);
vint16mf4_t __riscv_vadc(vint16mf4_t vs2, int16_t rs1, vbool64_t v0, size_t vl);
vint16mf2_t __riscv_vadc(vint16mf2_t vs2, vint16mf2_t vs1, vbool32_t v0,
                         size_t vl);
vint16mf2_t __riscv_vadc(vint16mf2_t vs2, int16_t rs1, vbool32_t v0, size_t vl);
vint16m1_t __riscv_vadc(vint16m1_t vs2, vint16m1_t vs1, vbool16_t v0,
                        size_t vl);
vint16m1_t __riscv_vadc(vint16m1_t vs2, int16_t rs1, vbool16_t v0, size_t vl);
vint16m2_t __riscv_vadc(vint16m2_t vs2, vint16m2_t vs1, vbool8_t v0, size_t vl);
vint16m2_t __riscv_vadc(vint16m2_t vs2, int16_t rs1, vbool8_t v0, size_t vl);
vint16m4_t __riscv_vadc(vint16m4_t vs2, vint16m4_t vs1, vbool4_t v0, size_t vl);
vint16m4_t __riscv_vadc(vint16m4_t vs2, int16_t rs1, vbool4_t v0, size_t vl);
vint16m8_t __riscv_vadc(vint16m8_t vs2, vint16m8_t vs1, vbool2_t v0, size_t vl);
vint16m8_t __riscv_vadc(vint16m8_t vs2, int16_t rs1, vbool2_t v0, size_t vl);
vint32mf2_t __riscv_vadc(vint32mf2_t vs2, vint32mf2_t vs1, vbool64_t v0,
                         size_t vl);
vint32mf2_t __riscv_vadc(vint32mf2_t vs2, int32_t rs1, vbool64_t v0, size_t vl);
vint32m1_t __riscv_vadc(vint32m1_t vs2, vint32m1_t vs1, vbool32_t v0,
                        size_t vl);
vint32m1_t __riscv_vadc(vint32m1_t vs2, int32_t rs1, vbool32_t v0, size_t vl);
vint32m2_t __riscv_vadc(vint32m2_t vs2, vint32m2_t vs1, vbool16_t v0,
                        size_t vl);
vint32m2_t __riscv_vadc(vint32m2_t vs2, int32_t rs1, vbool16_t v0, size_t vl);
vint32m4_t __riscv_vadc(vint32m4_t vs2, vint32m4_t vs1, vbool8_t v0, size_t vl);
vint32m4_t __riscv_vadc(vint32m4_t vs2, int32_t rs1, vbool8_t v0, size_t vl);
vint32m8_t __riscv_vadc(vint32m8_t vs2, vint32m8_t vs1, vbool4_t v0, size_t vl);
vint32m8_t __riscv_vadc(vint32m8_t vs2, int32_t rs1, vbool4_t v0, size_t vl);
vint64m1_t __riscv_vadc(vint64m1_t vs2, vint64m1_t vs1, vbool64_t v0,
                        size_t vl);
vint64m1_t __riscv_vadc(vint64m1_t vs2, int64_t rs1, vbool64_t v0, size_t vl);
vint64m2_t __riscv_vadc(vint64m2_t vs2, vint64m2_t vs1, vbool32_t v0,
                        size_t vl);
vint64m2_t __riscv_vadc(vint64m2_t vs2, int64_t rs1, vbool32_t v0, size_t vl);
vint64m4_t __riscv_vadc(vint64m4_t vs2, vint64m4_t vs1, vbool16_t v0,
                        size_t vl);
vint64m4_t __riscv_vadc(vint64m4_t vs2, int64_t rs1, vbool16_t v0, size_t vl);
vint64m8_t __riscv_vadc(vint64m8_t vs2, vint64m8_t vs1, vbool8_t v0, size_t vl);
vint64m8_t __riscv_vadc(vint64m8_t vs2, int64_t rs1, vbool8_t v0, size_t vl);
vint8mf8_t __riscv_vsbc(vint8mf8_t vs2, vint8mf8_t vs1, vbool64_t v0,
                        size_t vl);
vint8mf8_t __riscv_vsbc(vint8mf8_t vs2, int8_t rs1, vbool64_t v0, size_t vl);
vint8mf4_t __riscv_vsbc(vint8mf4_t vs2, vint8mf4_t vs1, vbool32_t v0,
                        size_t vl);
vint8mf4_t __riscv_vsbc(vint8mf4_t vs2, int8_t rs1, vbool32_t v0, size_t vl);
vint8mf2_t __riscv_vsbc(vint8mf2_t vs2, vint8mf2_t vs1, vbool16_t v0,
                        size_t vl);
vint8mf2_t __riscv_vsbc(vint8mf2_t vs2, int8_t rs1, vbool16_t v0, size_t vl);
vint8m1_t __riscv_vsbc(vint8m1_t vs2, vint8m1_t vs1, vbool8_t v0, size_t vl);
vint8m1_t __riscv_vsbc(vint8m1_t vs2, int8_t rs1, vbool8_t v0, size_t vl);
vint8m2_t __riscv_vsbc(vint8m2_t vs2, vint8m2_t vs1, vbool4_t v0, size_t vl);
vint8m2_t __riscv_vsbc(vint8m2_t vs2, int8_t rs1, vbool4_t v0, size_t vl);
vint8m4_t __riscv_vsbc(vint8m4_t vs2, vint8m4_t vs1, vbool2_t v0, size_t vl);
vint8m4_t __riscv_vsbc(vint8m4_t vs2, int8_t rs1, vbool2_t v0, size_t vl);
vint8m8_t __riscv_vsbc(vint8m8_t vs2, vint8m8_t vs1, vbool1_t v0, size_t vl);
vint8m8_t __riscv_vsbc(vint8m8_t vs2, int8_t rs1, vbool1_t v0, size_t vl);
vint16mf4_t __riscv_vsbc(vint16mf4_t vs2, vint16mf4_t vs1, vbool64_t v0,
                         size_t vl);
vint16mf4_t __riscv_vsbc(vint16mf4_t vs2, int16_t rs1, vbool64_t v0, size_t vl);
vint16mf2_t __riscv_vsbc(vint16mf2_t vs2, vint16mf2_t vs1, vbool32_t v0,
```

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                          size_t vl);
vint16mf2_t __riscv_vsbc(vint16mf2_t vs2, int16_t rs1, vbool32_t v0, size_t vl);
vint16m1_t __riscv_vsbc(vint16m1_t vs2, vint16m1_t vs1, vbool16_t v0,
                        size_t vl);
vint16m1_t __riscv_vsbc(vint16m1_t vs2, int16_t rs1, vbool16_t v0, size_t vl);
vint16m2_t __riscv_vsbc(vint16m2_t vs2, vint16m2_t vs1, vbool8_t v0, size_t vl);
vint16m2_t __riscv_vsbc(vint16m2_t vs2, int16_t rs1, vbool8_t v0, size_t vl);
vint16m4_t __riscv_vsbc(vint16m4_t vs2, vint16m4_t vs1, vbool4_t v0, size_t vl);
vint16m4_t __riscv_vsbc(vint16m4_t vs2, int16_t rs1, vbool4_t v0, size_t vl);
vint16m8_t __riscv_vsbc(vint16m8_t vs2, vint16m8_t vs1, vbool2_t v0, size_t vl);
vint16m8_t __riscv_vsbc(vint16m8_t vs2, int16_t rs1, vbool2_t v0, size_t vl);
vint32mf2_t __riscv_vsbc(vint32mf2_t vs2, vint32mf2_t vs1, vbool64_t v0,
                         size_t vl);
vint32mf2_t __riscv_vsbc(vint32mf2_t vs2, int32_t rs1, vbool64_t v0, size_t vl);
vint32m1_t __riscv_vsbc(vint32m1_t vs2, vint32m1_t vs1, vbool32_t v0,
                        size_t vl);
vint32m1_t __riscv_vsbc(vint32m1_t vs2, int32_t rs1, vbool32_t v0, size_t vl);
vint32m2_t __riscv_vsbc(vint32m2_t vs2, vint32m2_t vs1, vbool16_t v0,
                        size_t vl);
vint32m2_t __riscv_vsbc(vint32m2_t vs2, int32_t rs1, vbool16_t v0, size_t vl);
vint32m4_t __riscv_vsbc(vint32m4_t vs2, vint32m4_t vs1, vbool8_t v0, size_t vl);
vint32m4_t __riscv_vsbc(vint32m4_t vs2, int32_t rs1, vbool8_t v0, size_t vl);
vint32m8_t __riscv_vsbc(vint32m8_t vs2, vint32m8_t vs1, vbool4_t v0, size_t vl);
vint32m8_t __riscv_vsbc(vint32m8_t vs2, int32_t rs1, vbool4_t v0, size_t vl);
vint64m1_t __riscv_vsbc(vint64m1_t vs2, vint64m1_t vs1, vbool64_t v0,
                        size_t vl);
vint64m1_t __riscv_vsbc(vint64m1_t vs2, int64_t rs1, vbool64_t v0, size_t vl);
vint64m2_t __riscv_vsbc(vint64m2_t vs2, vint64m2_t vs1, vbool32_t v0,
                        size_t vl);
vint64m2_t __riscv_vsbc(vint64m2_t vs2, int64_t rs1, vbool32_t v0, size_t vl);
vint64m4_t __riscv_vsbc(vint64m4_t vs2, vint64m4_t vs1, vbool16_t v0,
                        size_t vl);
vint64m4_t __riscv_vsbc(vint64m4_t vs2, int64_t rs1, vbool16_t v0, size_t vl);
vint64m8_t __riscv_vsbc(vint64m8_t vs2, vint64m8_t vs1, vbool8_t v0, size_t vl);
vint64m8_t __riscv_vsbc(vint64m8_t vs2, int64_t rs1, vbool8_t v0, size_t vl);
vuint8mf8_t __riscv_vadc(vuint8mf8_t vs2, vuint8mf8_t vs1, vbool64_t v0,
                         size_t vl);
vuint8mf8_t __riscv_vadc(vuint8mf8_t vs2, uint8_t rs1, vbool64_t v0, size_t vl);
vuint8mf4_t __riscv_vadc(vuint8mf4_t vs2, vuint8mf4_t vs1, vbool32_t v0,
                         size_t vl);
vuint8mf4_t __riscv_vadc(vuint8mf4_t vs2, uint8_t rs1, vbool32_t v0, size_t vl);
vuint8mf2_t __riscv_vadc(vuint8mf2_t vs2, vuint8mf2_t vs1, vbool16_t v0,
                         size_t vl);
vuint8mf2_t __riscv_vadc(vuint8mf2_t vs2, uint8_t rs1, vbool16_t v0, size_t vl);
vuint8m1_t __riscv_vadc(vuint8m1_t vs2, vuint8m1_t vs1, vbool8_t v0, size_t vl);
vuint8m1_t __riscv_vadc(vuint8m1_t vs2, uint8_t rs1, vbool8_t v0, size_t vl);
vuint8m2_t __riscv_vadc(vuint8m2_t vs2, vuint8m2_t vs1, vbool4_t v0, size_t vl);
vuint8m2_t __riscv_vadc(vuint8m2_t vs2, uint8_t rs1, vbool4_t v0, size_t vl);
vuint8m4_t __riscv_vadc(vuint8m4_t vs2, vuint8m4_t vs1, vbool2_t v0, size_t vl);
vuint8m4_t __riscv_vadc(vuint8m4_t vs2, uint8_t rs1, vbool2_t v0, size_t vl);
vuint8m8_t __riscv_vadc(vuint8m8_t vs2, vuint8m8_t vs1, vbool1_t v0, size_t vl);
vuint8m8_t __riscv_vadc(vuint8m8_t vs2, uint8_t rs1, vbool1_t v0, size_t vl);
vuint16mf4_t __riscv_vadc(vuint16mf4_t vs2, vuint16mf4_t vs1, vbool64_t v0,
                          size_t vl);
vuint16mf4_t __riscv_vadc(vuint16mf4_t vs2, uint16_t rs1, vbool64_t v0,
                          size_t vl);
vuint16mf2_t __riscv_vadc(vuint16mf2_t vs2, vuint16mf2_t vs1, vbool32_t v0,
                          size_t vl);
vuint16mf2_t __riscv_vadc(vuint16mf2_t vs2, uint16_t rs1, vbool32_t v0,
                          size_t vl);
vuint16m1_t __riscv_vadc(vuint16m1_t vs2, vuint16m1_t vs1, vbool16_t v0,
                         size_t vl);
vuint16m1_t __riscv_vadc(vuint16m1_t vs2, uint16_t rs1, vbool16_t v0,
                         size_t vl);
vuint16m2_t __riscv_vadc(vuint16m2_t vs2, vuint16m2_t vs1, vbool8_t v0,
                         size_t vl);
vuint16m2_t __riscv_vadc(vuint16m2_t vs2, uint16_t rs1, vbool8_t v0, size_t vl);
```

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vuint16m4_t __riscv_vadc(vuint16m4_t vs2, vuint16m4_t vs1, vbool4_t v0,
                         size_t vl);
vuint16m4_t __riscv_vadc(vuint16m4_t vs2, uint16_t rs1, vbool4_t v0, size_t vl);
vuint16m8_t __riscv_vadc(vuint16m8_t vs2, vuint16m8_t vs1, vbool2_t v0,
                         size_t vl);
vuint16m8_t __riscv_vadc(vuint16m8_t vs2, uint16_t rs1, vbool2_t v0, size_t vl);
vuint32mf2_t __riscv_vadc(vuint32mf2_t vs2, vuint32mf2_t vs1, vbool64_t v0,
                          size_t vl);
vuint32mf2_t __riscv_vadc(vuint32mf2_t vs2, uint32_t rs1, vbool64_t v0,
                          size_t vl);
vuint32m1_t __riscv_vadc(vuint32m1_t vs2, vuint32m1_t vs1, vbool32_t v0,
                         size_t vl);
vuint32m1_t __riscv_vadc(vuint32m1_t vs2, uint32_t rs1, vbool32_t v0,
                         size_t vl);
vuint32m2_t __riscv_vadc(vuint32m2_t vs2, vuint32m2_t vs1, vbool16_t v0,
                         size_t vl);
vuint32m2_t __riscv_vadc(vuint32m2_t vs2, uint32_t rs1, vbool16_t v0,
                         size_t vl);
vuint32m4_t __riscv_vadc(vuint32m4_t vs2, vuint32m4_t vs1, vbool8_t v0,
                         size_t vl);
vuint32m4_t __riscv_vadc(vuint32m4_t vs2, uint32_t rs1, vbool8_t v0, size_t vl);
vuint32m8_t __riscv_vadc(vuint32m8_t vs2, vuint32m8_t vs1, vbool4_t v0,
                         size_t vl);
vuint32m8_t __riscv_vadc(vuint32m8_t vs2, uint32_t rs1, vbool4_t v0, size_t vl);
vuint64m1_t __riscv_vadc(vuint64m1_t vs2, vuint64m1_t vs1, vbool64_t v0,
                         size_t vl);
vuint64m1_t __riscv_vadc(vuint64m1_t vs2, uint64_t rs1, vbool64_t v0,
                         size_t vl);
vuint64m2_t __riscv_vadc(vuint64m2_t vs2, vuint64m2_t vs1, vbool32_t v0,
                         size_t vl);
vuint64m2_t __riscv_vadc(vuint64m2_t vs2, uint64_t rs1, vbool32_t v0,
                         size_t vl);
vuint64m4_t __riscv_vadc(vuint64m4_t vs2, vuint64m4_t vs1, vbool16_t v0,
                         size_t vl);
vuint64m4_t __riscv_vadc(vuint64m4_t vs2, uint64_t rs1, vbool16_t v0,
                         size_t vl);
vuint64m8_t __riscv_vadc(vuint64m8_t vs2, vuint64m8_t vs1, vbool8_t v0,
                         size_t vl);
vuint64m8_t __riscv_vadc(vuint64m8_t vs2, uint64_t rs1, vbool8_t v0, size_t vl);
vuint8mf8_t __riscv_vsbc(vuint8mf8_t vs2, vuint8mf8_t vs1, vbool64_t v0,
                         size_t vl);
vuint8mf8_t __riscv_vsbc(vuint8mf8_t vs2, uint8_t rs1, vbool64_t v0, size_t vl);
vuint8mf4_t __riscv_vsbc(vuint8mf4_t vs2, vuint8mf4_t vs1, vbool32_t v0,
                         size_t vl);
vuint8mf4_t __riscv_vsbc(vuint8mf4_t vs2, uint8_t rs1, vbool32_t v0, size_t vl);
vuint8mf2_t __riscv_vsbc(vuint8mf2_t vs2, vuint8mf2_t vs1, vbool16_t v0,
                         size_t vl);
vuint8mf2_t __riscv_vsbc(vuint8mf2_t vs2, uint8_t rs1, vbool16_t v0, size_t vl);
vuint8m1_t __riscv_vsbc(vuint8m1_t vs2, vuint8m1_t vs1, vbool8_t v0, size_t vl);
vuint8m1_t __riscv_vsbc(vuint8m1_t vs2, uint8_t rs1, vbool8_t v0, size_t vl);
vuint8m2_t __riscv_vsbc(vuint8m2_t vs2, vuint8m2_t vs1, vbool4_t v0, size_t vl);
vuint8m2_t __riscv_vsbc(vuint8m2_t vs2, uint8_t rs1, vbool4_t v0, size_t vl);
vuint8m4_t __riscv_vsbc(vuint8m4_t vs2, vuint8m4_t vs1, vbool2_t v0, size_t vl);
vuint8m4_t __riscv_vsbc(vuint8m4_t vs2, uint8_t rs1, vbool2_t v0, size_t vl);
vuint8m8_t __riscv_vsbc(vuint8m8_t vs2, vuint8m8_t vs1, vbool1_t v0, size_t vl);
vuint8m8_t __riscv_vsbc(vuint8m8_t vs2, uint8_t rs1, vbool1_t v0, size_t vl);
vuint16mf4_t __riscv_vsbc(vuint16mf4_t vs2, vuint16mf4_t vs1, vbool64_t v0,
                          size_t vl);
vuint16mf4_t __riscv_vsbc(vuint16mf4_t vs2, uint16_t rs1, vbool64_t v0,
                          size_t vl);
vuint16mf2_t __riscv_vsbc(vuint16mf2_t vs2, vuint16mf2_t vs1, vbool32_t v0,
                          size_t vl);
vuint16mf2_t __riscv_vsbc(vuint16mf2_t vs2, uint16_t rs1, vbool32_t v0,
                          size_t vl);
vuint16m1_t __riscv_vsbc(vuint16m1_t vs2, vuint16m1_t vs1, vbool16_t v0,
                         size_t vl);
vuint16m1_t __riscv_vsbc(vuint16m1_t vs2, uint16_t rs1, vbool16_t v0,
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                          size_t vl);
vuint16m2_t __riscv_vsbc(vuint16m2_t vs2, vuint16m2_t vs1, vbool8_t v0,
                          size_t vl);
vuint16m2_t __riscv_vsbc(vuint16m2_t vs2, uint16_t rs1, vbool8_t v0, size_t vl);
vuint16m4_t __riscv_vsbc(vuint16m4_t vs2, vuint16m4_t vs1, vbool4_t v0,
                          size_t vl);
vuint16m4_t __riscv_vsbc(vuint16m4_t vs2, uint16_t rs1, vbool4_t v0, size_t vl);
vuint16m8_t __riscv_vsbc(vuint16m8_t vs2, vuint16m8_t vs1, vbool2_t v0,
                          size_t vl);
vuint16m8_t __riscv_vsbc(vuint16m8_t vs2, uint16_t rs1, vbool2_t v0, size_t vl);
vuint32mf2_t __riscv_vsbc(vuint32mf2_t vs2, vuint32mf2_t vs1, vbool64_t v0,
                           size_t vl);
vuint32mf2_t __riscv_vsbc(vuint32mf2_t vs2, uint32_t rs1, vbool64_t v0,
                           size_t vl);
vuint32m1_t __riscv_vsbc(vuint32m1_t vs2, vuint32m1_t vs1, vbool32_t v0,
                          size_t vl);
vuint32m1_t __riscv_vsbc(vuint32m1_t vs2, uint32_t rs1, vbool32_t v0,
                          size_t vl);
vuint32m2_t __riscv_vsbc(vuint32m2_t vs2, vuint32m2_t vs1, vbool16_t v0,
                          size_t vl);
vuint32m2_t __riscv_vsbc(vuint32m2_t vs2, uint32_t rs1, vbool16_t v0,
                          size_t vl);
vuint32m4_t __riscv_vsbc(vuint32m4_t vs2, vuint32m4_t vs1, vbool8_t v0,
                          size_t vl);
vuint32m4_t __riscv_vsbc(vuint32m4_t vs2, uint32_t rs1, vbool8_t v0, size_t vl);
vuint32m8_t __riscv_vsbc(vuint32m8_t vs2, vuint32m8_t vs1, vbool4_t v0,
                          size_t vl);
vuint32m8_t __riscv_vsbc(vuint32m8_t vs2, uint32_t rs1, vbool4_t v0, size_t vl);
vuint64m1_t __riscv_vsbc(vuint64m1_t vs2, vuint64m1_t vs1, vbool64_t v0,
                          size_t vl);
vuint64m1_t __riscv_vsbc(vuint64m1_t vs2, uint64_t rs1, vbool64_t v0,
                          size_t vl);
vuint64m2_t __riscv_vsbc(vuint64m2_t vs2, vuint64m2_t vs1, vbool32_t v0,
                          size_t vl);
vuint64m2_t __riscv_vsbc(vuint64m2_t vs2, uint64_t rs1, vbool32_t v0,
                          size_t vl);
vuint64m4_t __riscv_vsbc(vuint64m4_t vs2, vuint64m4_t vs1, vbool16_t v0,
                          size_t vl);
vuint64m4_t __riscv_vsbc(vuint64m4_t vs2, uint64_t rs1, vbool16_t v0,
                          size_t vl);
vuint64m8_t __riscv_vsbc(vuint64m8_t vs2, vuint64m8_t vs1, vbool8_t v0,
                          size_t vl);
vuint64m8_t __riscv_vsbc(vuint64m8_t vs2, uint64_t rs1, vbool8_t v0, size_t vl);
vbool64_t __riscv_vmadc(vint8mf8_t vs2, vint8mf8_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmadc(vint8mf8_t vs2, int8_t rs1, vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmadc(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmadc(vint8mf4_t vs2, vint8mf4_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmadc(vint8mf4_t vs2, int8_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmadc(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmadc(vint8mf2_t vs2, vint8mf2_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmadc(vint8mf2_t vs2, int8_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmadc(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmadc(vint8m1_t vs2, vint8m1_t vs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vint8m1_t vs2, int8_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmadc(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmadc(vint8m2_t vs2, vint8m2_t vs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc(vint8m2_t vs2, int8_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmadc(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmadc(vint8m4_t vs2, vint8m4_t vs1, vbool2_t v0, size_t vl);
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vbool2_t __riscv_vmadc(vint8m4_t vs2, int8_t rs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmadc(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmadc(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmadc(vint8m8_t vs2, vint8m8_t vs1, vbool1_t v0, size_t vl);
vbool1_t __riscv_vmadc(vint8m8_t vs2, int8_t rs1, vbool1_t v0, size_t vl);
vbool1_t __riscv_vmadc(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmadc(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmadc(vint16mf4_t vs2, vint16mf4_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmadc(vint16mf4_t vs2, int16_t rs1, vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmadc(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmadc(vint16mf2_t vs2, vint16mf2_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmadc(vint16mf2_t vs2, int16_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmadc(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmadc(vint16m1_t vs2, vint16m1_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmadc(vint16m1_t vs2, int16_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmadc(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmadc(vint16m2_t vs2, vint16m2_t vs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vint16m2_t vs2, int16_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmadc(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmadc(vint16m4_t vs2, vint16m4_t vs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc(vint16m4_t vs2, int16_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmadc(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmadc(vint16m8_t vs2, vint16m8_t vs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmadc(vint16m8_t vs2, int16_t rs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmadc(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmadc(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmadc(vint32mf2_t vs2, vint32mf2_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmadc(vint32mf2_t vs2, int32_t rs1, vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmadc(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmadc(vint32m1_t vs2, vint32m1_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmadc(vint32m1_t vs2, int32_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmadc(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmadc(vint32m2_t vs2, vint32m2_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmadc(vint32m2_t vs2, int32_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmadc(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmadc(vint32m4_t vs2, vint32m4_t vs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vint32m4_t vs2, int32_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmadc(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmadc(vint32m8_t vs2, vint32m8_t vs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc(vint32m8_t vs2, int32_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmadc(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmadc(vint64m1_t vs2, vint64m1_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmadc(vint64m1_t vs2, int64_t rs1, vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmadc(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmadc(vint64m2_t vs2, vint64m2_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmadc(vint64m2_t vs2, int64_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmadc(vint64m2_t vs2, int64_t rs1, size_t vl);
```

```
vbool16_t __riscv_vmadc(vint64m4_t vs2, vint64m4_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmadc(vint64m4_t vs2, int64_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmadc(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmadc(vint64m8_t vs2, vint64m8_t vs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vint64m8_t vs2, int64_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmadc(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsbc(vint8mf8_t vs2, vint8mf8_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmsbc(vint8mf8_t vs2, int8_t rs1, vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsbc(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsbc(vint8mf4_t vs2, vint8mf4_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmsbc(vint8mf4_t vs2, int8_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsbc(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsbc(vint8mf2_t vs2, vint8mf2_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmsbc(vint8mf2_t vs2, int8_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsbc(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsbc(vint8m1_t vs2, vint8m1_t vs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vint8m1_t vs2, int8_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsbc(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsbc(vint8m2_t vs2, vint8m2_t vs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc(vint8m2_t vs2, int8_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsbc(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsbc(vint8m4_t vs2, vint8m4_t vs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmsbc(vint8m4_t vs2, int8_t rs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmsbc(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsbc(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsbc(vint8m8_t vs2, vint8m8_t vs1, vbool1_t v0, size_t vl);
vbool1_t __riscv_vmsbc(vint8m8_t vs2, int8_t rs1, vbool1_t v0, size_t vl);
vbool1_t __riscv_vmsbc(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsbc(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsbc(vint16mf4_t vs2, vint16mf4_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmsbc(vint16mf4_t vs2, int16_t rs1, vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsbc(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsbc(vint16mf2_t vs2, vint16mf2_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmsbc(vint16mf2_t vs2, int16_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsbc(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsbc(vint16m1_t vs2, vint16m1_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmsbc(vint16m1_t vs2, int16_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsbc(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsbc(vint16m2_t vs2, vint16m2_t vs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vint16m2_t vs2, int16_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsbc(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsbc(vint16m4_t vs2, vint16m4_t vs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc(vint16m4_t vs2, int16_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsbc(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsbc(vint16m8_t vs2, vint16m8_t vs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmsbc(vint16m8_t vs2, int16_t rs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmsbc(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsbc(vint16m8_t vs2, int16_t rs1, size_t vl);
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vbool64_t __riscv_vmsbc(vint32mf2_t vs2, vint32mf2_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmsbc(vint32mf2_t vs2, int32_t rs1, vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsbc(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsbc(vint32m1_t vs2, vint32m1_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmsbc(vint32m1_t vs2, int32_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsbc(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsbc(vint32m2_t vs2, vint32m2_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmsbc(vint32m2_t vs2, int32_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsbc(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsbc(vint32m4_t vs2, vint32m4_t vs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vint32m4_t vs2, int32_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsbc(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsbc(vint32m8_t vs2, vint32m8_t vs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc(vint32m8_t vs2, int32_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsbc(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsbc(vint64m1_t vs2, vint64m1_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmsbc(vint64m1_t vs2, int64_t rs1, vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsbc(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsbc(vint64m2_t vs2, vint64m2_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmsbc(vint64m2_t vs2, int64_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsbc(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsbc(vint64m4_t vs2, vint64m4_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmsbc(vint64m4_t vs2, int64_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsbc(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsbc(vint64m8_t vs2, vint64m8_t vs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vint64m8_t vs2, int64_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsbc(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmadc(vuint8mf8_t vs2, vuint8mf8_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmadc(vuint8mf8_t vs2, uint8_t rs1, vbool64_t v0, size_t vl);
vbool64_t __riscv_vmadc(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmadc(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmadc(vuint8mf4_t vs2, vuint8mf4_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmadc(vuint8mf4_t vs2, uint8_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmadc(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmadc(vuint8mf2_t vs2, vuint8mf2_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmadc(vuint8mf2_t vs2, uint8_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmadc(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmadc(vuint8m1_t vs2, vuint8m1_t vs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vuint8m1_t vs2, uint8_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmadc(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmadc(vuint8m2_t vs2, vuint8m2_t vs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc(vuint8m2_t vs2, uint8_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmadc(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmadc(vuint8m4_t vs2, vuint8m4_t vs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmadc(vuint8m4_t vs2, uint8_t rs1, vbool2_t v0, size_t vl);
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vbool2_t __riscv_vmadc(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmadc(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmadc(vuint8m8_t vs2, vuint8m8_t vs1, vbool1_t v0, size_t vl);
vbool1_t __riscv_vmadc(vuint8m8_t vs2, uint8_t rs1, vbool1_t v0, size_t vl);
vbool1_t __riscv_vmadc(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmadc(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmadc(vuint16mf4_t vs2, vuint16mf4_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmadc(vuint16mf4_t vs2, uint16_t rs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmadc(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmadc(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vbool32_t __riscv_vmadc(vuint16mf2_t vs2, vuint16mf2_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmadc(vuint16mf2_t vs2, uint16_t rs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmadc(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmadc(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vbool16_t __riscv_vmadc(vuint16m1_t vs2, vuint16m1_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmadc(vuint16m1_t vs2, uint16_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmadc(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmadc(vuint16m2_t vs2, vuint16m2_t vs1, vbool8_t v0,
                       size_t vl);
vbool8_t __riscv_vmadc(vuint16m2_t vs2, uint16_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmadc(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmadc(vuint16m4_t vs2, vuint16m4_t vs1, vbool4_t v0,
                       size_t vl);
vbool4_t __riscv_vmadc(vuint16m4_t vs2, uint16_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmadc(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmadc(vuint16m8_t vs2, vuint16m8_t vs1, vbool2_t v0,
                       size_t vl);
vbool2_t __riscv_vmadc(vuint16m8_t vs2, uint16_t rs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmadc(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmadc(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmadc(vuint32mf2_t vs2, vuint32mf2_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmadc(vuint32mf2_t vs2, uint32_t rs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmadc(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmadc(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vbool32_t __riscv_vmadc(vuint32m1_t vs2, vuint32m1_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmadc(vuint32m1_t vs2, uint32_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmadc(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmadc(vuint32m2_t vs2, vuint32m2_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmadc(vuint32m2_t vs2, uint32_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmadc(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmadc(vuint32m4_t vs2, vuint32m4_t vs1, vbool8_t v0,
                       size_t vl);
vbool8_t __riscv_vmadc(vuint32m4_t vs2, uint32_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmadc(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmadc(vuint32m8_t vs2, vuint32m8_t vs1, vbool4_t v0,
                       size_t vl);
vbool4_t __riscv_vmadc(vuint32m8_t vs2, uint32_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmadc(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmadc(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmadc(vuint64m1_t vs2, vuint64m1_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmadc(vuint64m1_t vs2, uint64_t rs1, vbool64_t v0, size_t vl);
```

```
vbool64_t __riscv_vmadc(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmadc(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmadc(vuint64m2_t vs2, vuint64m2_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmadc(vuint64m2_t vs2, uint64_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmadc(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmadc(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmadc(vuint64m4_t vs2, vuint64m4_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmadc(vuint64m4_t vs2, uint64_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmadc(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmadc(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmadc(vuint64m8_t vs2, vuint64m8_t vs1, vbool8_t v0,
                       size_t vl);
vbool8_t __riscv_vmadc(vuint64m8_t vs2, uint64_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmadc(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmadc(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsbc(vuint8mf8_t vs2, vuint8mf8_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmsbc(vuint8mf8_t vs2, uint8_t rs1, vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsbc(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsbc(vuint8mf4_t vs2, vuint8mf4_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmsbc(vuint8mf4_t vs2, uint8_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsbc(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsbc(vuint8mf2_t vs2, vuint8mf2_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmsbc(vuint8mf2_t vs2, uint8_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsbc(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsbc(vuint8m1_t vs2, vuint8m1_t vs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vuint8m1_t vs2, uint8_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsbc(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsbc(vuint8m2_t vs2, vuint8m2_t vs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc(vuint8m2_t vs2, uint8_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsbc(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsbc(vuint8m4_t vs2, vuint8m4_t vs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmsbc(vuint8m4_t vs2, uint8_t rs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmsbc(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsbc(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsbc(vuint8m8_t vs2, vuint8m8_t vs1, vbool1_t v0, size_t vl);
vbool1_t __riscv_vmsbc(vuint8m8_t vs2, uint8_t rs1, vbool1_t v0, size_t vl);
vbool1_t __riscv_vmsbc(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsbc(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsbc(vuint16mf4_t vs2, vuint16mf4_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmsbc(vuint16mf4_t vs2, uint16_t rs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmsbc(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsbc(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsbc(vuint16mf2_t vs2, vuint16mf2_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmsbc(vuint16mf2_t vs2, uint16_t rs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmsbc(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsbc(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsbc(vuint16m1_t vs2, vuint16m1_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmsbc(vuint16m1_t vs2, uint16_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsbc(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsbc(vuint16m2_t vs2, vuint16m2_t vs1, vbool8_t v0,
                       size_t vl);
```

```
vbool8_t __riscv_vmsbc(vuint16m2_t vs2, uint16_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsbc(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsbc(vuint16m4_t vs2, vuint16m4_t vs1, vbool4_t v0,
                       size_t vl);
vbool4_t __riscv_vmsbc(vuint16m4_t vs2, uint16_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsbc(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsbc(vuint16m8_t vs2, vuint16m8_t vs1, vbool2_t v0,
                       size_t vl);
vbool2_t __riscv_vmsbc(vuint16m8_t vs2, uint16_t rs1, vbool2_t v0, size_t vl);
vbool2_t __riscv_vmsbc(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsbc(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsbc(vuint32mf2_t vs2, vuint32mf2_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmsbc(vuint32mf2_t vs2, uint32_t rs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmsbc(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsbc(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsbc(vuint32m1_t vs2, vuint32m1_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmsbc(vuint32m1_t vs2, uint32_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsbc(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsbc(vuint32m2_t vs2, vuint32m2_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmsbc(vuint32m2_t vs2, uint32_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsbc(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsbc(vuint32m4_t vs2, vuint32m4_t vs1, vbool8_t v0,
                       size_t vl);
vbool8_t __riscv_vmsbc(vuint32m4_t vs2, uint32_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsbc(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsbc(vuint32m8_t vs2, vuint32m8_t vs1, vbool4_t v0,
                       size_t vl);
vbool4_t __riscv_vmsbc(vuint32m8_t vs2, uint32_t rs1, vbool4_t v0, size_t vl);
vbool4_t __riscv_vmsbc(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsbc(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsbc(vuint64m1_t vs2, vuint64m1_t vs1, vbool64_t v0,
                        size_t vl);
vbool64_t __riscv_vmsbc(vuint64m1_t vs2, uint64_t rs1, vbool64_t v0, size_t vl);
vbool64_t __riscv_vmsbc(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsbc(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsbc(vuint64m2_t vs2, vuint64m2_t vs1, vbool32_t v0,
                        size_t vl);
vbool32_t __riscv_vmsbc(vuint64m2_t vs2, uint64_t rs1, vbool32_t v0, size_t vl);
vbool32_t __riscv_vmsbc(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsbc(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsbc(vuint64m4_t vs2, vuint64m4_t vs1, vbool16_t v0,
                        size_t vl);
vbool16_t __riscv_vmsbc(vuint64m4_t vs2, uint64_t rs1, vbool16_t v0, size_t vl);
vbool16_t __riscv_vmsbc(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsbc(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsbc(vuint64m8_t vs2, vuint64m8_t vs1, vbool8_t v0,
                       size_t vl);
vbool8_t __riscv_vmsbc(vuint64m8_t vs2, uint64_t rs1, vbool8_t v0, size_t vl);
vbool8_t __riscv_vmsbc(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsbc(vuint64m8_t vs2, uint64_t rs1, size_t vl);
```

C.3.6. Vector Bitwise Binary Logical Intrinsics

```
vint8mf8_t __riscv_vand(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vand(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vand(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
```

```
vint8mf4_t __riscv_vand(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vand(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vand(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vand(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vand(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vand(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vand(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vand(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vand(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vand(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vand(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vand(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vand(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vand(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vand(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vand(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vand(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vand(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vand(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vand(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vand(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vand(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vand(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vand(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vand(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vand(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vand(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vand(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vand(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vand(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vand(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vand(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vand(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vand(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vand(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vand(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vand(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vand(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vand(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vand(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vand(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vor(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vor(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vor(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vor(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vor(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vor(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vor(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vor(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vor(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vor(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vor(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vor(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vor(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vor(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vor(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vor(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vor(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vor(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vor(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vor(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vor(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vor(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vor(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vor(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vor(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vor(vint16m8_t vs2, int16_t rs1, size_t vl);
```

```
vint32mf2_t __riscv_vor(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vor(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vor(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vor(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vor(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vor(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vor(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vor(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vor(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vor(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vor(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vor(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vor(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vor(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vor(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vor(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vor(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vor(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vxor(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vxor(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vxor(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vxor(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vxor(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vxor(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vxor(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vxor(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vxor(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vxor(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vxor(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vxor(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vxor(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vxor(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vxor(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vxor(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vxor(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vxor(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vxor(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vxor(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vxor(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vxor(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vxor(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vxor(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vxor(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vxor(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vxor(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vxor(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vxor(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vxor(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vxor(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vxor(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vxor(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vxor(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vxor(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vxor(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vxor(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vxor(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vxor(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vxor(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vxor(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vxor(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vxor(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vxor(vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vand(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vand(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vand(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vand(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vand(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
```

```
vuint8mf2_t __riscv_vand(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vand(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vand(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vand(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vand(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vand(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vand(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vand(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vand(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vand(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vand(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vand(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vand(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vand(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vand(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vand(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vand(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vand(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vand(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vand(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vand(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vand(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vand(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vand(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vand(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vand(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vand(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vand(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vand(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vand(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vand(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vand(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vand(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vand(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vand(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vand(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vand(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vand(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vand(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vor(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vor(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vor(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vor(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vor(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vor(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vor(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vor(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vor(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vor(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vor(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vor(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vor(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vor(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vor(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vor(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vor(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vor(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vor(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vor(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vor(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vor(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vor(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vor(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vor(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vor(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vor(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vor(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
```

```
vuint32m1_t __riscv_vor(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vor(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vor(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vor(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vor(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vor(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vor(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vor(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vor(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vor(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vor(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vor(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vor(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vor(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vor(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vor(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vxor(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vxor(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vxor(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vxor(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vxor(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vxor(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vxor(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vxor(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vxor(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vxor(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vxor(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vxor(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vxor(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vxor(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vxor(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vxor(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vxor(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vxor(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vxor(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vxor(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vxor(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vxor(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vxor(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vxor(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vxor(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vxor(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vxor(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vxor(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vxor(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vxor(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vxor(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vxor(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vxor(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vxor(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vxor(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vxor(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vxor(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vxor(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vxor(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vxor(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vxor(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vxor(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vxor(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vxor(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vand(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vint8mf8_t __riscv_vand(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vand(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vint8mf4_t __riscv_vand(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
```

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vint8mf2_t __riscv_vand(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vint8mf2_t __riscv_vand(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vand(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vand(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vand(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vand(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vand(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vand(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vand(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vand(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vand(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                         size_t vl);
vint16mf4_t __riscv_vand(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vand(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                         size_t vl);
vint16mf2_t __riscv_vand(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vand(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vint16m1_t __riscv_vand(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vand(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vand(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vand(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vand(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vand(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vand(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vand(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                         size_t vl);
vint32mf2_t __riscv_vand(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vand(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vint32m1_t __riscv_vand(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vand(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vint32m2_t __riscv_vand(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vand(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vand(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vand(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vand(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vand(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vint64m1_t __riscv_vand(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vand(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vint64m2_t __riscv_vand(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vand(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vint64m4_t __riscv_vand(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vand(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vand(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vor(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vor(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vor(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vor(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vor(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vor(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vor(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vor(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vor(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vor(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vor(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vor(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vor(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vor(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vor(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                        size_t vl);
vint16mf4_t __riscv_vor(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
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vint16mf2_t __riscv_vor(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                        size_t vl);
vint16mf2_t __riscv_vor(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vor(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vor(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vor(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vor(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vor(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vor(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vor(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vor(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vor(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                        size_t vl);
vint32mf2_t __riscv_vor(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vor(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vor(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vor(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vor(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vor(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vor(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vor(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vor(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vor(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vor(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vor(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vor(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vor(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vor(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vor(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vor(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vxor(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vint8mf8_t __riscv_vxor(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vxor(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vint8mf4_t __riscv_vxor(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vxor(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vint8mf2_t __riscv_vxor(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vxor(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vxor(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vxor(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vxor(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vxor(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vxor(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vxor(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vxor(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vxor(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                         size_t vl);
vint16mf4_t __riscv_vxor(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vxor(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                         size_t vl);
vint16mf2_t __riscv_vxor(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vxor(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vint16m1_t __riscv_vxor(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vxor(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vxor(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vxor(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vxor(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vxor(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vxor(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vxor(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                         size_t vl);
vint32mf2_t __riscv_vxor(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vxor(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
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```
vint32m1_t __riscv_vxor(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vxor(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vint32m2_t __riscv_vxor(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vxor(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vxor(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vxor(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vxor(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vxor(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vint64m1_t __riscv_vxor(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vxor(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vint64m2_t __riscv_vxor(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vxor(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vint64m4_t __riscv_vxor(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vxor(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vxor(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vand(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                         size_t vl);
vuint8mf8_t __riscv_vand(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vand(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                         size_t vl);
vuint8mf4_t __riscv_vand(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vand(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                         size_t vl);
vuint8mf2_t __riscv_vand(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vand(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vand(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vand(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vand(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vand(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vand(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vand(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vand(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vand(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                          size_t vl);
vuint16mf4_t __riscv_vand(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                          size_t vl);
vuint16mf2_t __riscv_vand(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                          size_t vl);
vuint16mf2_t __riscv_vand(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m1_t __riscv_vand(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                         size_t vl);
vuint16m1_t __riscv_vand(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                         size_t vl);
vuint16m2_t __riscv_vand(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                         size_t vl);
vuint16m2_t __riscv_vand(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vand(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                         size_t vl);
vuint16m4_t __riscv_vand(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vand(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                         size_t vl);
vuint16m8_t __riscv_vand(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vand(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vuint32mf2_t __riscv_vand(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m1_t __riscv_vand(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                         size_t vl);
vuint32m1_t __riscv_vand(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                         size_t vl);
vuint32m2_t __riscv_vand(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                         size_t vl);
```

```
vuint32m2_t __riscv_vand(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                         size_t vl);
vuint32m4_t __riscv_vand(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                         size_t vl);
vuint32m4_t __riscv_vand(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vand(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                         size_t vl);
vuint32m8_t __riscv_vand(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vand(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                         size_t vl);
vuint64m1_t __riscv_vand(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m2_t __riscv_vand(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                         size_t vl);
vuint64m2_t __riscv_vand(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m4_t __riscv_vand(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                         size_t vl);
vuint64m4_t __riscv_vand(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m8_t __riscv_vand(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                         size_t vl);
vuint64m8_t __riscv_vand(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vor(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                        size_t vl);
vuint8mf8_t __riscv_vor(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vor(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                        size_t vl);
vuint8mf4_t __riscv_vor(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vor(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                        size_t vl);
vuint8mf2_t __riscv_vor(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vor(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vor(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vor(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vor(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vor(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vor(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vor(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vor(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vor(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                         size_t vl);
vuint16mf4_t __riscv_vor(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                         size_t vl);
vuint16mf2_t __riscv_vor(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                         size_t vl);
vuint16mf2_t __riscv_vor(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                         size_t vl);
vuint16m1_t __riscv_vor(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                        size_t vl);
vuint16m1_t __riscv_vor(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vor(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                        size_t vl);
vuint16m2_t __riscv_vor(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vor(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                        size_t vl);
vuint16m4_t __riscv_vor(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vor(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                        size_t vl);
vuint16m8_t __riscv_vor(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vor(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                         size_t vl);
vuint32mf2_t __riscv_vor(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                         size_t vl);
vuint32m1_t __riscv_vor(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                        size_t vl);
vuint32m1_t __riscv_vor(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1, size_t vl);
```

```
vuint32m2_t __riscv_vor(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                        size_t vl);
vuint32m2_t __riscv_vor(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vor(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                        size_t vl);
vuint32m4_t __riscv_vor(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vor(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                        size_t vl);
vuint32m8_t __riscv_vor(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vor(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                        size_t vl);
vuint64m1_t __riscv_vor(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vor(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                        size_t vl);
vuint64m2_t __riscv_vor(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vor(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                        size_t vl);
vuint64m4_t __riscv_vor(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vor(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                        size_t vl);
vuint64m8_t __riscv_vor(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vxor(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                         size_t vl);
vuint8mf8_t __riscv_vxor(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vxor(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                         size_t vl);
vuint8mf4_t __riscv_vxor(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vxor(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                         size_t vl);
vuint8mf2_t __riscv_vxor(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vxor(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vxor(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vxor(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vxor(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vxor(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vxor(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vxor(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vxor(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vxor(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                          size_t vl);
vuint16mf4_t __riscv_vxor(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                          size_t vl);
vuint16mf2_t __riscv_vxor(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                          size_t vl);
vuint16mf2_t __riscv_vxor(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m1_t __riscv_vxor(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                         size_t vl);
vuint16m1_t __riscv_vxor(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                         size_t vl);
vuint16m2_t __riscv_vxor(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                         size_t vl);
vuint16m2_t __riscv_vxor(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vxor(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                         size_t vl);
vuint16m4_t __riscv_vxor(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vxor(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                         size_t vl);
vuint16m8_t __riscv_vxor(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vxor(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vuint32mf2_t __riscv_vxor(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m1_t __riscv_vxor(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                         size_t vl);
vuint32m1_t __riscv_vxor(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                         size_t vl);
```

```
vuint32m2_t __riscv_vxor(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                         size_t vl);
vuint32m2_t __riscv_vxor(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                         size_t vl);
vuint32m4_t __riscv_vxor(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                         size_t vl);
vuint32m4_t __riscv_vxor(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vxor(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                         size_t vl);
vuint32m8_t __riscv_vxor(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vxor(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                         size_t vl);
vuint64m1_t __riscv_vxor(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m2_t __riscv_vxor(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                         size_t vl);
vuint64m2_t __riscv_vxor(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m4_t __riscv_vxor(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                         size_t vl);
vuint64m4_t __riscv_vxor(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                         size_t vl);
vuint64m8_t __riscv_vxor(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                         size_t vl);
vuint64m8_t __riscv_vxor(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
```

C.3.7. Vector Bitwise Unary Logical Intrinsics

```
vint8mf8_t __riscv_vnot(vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vnot(vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vnot(vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vnot(vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vnot(vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vnot(vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vnot(vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vnot(vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vnot(vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vnot(vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vnot(vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vnot(vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vnot(vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vnot(vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vnot(vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vnot(vint32m2_t vs, size_t vl);
vint32m4_t __riscv_vnot(vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vnot(vint32m8_t vs, size_t vl);
vint64m1_t __riscv_vnot(vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vnot(vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vnot(vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vnot(vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vnot(vuint8mf8_t vs, size_t vl);
vuint8mf4_t __riscv_vnot(vuint8mf4_t vs, size_t vl);
vuint8mf2_t __riscv_vnot(vuint8mf2_t vs, size_t vl);
vuint8m1_t __riscv_vnot(vuint8m1_t vs, size_t vl);
vuint8m2_t __riscv_vnot(vuint8m2_t vs, size_t vl);
vuint8m4_t __riscv_vnot(vuint8m4_t vs, size_t vl);
vuint8m8_t __riscv_vnot(vuint8m8_t vs, size_t vl);
vuint16mf4_t __riscv_vnot(vuint16mf4_t vs, size_t vl);
vuint16mf2_t __riscv_vnot(vuint16mf2_t vs, size_t vl);
vuint16m1_t __riscv_vnot(vuint16m1_t vs, size_t vl);
vuint16m2_t __riscv_vnot(vuint16m2_t vs, size_t vl);
vuint16m4_t __riscv_vnot(vuint16m4_t vs, size_t vl);
vuint16m8_t __riscv_vnot(vuint16m8_t vs, size_t vl);
vuint32mf2_t __riscv_vnot(vuint32mf2_t vs, size_t vl);
vuint32m1_t __riscv_vnot(vuint32m1_t vs, size_t vl);
```

```
vuint32m2_t __riscv_vnot(vuint32m2_t vs, size_t vl);
vuint32m4_t __riscv_vnot(vuint32m4_t vs, size_t vl);
vuint32m8_t __riscv_vnot(vuint32m8_t vs, size_t vl);
vuint64m1_t __riscv_vnot(vuint64m1_t vs, size_t vl);
vuint64m2_t __riscv_vnot(vuint64m2_t vs, size_t vl);
vuint64m4_t __riscv_vnot(vuint64m4_t vs, size_t vl);
vuint64m8_t __riscv_vnot(vuint64m8_t vs, size_t vl);
// masked functions
vint8mf8_t __riscv_vnot(vbool64_t vm, vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vnot(vbool32_t vm, vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vnot(vbool16_t vm, vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vnot(vbool8_t vm, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vnot(vbool4_t vm, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vnot(vbool2_t vm, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vnot(vbool1_t vm, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vnot(vbool64_t vm, vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vnot(vbool32_t vm, vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vnot(vbool16_t vm, vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vnot(vbool8_t vm, vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vnot(vbool4_t vm, vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vnot(vbool2_t vm, vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vnot(vbool64_t vm, vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vnot(vbool32_t vm, vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vnot(vbool16_t vm, vint32m2_t vs, size_t vl);
vint32m4_t __riscv_vnot(vbool8_t vm, vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vnot(vbool4_t vm, vint32m8_t vs, size_t vl);
vint64m1_t __riscv_vnot(vbool64_t vm, vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vnot(vbool32_t vm, vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vnot(vbool16_t vm, vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vnot(vbool8_t vm, vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vnot(vbool64_t vm, vuint8mf8_t vs, size_t vl);
vuint8mf4_t __riscv_vnot(vbool32_t vm, vuint8mf4_t vs, size_t vl);
vuint8mf2_t __riscv_vnot(vbool16_t vm, vuint8mf2_t vs, size_t vl);
vuint8m1_t __riscv_vnot(vbool8_t vm, vuint8m1_t vs, size_t vl);
vuint8m2_t __riscv_vnot(vbool4_t vm, vuint8m2_t vs, size_t vl);
vuint8m4_t __riscv_vnot(vbool2_t vm, vuint8m4_t vs, size_t vl);
vuint8m8_t __riscv_vnot(vbool1_t vm, vuint8m8_t vs, size_t vl);
vuint16mf4_t __riscv_vnot(vbool64_t vm, vuint16mf4_t vs, size_t vl);
vuint16mf2_t __riscv_vnot(vbool32_t vm, vuint16mf2_t vs, size_t vl);
vuint16m1_t __riscv_vnot(vbool16_t vm, vuint16m1_t vs, size_t vl);
vuint16m2_t __riscv_vnot(vbool8_t vm, vuint16m2_t vs, size_t vl);
vuint16m4_t __riscv_vnot(vbool4_t vm, vuint16m4_t vs, size_t vl);
vuint16m8_t __riscv_vnot(vbool2_t vm, vuint16m8_t vs, size_t vl);
vuint32mf2_t __riscv_vnot(vbool64_t vm, vuint32mf2_t vs, size_t vl);
vuint32m1_t __riscv_vnot(vbool32_t vm, vuint32m1_t vs, size_t vl);
vuint32m2_t __riscv_vnot(vbool16_t vm, vuint32m2_t vs, size_t vl);
vuint32m4_t __riscv_vnot(vbool8_t vm, vuint32m4_t vs, size_t vl);
vuint32m8_t __riscv_vnot(vbool4_t vm, vuint32m8_t vs, size_t vl);
vuint64m1_t __riscv_vnot(vbool64_t vm, vuint64m1_t vs, size_t vl);
vuint64m2_t __riscv_vnot(vbool32_t vm, vuint64m2_t vs, size_t vl);
vuint64m4_t __riscv_vnot(vbool16_t vm, vuint64m4_t vs, size_t vl);
vuint64m8_t __riscv_vnot(vbool8_t vm, vuint64m8_t vs, size_t vl);
```

C.3.8. Vector Single-Width Bit Shift Intrinsics

```
vint8mf8_t __riscv_vsll(vint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsll(vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vsll(vint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsll(vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vsll(vint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsll(vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vsll(vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsll(vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vsll(vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsll(vint8m2_t vs2, size_t rs1, size_t vl);
```

```
vint8m4_t __riscv_vsll(vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsll(vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vsll(vint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsll(vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vsll(vint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsll(vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsll(vint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsll(vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsll(vint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsll(vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vsll(vint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsll(vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vsll(vint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsll(vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vsll(vint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsll(vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vsll(vint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsll(vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vsll(vint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsll(vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vsll(vint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsll(vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vsll(vint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsll(vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vsll(vint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsll(vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vsll(vint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsll(vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vsll(vint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsll(vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vsll(vint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsll(vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vsll(vint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsll(vint64m8_t vs2, size_t rs1, size_t vl);
vint8mf8_t __riscv_vsra(vint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsra(vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vsra(vint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsra(vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vsra(vint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsra(vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vsra(vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsra(vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vsra(vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsra(vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vsra(vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsra(vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vsra(vint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsra(vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vsra(vint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsra(vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsra(vint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsra(vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsra(vint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsra(vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vsra(vint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsra(vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vsra(vint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsra(vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vsra(vint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsra(vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vsra(vint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsra(vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vsra(vint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsra(vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vsra(vint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsra(vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vsra(vint32m4_t vs2, vuint32m4_t vs1, size_t vl);
```

```
vint32m4_t __riscv_vsra(vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vsra(vint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsra(vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vsra(vint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsra(vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vsra(vint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsra(vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vsra(vint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsra(vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vsra(vint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsra(vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsll(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsll(vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsll(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsll(vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsll(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsll(vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsll(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsll(vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vsll(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsll(vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vsll(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsll(vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vsll(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsll(vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsll(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsll(vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsll(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsll(vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vsll(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsll(vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsll(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsll(vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsll(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsll(vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsll(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsll(vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsll(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsll(vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vsll(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsll(vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vsll(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsll(vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsll(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsll(vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsll(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsll(vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsll(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsll(vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsll(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsll(vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsll(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsll(vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsll(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsll(vuint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsrl(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsrl(vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsrl(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsrl(vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsrl(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsrl(vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsrl(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsrl(vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vsrl(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsrl(vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vsrl(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsrl(vuint8m4_t vs2, size_t rs1, size_t vl);
```

```
vuint8m8_t __riscv_vsrl(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsrl(vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsrl(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsrl(vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsrl(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsrl(vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vsrl(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsrl(vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsrl(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsrl(vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsrl(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsrl(vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsrl(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsrl(vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsrl(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsrl(vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vsrl(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsrl(vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vsrl(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsrl(vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsrl(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsrl(vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsrl(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsrl(vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsrl(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsrl(vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsrl(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsrl(vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsrl(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsrl(vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsrl(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsrl(vuint64m8_t vs2, size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsll(vbool64_t vm, vint8mf8_t vs2, vuint8mf8_t vs1,
                        size_t vl);
vint8mf8_t __riscv_vsll(vbool64_t vm, vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vsll(vbool32_t vm, vint8mf4_t vs2, vuint8mf4_t vs1,
                        size_t vl);
vint8mf4_t __riscv_vsll(vbool32_t vm, vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vsll(vbool16_t vm, vint8mf2_t vs2, vuint8mf2_t vs1,
                        size_t vl);
vint8mf2_t __riscv_vsll(vbool16_t vm, vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vsll(vbool8_t vm, vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsll(vbool8_t vm, vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vsll(vbool4_t vm, vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsll(vbool4_t vm, vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vsll(vbool2_t vm, vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsll(vbool2_t vm, vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vsll(vbool1_t vm, vint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsll(vbool1_t vm, vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vsll(vbool64_t vm, vint16mf4_t vs2, vuint16mf4_t vs1,
                         size_t vl);
vint16mf4_t __riscv_vsll(vbool64_t vm, vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsll(vbool32_t vm, vint16mf2_t vs2, vuint16mf2_t vs1,
                         size_t vl);
vint16mf2_t __riscv_vsll(vbool32_t vm, vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsll(vbool16_t vm, vint16m1_t vs2, vuint16m1_t vs1,
                        size_t vl);
vint16m1_t __riscv_vsll(vbool16_t vm, vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vsll(vbool8_t vm, vint16m2_t vs2, vuint16m2_t vs1,
                        size_t vl);
vint16m2_t __riscv_vsll(vbool8_t vm, vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vsll(vbool4_t vm, vint16m4_t vs2, vuint16m4_t vs1,
                        size_t vl);
vint16m4_t __riscv_vsll(vbool4_t vm, vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vsll(vbool2_t vm, vint16m8_t vs2, vuint16m8_t vs1,
                        size_t vl);
```

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vint16m8_t __riscv_vsll(vbool2_t vm, vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vsll(vbool64_t vm, vint32mf2_t vs2, vuint32mf2_t vs1,
                         size_t vl);
vint32mf2_t __riscv_vsll(vbool64_t vm, vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vsll(vbool32_t vm, vint32m1_t vs2, vuint32m1_t vs1,
                        size_t vl);
vint32m1_t __riscv_vsll(vbool32_t vm, vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vsll(vbool16_t vm, vint32m2_t vs2, vuint32m2_t vs1,
                        size_t vl);
vint32m2_t __riscv_vsll(vbool16_t vm, vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vsll(vbool8_t vm, vint32m4_t vs2, vuint32m4_t vs1,
                        size_t vl);
vint32m4_t __riscv_vsll(vbool8_t vm, vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vsll(vbool4_t vm, vint32m8_t vs2, vuint32m8_t vs1,
                        size_t vl);
vint32m8_t __riscv_vsll(vbool4_t vm, vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vsll(vbool64_t vm, vint64m1_t vs2, vuint64m1_t vs1,
                        size_t vl);
vint64m1_t __riscv_vsll(vbool64_t vm, vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vsll(vbool32_t vm, vint64m2_t vs2, vuint64m2_t vs1,
                        size_t vl);
vint64m2_t __riscv_vsll(vbool32_t vm, vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vsll(vbool16_t vm, vint64m4_t vs2, vuint64m4_t vs1,
                        size_t vl);
vint64m4_t __riscv_vsll(vbool16_t vm, vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vsll(vbool8_t vm, vint64m8_t vs2, vuint64m8_t vs1,
                        size_t vl);
vint64m8_t __riscv_vsll(vbool8_t vm, vint64m8_t vs2, size_t rs1, size_t vl);
vint8mf8_t __riscv_vsra(vbool64_t vm, vint8mf8_t vs2, vuint8mf8_t vs1,
                        size_t vl);
vint8mf8_t __riscv_vsra(vbool64_t vm, vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vsra(vbool32_t vm, vint8mf4_t vs2, vuint8mf4_t vs1,
                        size_t vl);
vint8mf4_t __riscv_vsra(vbool32_t vm, vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vsra(vbool16_t vm, vint8mf2_t vs2, vuint8mf2_t vs1,
                        size_t vl);
vint8mf2_t __riscv_vsra(vbool16_t vm, vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vsra(vbool8_t vm, vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsra(vbool8_t vm, vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vsra(vbool4_t vm, vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsra(vbool4_t vm, vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vsra(vbool2_t vm, vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsra(vbool2_t vm, vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vsra(vbool1_t vm, vint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsra(vbool1_t vm, vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vsra(vbool64_t vm, vint16mf4_t vs2, vuint16mf4_t vs1,
                         size_t vl);
vint16mf4_t __riscv_vsra(vbool64_t vm, vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vsra(vbool32_t vm, vint16mf2_t vs2, vuint16mf2_t vs1,
                         size_t vl);
vint16mf2_t __riscv_vsra(vbool32_t vm, vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vsra(vbool16_t vm, vint16m1_t vs2, vuint16m1_t vs1,
                        size_t vl);
vint16m1_t __riscv_vsra(vbool16_t vm, vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vsra(vbool8_t vm, vint16m2_t vs2, vuint16m2_t vs1,
                        size_t vl);
vint16m2_t __riscv_vsra(vbool8_t vm, vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vsra(vbool4_t vm, vint16m4_t vs2, vuint16m4_t vs1,
                        size_t vl);
vint16m4_t __riscv_vsra(vbool4_t vm, vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vsra(vbool2_t vm, vint16m8_t vs2, vuint16m8_t vs1,
                        size_t vl);
vint16m8_t __riscv_vsra(vbool2_t vm, vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vsra(vbool64_t vm, vint32mf2_t vs2, vuint32mf2_t vs1,
                         size_t vl);
vint32mf2_t __riscv_vsra(vbool64_t vm, vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vsra(vbool32_t vm, vint32m1_t vs2, vuint32m1_t vs1,
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                        size_t vl);
vint32m1_t __riscv_vsra(vbool32_t vm, vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vsra(vbool16_t vm, vint32m2_t vs2, vuint32m2_t vs1,
                        size_t vl);
vint32m2_t __riscv_vsra(vbool16_t vm, vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vsra(vbool8_t vm, vint32m4_t vs2, vuint32m4_t vs1,
                        size_t vl);
vint32m4_t __riscv_vsra(vbool8_t vm, vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vsra(vbool4_t vm, vint32m8_t vs2, vuint32m8_t vs1,
                        size_t vl);
vint32m8_t __riscv_vsra(vbool4_t vm, vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vsra(vbool64_t vm, vint64m1_t vs2, vuint64m1_t vs1,
                        size_t vl);
vint64m1_t __riscv_vsra(vbool64_t vm, vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vsra(vbool32_t vm, vint64m2_t vs2, vuint64m2_t vs1,
                        size_t vl);
vint64m2_t __riscv_vsra(vbool32_t vm, vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vsra(vbool16_t vm, vint64m4_t vs2, vuint64m4_t vs1,
                        size_t vl);
vint64m4_t __riscv_vsra(vbool16_t vm, vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vsra(vbool8_t vm, vint64m8_t vs2, vuint64m8_t vs1,
                        size_t vl);
vint64m8_t __riscv_vsra(vbool8_t vm, vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsll(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                         size_t vl);
vuint8mf8_t __riscv_vsll(vbool64_t vm, vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsll(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                         size_t vl);
vuint8mf4_t __riscv_vsll(vbool32_t vm, vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsll(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                         size_t vl);
vuint8mf2_t __riscv_vsll(vbool16_t vm, vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsll(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsll(vbool8_t vm, vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vsll(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsll(vbool4_t vm, vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vsll(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsll(vbool2_t vm, vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vsll(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsll(vbool1_t vm, vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsll(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                          size_t vl);
vuint16mf4_t __riscv_vsll(vbool64_t vm, vuint16mf4_t vs2, size_t rs1,
                          size_t vl);
vuint16mf2_t __riscv_vsll(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                          size_t vl);
vuint16mf2_t __riscv_vsll(vbool32_t vm, vuint16mf2_t vs2, size_t rs1,
                          size_t vl);
vuint16m1_t __riscv_vsll(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                         size_t vl);
vuint16m1_t __riscv_vsll(vbool16_t vm, vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsll(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                         size_t vl);
vuint16m2_t __riscv_vsll(vbool8_t vm, vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsll(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                         size_t vl);
vuint16m4_t __riscv_vsll(vbool4_t vm, vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsll(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                         size_t vl);
vuint16m8_t __riscv_vsll(vbool2_t vm, vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsll(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vuint32mf2_t __riscv_vsll(vbool64_t vm, vuint32mf2_t vs2, size_t rs1,
                          size_t vl);
vuint32m1_t __riscv_vsll(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                         size_t vl);
vuint32m1_t __riscv_vsll(vbool32_t vm, vuint32m1_t vs2, size_t rs1, size_t vl);
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vuint32m2_t __riscv_vsll(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                         size_t vl);
vuint32m2_t __riscv_vsll(vbool16_t vm, vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsll(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                         size_t vl);
vuint32m4_t __riscv_vsll(vbool8_t vm, vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsll(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                         size_t vl);
vuint32m8_t __riscv_vsll(vbool4_t vm, vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsll(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                         size_t vl);
vuint64m1_t __riscv_vsll(vbool64_t vm, vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsll(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                         size_t vl);
vuint64m2_t __riscv_vsll(vbool32_t vm, vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsll(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                         size_t vl);
vuint64m4_t __riscv_vsll(vbool16_t vm, vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsll(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                         size_t vl);
vuint64m8_t __riscv_vsll(vbool8_t vm, vuint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsrl(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                         size_t vl);
vuint8mf8_t __riscv_vsrl(vbool64_t vm, vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsrl(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                         size_t vl);
vuint8mf4_t __riscv_vsrl(vbool32_t vm, vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsrl(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                         size_t vl);
vuint8mf2_t __riscv_vsrl(vbool16_t vm, vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vsrl(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsrl(vbool8_t vm, vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vsrl(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsrl(vbool4_t vm, vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vsrl(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsrl(vbool2_t vm, vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vsrl(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsrl(vbool1_t vm, vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsrl(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                          size_t vl);
vuint16mf4_t __riscv_vsrl(vbool64_t vm, vuint16mf4_t vs2, size_t rs1,
                          size_t vl);
vuint16mf2_t __riscv_vsrl(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                          size_t vl);
vuint16mf2_t __riscv_vsrl(vbool32_t vm, vuint16mf2_t vs2, size_t rs1,
                          size_t vl);
vuint16m1_t __riscv_vsrl(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                         size_t vl);
vuint16m1_t __riscv_vsrl(vbool16_t vm, vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vsrl(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                         size_t vl);
vuint16m2_t __riscv_vsrl(vbool8_t vm, vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vsrl(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                         size_t vl);
vuint16m4_t __riscv_vsrl(vbool4_t vm, vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vsrl(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                         size_t vl);
vuint16m8_t __riscv_vsrl(vbool2_t vm, vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsrl(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vuint32mf2_t __riscv_vsrl(vbool64_t vm, vuint32mf2_t vs2, size_t rs1,
                          size_t vl);
vuint32m1_t __riscv_vsrl(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                         size_t vl);
vuint32m1_t __riscv_vsrl(vbool32_t vm, vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vsrl(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                         size_t vl);
```

```
vuint32m2_t __riscv_vsrl(vbool16_t vm, vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vsrl(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                         size_t vl);
vuint32m4_t __riscv_vsrl(vbool8_t vm, vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vsrl(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                         size_t vl);
vuint32m8_t __riscv_vsrl(vbool4_t vm, vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vsrl(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                         size_t vl);
vuint64m1_t __riscv_vsrl(vbool64_t vm, vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vsrl(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                         size_t vl);
vuint64m2_t __riscv_vsrl(vbool32_t vm, vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vsrl(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                         size_t vl);
vuint64m4_t __riscv_vsrl(vbool16_t vm, vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vsrl(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                         size_t vl);
vuint64m8_t __riscv_vsrl(vbool8_t vm, vuint64m8_t vs2, size_t rs1, size_t vl);
```

C.3.9. Vector Narrowing Integer Right Shift Intrinsics

```
vint8mf8_t __riscv_vnsra(vint16mf4_t vs2, vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vnsra(vint16mf4_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vnsra(vint16mf2_t vs2, vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vnsra(vint16mf2_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vnsra(vint16m1_t vs2, vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vnsra(vint16m1_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vnsra(vint16m2_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vnsra(vint16m2_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vnsra(vint16m4_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vnsra(vint16m4_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vnsra(vint16m8_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vnsra(vint16m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vnsra(vint32mf2_t vs2, vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vnsra(vint32mf2_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vnsra(vint32m1_t vs2, vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vnsra(vint32m1_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vnsra(vint32m2_t vs2, vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vnsra(vint32m2_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vnsra(vint32m4_t vs2, vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vnsra(vint32m4_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vnsra(vint32m8_t vs2, vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vnsra(vint32m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vnsra(vint64m1_t vs2, vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vnsra(vint64m1_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vnsra(vint64m2_t vs2, vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vnsra(vint64m2_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vnsra(vint64m4_t vs2, vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vnsra(vint64m4_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vnsra(vint64m8_t vs2, vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vnsra(vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vnsrl(vuint16mf4_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vnsrl(vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vnsrl(vuint16mf2_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vnsrl(vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vnsrl(vuint16m1_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vnsrl(vuint16m1_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vnsrl(vuint16m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vnsrl(vuint16m2_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vnsrl(vuint16m4_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vnsrl(vuint16m4_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vnsrl(vuint16m8_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vnsrl(vuint16m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vnsrl(vuint32mf2_t vs2, vuint16mf4_t vs1, size_t vl);
```

```
vuint16mf4_t __riscv_vnsrl(vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vnsrl(vuint32m1_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vnsrl(vuint32m1_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vnsrl(vuint32m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vnsrl(vuint32m2_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vnsrl(vuint32m4_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vnsrl(vuint32m4_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vnsrl(vuint32m8_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vnsrl(vuint32m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vnsrl(vuint64m1_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vnsrl(vuint64m1_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vnsrl(vuint64m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vnsrl(vuint64m2_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vnsrl(vuint64m4_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vnsrl(vuint64m4_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vnsrl(vuint64m8_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vnsrl(vuint64m8_t vs2, size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vnsra(vbool64_t vm, vint16mf4_t vs2, vuint8mf8_t vs1,
                         size_t vl);
vint8mf8_t __riscv_vnsra(vbool64_t vm, vint16mf4_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vnsra(vbool32_t vm, vint16mf2_t vs2, vuint8mf4_t vs1,
                         size_t vl);
vint8mf4_t __riscv_vnsra(vbool32_t vm, vint16mf2_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vnsra(vbool16_t vm, vint16m1_t vs2, vuint8mf2_t vs1,
                         size_t vl);
vint8mf2_t __riscv_vnsra(vbool16_t vm, vint16m1_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vnsra(vbool8_t vm, vint16m2_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vnsra(vbool8_t vm, vint16m2_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vnsra(vbool4_t vm, vint16m4_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vnsra(vbool4_t vm, vint16m4_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vnsra(vbool2_t vm, vint16m8_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vnsra(vbool2_t vm, vint16m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vnsra(vbool64_t vm, vint32mf2_t vs2, vuint16mf4_t vs1,
                          size_t vl);
vint16mf4_t __riscv_vnsra(vbool64_t vm, vint32mf2_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vnsra(vbool32_t vm, vint32m1_t vs2, vuint16mf2_t vs1,
                          size_t vl);
vint16mf2_t __riscv_vnsra(vbool32_t vm, vint32m1_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vnsra(vbool16_t vm, vint32m2_t vs2, vuint16m1_t vs1,
                         size_t vl);
vint16m1_t __riscv_vnsra(vbool16_t vm, vint32m2_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vnsra(vbool8_t vm, vint32m4_t vs2, vuint16m2_t vs1,
                         size_t vl);
vint16m2_t __riscv_vnsra(vbool8_t vm, vint32m4_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vnsra(vbool4_t vm, vint32m8_t vs2, vuint16m4_t vs1,
                         size_t vl);
vint16m4_t __riscv_vnsra(vbool4_t vm, vint32m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vnsra(vbool64_t vm, vint64m1_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vint32mf2_t __riscv_vnsra(vbool64_t vm, vint64m1_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vnsra(vbool32_t vm, vint64m2_t vs2, vuint32m1_t vs1,
                         size_t vl);
vint32m1_t __riscv_vnsra(vbool32_t vm, vint64m2_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vnsra(vbool16_t vm, vint64m4_t vs2, vuint32m2_t vs1,
                         size_t vl);
vint32m2_t __riscv_vnsra(vbool16_t vm, vint64m4_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vnsra(vbool8_t vm, vint64m8_t vs2, vuint32m4_t vs1,
                         size_t vl);
vint32m4_t __riscv_vnsra(vbool8_t vm, vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vnsrl(vbool64_t vm, vuint16mf4_t vs2, vuint8mf8_t vs1,
                          size_t vl);
vuint8mf8_t __riscv_vnsrl(vbool64_t vm, vuint16mf4_t vs2, size_t rs1,
                          size_t vl);
vuint8mf4_t __riscv_vnsrl(vbool32_t vm, vuint16mf2_t vs2, vuint8mf4_t vs1,
                          size_t vl);
vuint8mf4_t __riscv_vnsrl(vbool32_t vm, vuint16mf2_t vs2, size_t rs1,
```

```
                          size_t vl);
vuint8mf2_t __riscv_vnsrl(vbool16_t vm, vuint16m1_t vs2, vuint8mf2_t vs1,
                          size_t vl);
vuint8mf2_t __riscv_vnsrl(vbool16_t vm, vuint16m1_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vnsrl(vbool8_t vm, vuint16m2_t vs2, vuint8m1_t vs1,
                         size_t vl);
vuint8m1_t __riscv_vnsrl(vbool8_t vm, vuint16m2_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vnsrl(vbool4_t vm, vuint16m4_t vs2, vuint8m2_t vs1,
                         size_t vl);
vuint8m2_t __riscv_vnsrl(vbool4_t vm, vuint16m4_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vnsrl(vbool2_t vm, vuint16m8_t vs2, vuint8m4_t vs1,
                         size_t vl);
vuint8m4_t __riscv_vnsrl(vbool2_t vm, vuint16m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vnsrl(vbool64_t vm, vuint32mf2_t vs2, vuint16mf4_t vs1,
                           size_t vl);
vuint16mf4_t __riscv_vnsrl(vbool64_t vm, vuint32mf2_t vs2, size_t rs1,
                           size_t vl);
vuint16mf2_t __riscv_vnsrl(vbool32_t vm, vuint32m1_t vs2, vuint16mf2_t vs1,
                           size_t vl);
vuint16mf2_t __riscv_vnsrl(vbool32_t vm, vuint32m1_t vs2, size_t rs1,
                           size_t vl);
vuint16m1_t __riscv_vnsrl(vbool16_t vm, vuint32m2_t vs2, vuint16m1_t vs1,
                          size_t vl);
vuint16m1_t __riscv_vnsrl(vbool16_t vm, vuint32m2_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vnsrl(vbool8_t vm, vuint32m4_t vs2, vuint16m2_t vs1,
                          size_t vl);
vuint16m2_t __riscv_vnsrl(vbool8_t vm, vuint32m4_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vnsrl(vbool4_t vm, vuint32m8_t vs2, vuint16m4_t vs1,
                          size_t vl);
vuint16m4_t __riscv_vnsrl(vbool4_t vm, vuint32m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vnsrl(vbool64_t vm, vuint64m1_t vs2, vuint32mf2_t vs1,
                           size_t vl);
vuint32mf2_t __riscv_vnsrl(vbool64_t vm, vuint64m1_t vs2, size_t rs1,
                           size_t vl);
vuint32m1_t __riscv_vnsrl(vbool32_t vm, vuint64m2_t vs2, vuint32m1_t vs1,
                          size_t vl);
vuint32m1_t __riscv_vnsrl(vbool32_t vm, vuint64m2_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vnsrl(vbool16_t vm, vuint64m4_t vs2, vuint32m2_t vs1,
                          size_t vl);
vuint32m2_t __riscv_vnsrl(vbool16_t vm, vuint64m4_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vnsrl(vbool8_t vm, vuint64m8_t vs2, vuint32m4_t vs1,
                          size_t vl);
vuint32m4_t __riscv_vnsrl(vbool8_t vm, vuint64m8_t vs2, size_t rs1, size_t vl);
```

C.3.10. Vector Integer Narrowing Intrinsics

```
vint8mf8_t __riscv_vncvt_x(vint16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vncvt_x(vint16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vncvt_x(vint16m1_t vs2, size_t vl);
vint8m1_t __riscv_vncvt_x(vint16m2_t vs2, size_t vl);
vint8m2_t __riscv_vncvt_x(vint16m4_t vs2, size_t vl);
vint8m4_t __riscv_vncvt_x(vint16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vncvt_x(vuint16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vncvt_x(vuint16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vncvt_x(vuint16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vncvt_x(vuint16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vncvt_x(vuint16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vncvt_x(vuint16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vncvt_x(vint32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vncvt_x(vint32m1_t vs2, size_t vl);
vint16m1_t __riscv_vncvt_x(vint32m2_t vs2, size_t vl);
vint16m2_t __riscv_vncvt_x(vint32m4_t vs2, size_t vl);
vint16m4_t __riscv_vncvt_x(vint32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vncvt_x(vuint32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vncvt_x(vuint32m1_t vs2, size_t vl);
```

```
vuint16m1_t __riscv_vncvt_x(vuint32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vncvt_x(vuint32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vncvt_x(vuint32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vncvt_x(vint64m1_t vs2, size_t vl);
vint32m1_t __riscv_vncvt_x(vint64m2_t vs2, size_t vl);
vint32m2_t __riscv_vncvt_x(vint64m4_t vs2, size_t vl);
vint32m4_t __riscv_vncvt_x(vint64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vncvt_x(vuint64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vncvt_x(vuint64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vncvt_x(vuint64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vncvt_x(vuint64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vncvt_x(vbool64_t vm, vint16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vncvt_x(vbool32_t vm, vint16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vncvt_x(vbool16_t vm, vint16m1_t vs2, size_t vl);
vint8m1_t __riscv_vncvt_x(vbool8_t vm, vint16m2_t vs2, size_t vl);
vint8m2_t __riscv_vncvt_x(vbool4_t vm, vint16m4_t vs2, size_t vl);
vint8m4_t __riscv_vncvt_x(vbool2_t vm, vint16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vncvt_x(vbool64_t vm, vuint16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vncvt_x(vbool32_t vm, vuint16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vncvt_x(vbool16_t vm, vuint16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vncvt_x(vbool8_t vm, vuint16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vncvt_x(vbool4_t vm, vuint16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vncvt_x(vbool2_t vm, vuint16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vncvt_x(vbool64_t vm, vint32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vncvt_x(vbool32_t vm, vint32m1_t vs2, size_t vl);
vint16m1_t __riscv_vncvt_x(vbool16_t vm, vint32m2_t vs2, size_t vl);
vint16m2_t __riscv_vncvt_x(vbool8_t vm, vint32m4_t vs2, size_t vl);
vint16m4_t __riscv_vncvt_x(vbool4_t vm, vint32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vncvt_x(vbool64_t vm, vuint32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vncvt_x(vbool32_t vm, vuint32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vncvt_x(vbool16_t vm, vuint32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vncvt_x(vbool8_t vm, vuint32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vncvt_x(vbool4_t vm, vuint32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vncvt_x(vbool64_t vm, vint64m1_t vs2, size_t vl);
vint32m1_t __riscv_vncvt_x(vbool32_t vm, vint64m2_t vs2, size_t vl);
vint32m2_t __riscv_vncvt_x(vbool16_t vm, vint64m4_t vs2, size_t vl);
vint32m4_t __riscv_vncvt_x(vbool8_t vm, vint64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vncvt_x(vbool64_t vm, vuint64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vncvt_x(vbool32_t vm, vuint64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vncvt_x(vbool16_t vm, vuint64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vncvt_x(vbool8_t vm, vuint64m8_t vs2, size_t vl);
```

C.3.11. Vector Integer Compare Intrinsics

```
vbool64_t __riscv_vmseq(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmseq(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmseq(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmseq(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmseq(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmseq(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmseq(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmseq(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmseq(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmseq(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmseq(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmseq(vint16m1_t vs2, int16_t rs1, size_t vl);
```

```
vbool8_t __riscv_vmseq(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmseq(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmseq(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmseq(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmseq(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmseq(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmseq(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmseq(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmseq(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmseq(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmseq(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsne(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsne(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsne(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsne(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsne(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsne(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsne(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsne(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsne(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsne(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsne(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsne(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsne(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsne(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsne(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsne(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsne(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsne(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsne(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsne(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsne(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
```

```
vbool8_t __riscv_vmsne(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmslt(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmslt(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmslt(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmslt(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmslt(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmslt(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmslt(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmslt(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmslt(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmslt(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmslt(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmslt(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmslt(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmslt(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmslt(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmslt(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmslt(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmslt(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmslt(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmslt(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmslt(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmslt(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmslt(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmslt(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmslt(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmslt(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmslt(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmslt(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmslt(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmslt(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmslt(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmslt(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmslt(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmslt(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmslt(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmslt(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmslt(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmslt(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmslt(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmslt(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmslt(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmslt(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmslt(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmslt(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsle(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsle(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsle(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsle(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsle(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsle(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsle(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsle(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsle(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsle(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsle(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsle(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsle(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsle(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsle(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsle(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsle(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsle(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsle(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsle(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsle(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsle(vint16m2_t vs2, int16_t rs1, size_t vl);
```

```
vbool4_t __riscv_vmsle(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsle(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsle(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsle(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsle(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsle(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsle(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsle(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsle(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsle(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsle(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsle(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsle(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsle(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsle(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsle(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsle(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsle(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsle(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsle(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsle(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsle(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsgt(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsgt(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsgt(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsgt(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsgt(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsgt(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsgt(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgt(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsgt(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgt(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsgt(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgt(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsgt(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgt(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsgt(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsgt(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsgt(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsgt(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsgt(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsgt(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsgt(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgt(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsgt(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgt(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsgt(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgt(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsgt(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsgt(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsgt(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsgt(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsgt(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsgt(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsgt(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgt(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsgt(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgt(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsgt(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsgt(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsgt(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsgt(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsgt(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsgt(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsgt(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsgt(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsge(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
```

```
vbool64_t __riscv_vmsge(vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsge(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsge(vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsge(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsge(vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsge(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsge(vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsge(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsge(vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsge(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsge(vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsge(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsge(vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsge(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsge(vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsge(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsge(vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsge(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsge(vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsge(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsge(vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsge(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsge(vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsge(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsge(vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsge(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsge(vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsge(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsge(vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsge(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsge(vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsge(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsge(vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsge(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsge(vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsge(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsge(vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsge(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsge(vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsge(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsge(vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsge(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsge(vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmseq(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmseq(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmseq(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmseq(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmseq(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmseq(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmseq(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmseq(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmseq(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmseq(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmseq(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmseq(vuint16m4_t vs2, uint16_t rs1, size_t vl);
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vbool2_t __riscv_vmseq(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmseq(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmseq(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmseq(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmseq(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmseq(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmseq(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmseq(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmseq(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsne(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsne(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsne(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsne(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsne(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsne(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsne(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsne(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsne(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsne(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsne(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsne(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsne(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsne(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsne(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsne(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsne(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsne(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsne(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsne(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsne(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsltu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsltu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsltu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
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vbool32_t __riscv_vmsltu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsltu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsltu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsltu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsltu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsltu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsltu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsltu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsltu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsltu(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsltu(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsltu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsltu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsltu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsltu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsltu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsltu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsltu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsltu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsltu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsltu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsltu(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsltu(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsltu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsltu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsltu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsltu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsltu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsltu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsltu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsltu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsltu(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsltu(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsltu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsltu(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsltu(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsltu(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsltu(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsltu(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsltu(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsltu(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsleu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsleu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsleu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsleu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsleu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsleu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsleu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsleu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsleu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsleu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsleu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsleu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsleu(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsleu(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsleu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsleu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsleu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsleu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsleu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsleu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsleu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsleu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsleu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsleu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsleu(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsleu(vuint16m8_t vs2, uint16_t rs1, size_t vl);
```

```
vbool64_t __riscv_vmsleu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsleu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsleu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsleu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsleu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsleu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsleu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsleu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsleu(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsleu(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsleu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsleu(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsleu(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsleu(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsleu(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsleu(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsleu(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsleu(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsgtu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsgtu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgtu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsgtu(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgtu(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsgtu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsgtu(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgtu(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsgtu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsgtu(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsgeu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
```

```
vbool16_t __riscv_vmsgeu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsgeu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgeu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsgeu(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgeu(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsgeu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsgeu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsgeu(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgeu(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsgeu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsgeu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsgeu(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsgeu(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vbool64_t __riscv_vmseq(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmseq(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmseq(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmseq(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmseq(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
```

```
vbool8_t __riscv_vmseq(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmseq(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmseq(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsne(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsne(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsne(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsne(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsne(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsne(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
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vbool16_t __riscv_vmsne(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmslt(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vbool64_t __riscv_vmslt(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmslt(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vbool32_t __riscv_vmslt(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmslt(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmslt(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmslt(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmslt(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmslt(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmslt(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmslt(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmslt(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmslt(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmslt(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmslt(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmslt(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmslt(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmslt(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmslt(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmslt(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmslt(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmslt(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmslt(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmslt(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmslt(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmslt(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmslt(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmslt(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmslt(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmslt(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmslt(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmslt(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmslt(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmslt(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmslt(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmslt(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmslt(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmslt(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmslt(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
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                        size_t vl);
vbool32_t __riscv_vmslt(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmslt(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmslt(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmslt(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmslt(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsle(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsle(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsle(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsle(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsle(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsle(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsle(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsle(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsle(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsle(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsle(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsle(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsle(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsle(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsle(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsle(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsle(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsle(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsle(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsle(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsle(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsle(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsle(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsle(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsle(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsle(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsle(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsle(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsle(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsle(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsle(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsle(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsle(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsle(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsle(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsle(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsle(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsle(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsle(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsle(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsle(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsle(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsle(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsle(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsgt(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsgt(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsgt(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
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                        size_t vl);
vbool32_t __riscv_vmsgt(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsgt(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsgt(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsgt(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgt(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsgt(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgt(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsgt(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgt(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vbool1_t __riscv_vmsgt(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgt(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsgt(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsgt(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsgt(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsgt(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsgt(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsgt(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsgt(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgt(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsgt(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgt(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsgt(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgt(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsgt(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsgt(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsgt(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsgt(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsgt(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsgt(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsgt(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgt(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsgt(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgt(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsgt(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsgt(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsgt(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsgt(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsgt(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsgt(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsgt(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsgt(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmsge(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsge(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vbool32_t __riscv_vmsge(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsge(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vbool16_t __riscv_vmsge(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsge(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vbool8_t __riscv_vmsge(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsge(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vbool4_t __riscv_vmsge(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsge(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vbool2_t __riscv_vmsge(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsge(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
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vbool1_t __riscv_vmsge(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsge(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vbool64_t __riscv_vmsge(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsge(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vbool32_t __riscv_vmsge(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsge(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vbool16_t __riscv_vmsge(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsge(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vbool8_t __riscv_vmsge(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsge(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vbool4_t __riscv_vmsge(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsge(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vbool2_t __riscv_vmsge(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsge(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vbool64_t __riscv_vmsge(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsge(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vbool32_t __riscv_vmsge(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsge(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vbool16_t __riscv_vmsge(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsge(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vbool8_t __riscv_vmsge(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsge(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vbool4_t __riscv_vmsge(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsge(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vbool64_t __riscv_vmsge(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsge(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vbool32_t __riscv_vmsge(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsge(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vbool16_t __riscv_vmsge(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsge(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vbool8_t __riscv_vmsge(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsge(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                        size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                        size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmseq(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmseq(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmseq(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmseq(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                        size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                        size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
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                        size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                       size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                       size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmseq(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                       size_t vl);
vbool2_t __riscv_vmseq(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                        size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                       size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                       size_t vl);
vbool4_t __riscv_vmseq(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmseq(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmseq(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmseq(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                       size_t vl);
vbool8_t __riscv_vmseq(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsne(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsne(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsne(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsne(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                        size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                        size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1, size_t vl);
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vbool8_t __riscv_vmsne(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                       size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                       size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsne(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                       size_t vl);
vbool2_t __riscv_vmsne(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                        size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                       size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                       size_t vl);
vbool4_t __riscv_vmsne(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmsne(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmsne(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmsne(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                       size_t vl);
vbool8_t __riscv_vmsne(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsltu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                         size_t vl);
vbool64_t __riscv_vmsltu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsltu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                         size_t vl);
vbool32_t __riscv_vmsltu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsltu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                         size_t vl);
vbool16_t __riscv_vmsltu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsltu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsltu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsltu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsltu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsltu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsltu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsltu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsltu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsltu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                         size_t vl);
vbool64_t __riscv_vmsltu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                         size_t vl);
vbool32_t __riscv_vmsltu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                         size_t vl);
vbool32_t __riscv_vmsltu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                         size_t vl);
vbool16_t __riscv_vmsltu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                         size_t vl);
vbool16_t __riscv_vmsltu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                         size_t vl);
vbool8_t __riscv_vmsltu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
```

```
                        size_t vl);
vbool8_t __riscv_vmsltu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsltu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                        size_t vl);
vbool4_t __riscv_vmsltu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsltu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                        size_t vl);
vbool2_t __riscv_vmsltu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsltu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                         size_t vl);
vbool64_t __riscv_vmsltu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                         size_t vl);
vbool32_t __riscv_vmsltu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                         size_t vl);
vbool32_t __riscv_vmsltu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                         size_t vl);
vbool16_t __riscv_vmsltu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                         size_t vl);
vbool16_t __riscv_vmsltu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                         size_t vl);
vbool8_t __riscv_vmsltu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                        size_t vl);
vbool8_t __riscv_vmsltu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsltu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                        size_t vl);
vbool4_t __riscv_vmsltu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsltu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                         size_t vl);
vbool64_t __riscv_vmsltu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                         size_t vl);
vbool32_t __riscv_vmsltu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                         size_t vl);
vbool32_t __riscv_vmsltu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                         size_t vl);
vbool16_t __riscv_vmsltu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                         size_t vl);
vbool16_t __riscv_vmsltu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                         size_t vl);
vbool8_t __riscv_vmsltu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                        size_t vl);
vbool8_t __riscv_vmsltu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsleu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                         size_t vl);
vbool64_t __riscv_vmsleu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsleu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                         size_t vl);
vbool32_t __riscv_vmsleu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsleu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                         size_t vl);
vbool16_t __riscv_vmsleu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsleu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsleu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsleu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsleu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsleu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsleu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsleu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsleu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsleu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                         size_t vl);
vbool64_t __riscv_vmsleu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                         size_t vl);
vbool32_t __riscv_vmsleu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                         size_t vl);
vbool32_t __riscv_vmsleu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                         size_t vl);
vbool16_t __riscv_vmsleu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
```

```
                          size_t vl);
vbool16_t __riscv_vmsleu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                          size_t vl);
vbool8_t __riscv_vmsleu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                         size_t vl);
vbool8_t __riscv_vmsleu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsleu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                         size_t vl);
vbool4_t __riscv_vmsleu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsleu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                         size_t vl);
vbool2_t __riscv_vmsleu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsleu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vbool64_t __riscv_vmsleu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                          size_t vl);
vbool32_t __riscv_vmsleu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                          size_t vl);
vbool32_t __riscv_vmsleu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                          size_t vl);
vbool16_t __riscv_vmsleu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                          size_t vl);
vbool16_t __riscv_vmsleu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                          size_t vl);
vbool8_t __riscv_vmsleu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                         size_t vl);
vbool8_t __riscv_vmsleu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsleu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                         size_t vl);
vbool4_t __riscv_vmsleu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsleu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                          size_t vl);
vbool64_t __riscv_vmsleu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                          size_t vl);
vbool32_t __riscv_vmsleu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                          size_t vl);
vbool32_t __riscv_vmsleu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                          size_t vl);
vbool16_t __riscv_vmsleu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                          size_t vl);
vbool16_t __riscv_vmsleu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                          size_t vl);
vbool8_t __riscv_vmsleu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                         size_t vl);
vbool8_t __riscv_vmsleu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                          size_t vl);
vbool64_t __riscv_vmsgtu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                          size_t vl);
vbool32_t __riscv_vmsgtu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                          size_t vl);
vbool16_t __riscv_vmsgtu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsgtu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgtu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsgtu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgtu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                          size_t vl);
vbool64_t __riscv_vmsgtu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                          size_t vl);
vbool32_t __riscv_vmsgtu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
```

```
                          size_t vl);
vbool32_t __riscv_vmsgtu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                          size_t vl);
vbool16_t __riscv_vmsgtu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                          size_t vl);
vbool16_t __riscv_vmsgtu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                          size_t vl);
vbool8_t __riscv_vmsgtu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                         size_t vl);
vbool8_t __riscv_vmsgtu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                         size_t vl);
vbool4_t __riscv_vmsgtu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsgtu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                         size_t vl);
vbool2_t __riscv_vmsgtu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vbool64_t __riscv_vmsgtu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                          size_t vl);
vbool32_t __riscv_vmsgtu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                          size_t vl);
vbool32_t __riscv_vmsgtu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                          size_t vl);
vbool16_t __riscv_vmsgtu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                          size_t vl);
vbool16_t __riscv_vmsgtu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                          size_t vl);
vbool8_t __riscv_vmsgtu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                         size_t vl);
vbool8_t __riscv_vmsgtu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                         size_t vl);
vbool4_t __riscv_vmsgtu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                          size_t vl);
vbool64_t __riscv_vmsgtu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                          size_t vl);
vbool32_t __riscv_vmsgtu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                          size_t vl);
vbool32_t __riscv_vmsgtu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                          size_t vl);
vbool16_t __riscv_vmsgtu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                          size_t vl);
vbool16_t __riscv_vmsgtu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                          size_t vl);
vbool8_t __riscv_vmsgtu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                         size_t vl);
vbool8_t __riscv_vmsgtu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                          size_t vl);
vbool64_t __riscv_vmsgeu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                          size_t vl);
vbool32_t __riscv_vmsgeu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                          size_t vl);
vbool16_t __riscv_vmsgeu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsgeu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgeu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsgeu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgeu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
```

```
                          size_t vl);
vbool64_t __riscv_vmsgeu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                          size_t vl);
vbool32_t __riscv_vmsgeu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                          size_t vl);
vbool32_t __riscv_vmsgeu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                          size_t vl);
vbool16_t __riscv_vmsgeu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                          size_t vl);
vbool16_t __riscv_vmsgeu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                          size_t vl);
vbool8_t __riscv_vmsgeu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                         size_t vl);
vbool8_t __riscv_vmsgeu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                         size_t vl);
vbool4_t __riscv_vmsgeu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsgeu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                         size_t vl);
vbool2_t __riscv_vmsgeu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vbool64_t __riscv_vmsgeu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                          size_t vl);
vbool32_t __riscv_vmsgeu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                          size_t vl);
vbool32_t __riscv_vmsgeu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                          size_t vl);
vbool16_t __riscv_vmsgeu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                          size_t vl);
vbool16_t __riscv_vmsgeu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                          size_t vl);
vbool8_t __riscv_vmsgeu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                         size_t vl);
vbool8_t __riscv_vmsgeu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                        size_t vl);
vbool4_t __riscv_vmsgeu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                          size_t vl);
vbool64_t __riscv_vmsgeu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                          size_t vl);
vbool32_t __riscv_vmsgeu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                          size_t vl);
vbool32_t __riscv_vmsgeu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                          size_t vl);
vbool16_t __riscv_vmsgeu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                          size_t vl);
vbool16_t __riscv_vmsgeu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                          size_t vl);
vbool8_t __riscv_vmsgeu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                        size_t vl);
vbool8_t __riscv_vmsgeu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
```

C.3.12. Vector Integer Min/Max Intrinsics

```
vint8mf8_t __riscv_vmin(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmin(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmin(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmin(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmin(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmin(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmin(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmin(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmin(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
```

```
vint8m2_t __riscv_vmin(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmin(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmin(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmin(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmin(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmin(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmin(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmin(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmin(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmin(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmin(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmin(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmin(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmin(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmin(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmin(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmin(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmin(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmin(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmin(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmin(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmin(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmin(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmin(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmin(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmin(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmin(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmin(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmin(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmin(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmin(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmin(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmin(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmin(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmin(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmax(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmax(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmax(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmax(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmax(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmax(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmax(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmax(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmax(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmax(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmax(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmax(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmax(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmax(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmax(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmax(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmax(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmax(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmax(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmax(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmax(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmax(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmax(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmax(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmax(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmax(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmax(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmax(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmax(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmax(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmax(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmax(vint32m2_t vs2, int32_t rs1, size_t vl);
```

```
vint32m4_t __riscv_vmax(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmax(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmax(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmax(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmax(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmax(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmax(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmax(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmax(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmax(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmax(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmax(vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vminu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vminu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vminu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vminu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vminu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vminu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vminu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vminu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vminu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vminu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vminu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vminu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vminu(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vminu(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vminu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vminu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vminu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vminu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vminu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vminu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vminu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vminu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vminu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vminu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vminu(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vminu(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vminu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vminu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vminu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vminu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vminu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vminu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vminu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vminu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vminu(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vminu(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vminu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vminu(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vminu(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vminu(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vminu(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vminu(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vminu(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vminu(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmaxu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmaxu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmaxu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmaxu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmaxu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmaxu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmaxu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmaxu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmaxu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmaxu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmaxu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
```

```
vuint8m4_t __riscv_vmaxu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmaxu(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmaxu(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmaxu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmaxu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmaxu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmaxu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmaxu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmaxu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmaxu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmaxu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmaxu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmaxu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmaxu(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmaxu(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmaxu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmaxu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmaxu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmaxu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmaxu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmaxu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmaxu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmaxu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmaxu(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmaxu(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmaxu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmaxu(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmaxu(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmaxu(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmaxu(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmaxu(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmaxu(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmaxu(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vmin(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vint8mf8_t __riscv_vmin(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmin(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vint8mf4_t __riscv_vmin(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmin(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vint8mf2_t __riscv_vmin(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmin(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmin(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmin(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmin(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmin(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmin(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmin(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmin(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmin(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                         size_t vl);
vint16mf4_t __riscv_vmin(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmin(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                         size_t vl);
vint16mf2_t __riscv_vmin(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmin(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vint16m1_t __riscv_vmin(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmin(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmin(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmin(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmin(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmin(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmin(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmin(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
```

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                         size_t vl);
vint32mf2_t __riscv_vmin(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmin(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vint32m1_t __riscv_vmin(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmin(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vint32m2_t __riscv_vmin(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmin(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmin(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmin(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmin(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmin(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vint64m1_t __riscv_vmin(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmin(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vint64m2_t __riscv_vmin(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmin(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vint64m4_t __riscv_vmin(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmin(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmin(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmax(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vint8mf8_t __riscv_vmax(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmax(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vint8mf4_t __riscv_vmax(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmax(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vint8mf2_t __riscv_vmax(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmax(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmax(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmax(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmax(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmax(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmax(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmax(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmax(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmax(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                         size_t vl);
vint16mf4_t __riscv_vmax(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmax(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                         size_t vl);
vint16mf2_t __riscv_vmax(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmax(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vint16m1_t __riscv_vmax(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmax(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmax(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmax(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmax(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmax(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmax(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmax(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                         size_t vl);
vint32mf2_t __riscv_vmax(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmax(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vint32m1_t __riscv_vmax(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmax(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vint32m2_t __riscv_vmax(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmax(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmax(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmax(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
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vint32m8_t __riscv_vmax(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmax(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vint64m1_t __riscv_vmax(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmax(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vint64m2_t __riscv_vmax(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmax(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vint64m4_t __riscv_vmax(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmax(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmax(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vminu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                          size_t vl);
vuint8mf8_t __riscv_vminu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                          size_t vl);
vuint8mf4_t __riscv_vminu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                          size_t vl);
vuint8mf4_t __riscv_vminu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                          size_t vl);
vuint8mf2_t __riscv_vminu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                          size_t vl);
vuint8mf2_t __riscv_vminu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                          size_t vl);
vuint8m1_t __riscv_vminu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                         size_t vl);
vuint8m1_t __riscv_vminu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vminu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                         size_t vl);
vuint8m2_t __riscv_vminu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vminu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                         size_t vl);
vuint8m4_t __riscv_vminu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vminu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                         size_t vl);
vuint8m8_t __riscv_vminu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vminu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                           size_t vl);
vuint16mf4_t __riscv_vminu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                           size_t vl);
vuint16mf2_t __riscv_vminu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                           size_t vl);
vuint16mf2_t __riscv_vminu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m1_t __riscv_vminu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                          size_t vl);
vuint16m1_t __riscv_vminu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m2_t __riscv_vminu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                          size_t vl);
vuint16m2_t __riscv_vminu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m4_t __riscv_vminu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                          size_t vl);
vuint16m4_t __riscv_vminu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m8_t __riscv_vminu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                          size_t vl);
vuint16m8_t __riscv_vminu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                          size_t vl);
vuint32mf2_t __riscv_vminu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                           size_t vl);
vuint32mf2_t __riscv_vminu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m1_t __riscv_vminu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                          size_t vl);
vuint32m1_t __riscv_vminu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
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                          size_t vl);
vuint32m2_t __riscv_vminu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                          size_t vl);
vuint32m2_t __riscv_vminu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m4_t __riscv_vminu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                          size_t vl);
vuint32m4_t __riscv_vminu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m8_t __riscv_vminu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                          size_t vl);
vuint32m8_t __riscv_vminu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                          size_t vl);
vuint64m1_t __riscv_vminu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                          size_t vl);
vuint64m1_t __riscv_vminu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m2_t __riscv_vminu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                          size_t vl);
vuint64m2_t __riscv_vminu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m4_t __riscv_vminu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                          size_t vl);
vuint64m4_t __riscv_vminu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m8_t __riscv_vminu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                          size_t vl);
vuint64m8_t __riscv_vminu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                          size_t vl);
vuint8mf8_t __riscv_vmaxu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                          size_t vl);
vuint8mf8_t __riscv_vmaxu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                          size_t vl);
vuint8mf4_t __riscv_vmaxu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                          size_t vl);
vuint8mf4_t __riscv_vmaxu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                          size_t vl);
vuint8mf2_t __riscv_vmaxu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                          size_t vl);
vuint8mf2_t __riscv_vmaxu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                          size_t vl);
vuint8m1_t __riscv_vmaxu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                         size_t vl);
vuint8m1_t __riscv_vmaxu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmaxu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                         size_t vl);
vuint8m2_t __riscv_vmaxu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmaxu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                         size_t vl);
vuint8m4_t __riscv_vmaxu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmaxu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                         size_t vl);
vuint8m8_t __riscv_vmaxu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmaxu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                           size_t vl);
vuint16mf4_t __riscv_vmaxu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                           size_t vl);
vuint16mf2_t __riscv_vmaxu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                           size_t vl);
vuint16mf2_t __riscv_vmaxu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m1_t __riscv_vmaxu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                          size_t vl);
vuint16m1_t __riscv_vmaxu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m2_t __riscv_vmaxu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                          size_t vl);
```

```
vuint16m2_t __riscv_vmaxu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m4_t __riscv_vmaxu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                          size_t vl);
vuint16m4_t __riscv_vmaxu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m8_t __riscv_vmaxu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                          size_t vl);
vuint16m8_t __riscv_vmaxu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                          size_t vl);
vuint32mf2_t __riscv_vmaxu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                           size_t vl);
vuint32mf2_t __riscv_vmaxu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m1_t __riscv_vmaxu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                          size_t vl);
vuint32m1_t __riscv_vmaxu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m2_t __riscv_vmaxu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                          size_t vl);
vuint32m2_t __riscv_vmaxu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m4_t __riscv_vmaxu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                          size_t vl);
vuint32m4_t __riscv_vmaxu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m8_t __riscv_vmaxu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                          size_t vl);
vuint32m8_t __riscv_vmaxu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                          size_t vl);
vuint64m1_t __riscv_vmaxu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                          size_t vl);
vuint64m1_t __riscv_vmaxu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m2_t __riscv_vmaxu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                          size_t vl);
vuint64m2_t __riscv_vmaxu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m4_t __riscv_vmaxu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                          size_t vl);
vuint64m4_t __riscv_vmaxu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m8_t __riscv_vmaxu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                          size_t vl);
vuint64m8_t __riscv_vmaxu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                          size_t vl);
```

C.3.13. Vector Single-Width Integer Multiply Intrinsics

```
vint8mf8_t __riscv_vmul(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmul(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmul(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmul(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmul(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmul(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmul(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmul(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmul(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmul(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmul(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmul(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmul(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmul(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmul(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmul(vint16mf4_t vs2, int16_t rs1, size_t vl);
```

```
vint16mf2_t __riscv_vmul(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmul(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmul(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmul(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmul(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmul(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmul(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmul(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmul(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmul(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmul(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmul(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmul(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmul(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmul(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmul(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmul(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmul(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmul(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmul(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmul(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmul(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmul(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmul(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmul(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmul(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmul(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmul(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulh(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulh(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulh(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulh(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulh(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulh(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmulh(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulh(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmulh(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulh(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmulh(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulh(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmulh(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulh(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulh(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulh(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulh(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulh(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmulh(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulh(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmulh(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulh(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmulh(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulh(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmulh(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulh(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulh(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulh(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmulh(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulh(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmulh(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulh(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmulh(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulh(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmulh(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulh(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmulh(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulh(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmulh(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
```

```
vint64m2_t __riscv_vmulh(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmulh(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulh(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmulh(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulh(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulhsu(vint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulhsu(vint8mf8_t vs2, uint8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulhsu(vint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulhsu(vint8mf4_t vs2, uint8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulhsu(vint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulhsu(vint8mf2_t vs2, uint8_t rs1, size_t vl);
vint8m1_t __riscv_vmulhsu(vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulhsu(vint8m1_t vs2, uint8_t rs1, size_t vl);
vint8m2_t __riscv_vmulhsu(vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulhsu(vint8m2_t vs2, uint8_t rs1, size_t vl);
vint8m4_t __riscv_vmulhsu(vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulhsu(vint8m4_t vs2, uint8_t rs1, size_t vl);
vint8m8_t __riscv_vmulhsu(vint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulhsu(vint8m8_t vs2, uint8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulhsu(vint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulhsu(vint16mf4_t vs2, uint16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulhsu(vint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulhsu(vint16mf2_t vs2, uint16_t rs1, size_t vl);
vint16m1_t __riscv_vmulhsu(vint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulhsu(vint16m1_t vs2, uint16_t rs1, size_t vl);
vint16m2_t __riscv_vmulhsu(vint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulhsu(vint16m2_t vs2, uint16_t rs1, size_t vl);
vint16m4_t __riscv_vmulhsu(vint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulhsu(vint16m4_t vs2, uint16_t rs1, size_t vl);
vint16m8_t __riscv_vmulhsu(vint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulhsu(vint16m8_t vs2, uint16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulhsu(vint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulhsu(vint32mf2_t vs2, uint32_t rs1, size_t vl);
vint32m1_t __riscv_vmulhsu(vint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulhsu(vint32m1_t vs2, uint32_t rs1, size_t vl);
vint32m2_t __riscv_vmulhsu(vint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulhsu(vint32m2_t vs2, uint32_t rs1, size_t vl);
vint32m4_t __riscv_vmulhsu(vint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulhsu(vint32m4_t vs2, uint32_t rs1, size_t vl);
vint32m8_t __riscv_vmulhsu(vint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulhsu(vint32m8_t vs2, uint32_t rs1, size_t vl);
vint64m1_t __riscv_vmulhsu(vint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulhsu(vint64m1_t vs2, uint64_t rs1, size_t vl);
vint64m2_t __riscv_vmulhsu(vint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulhsu(vint64m2_t vs2, uint64_t rs1, size_t vl);
vint64m4_t __riscv_vmulhsu(vint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulhsu(vint64m4_t vs2, uint64_t rs1, size_t vl);
vint64m8_t __riscv_vmulhsu(vint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulhsu(vint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmul(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmul(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmul(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmul(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmul(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmul(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmul(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmul(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmul(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmul(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmul(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmul(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmul(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmul(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmul(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmul(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmul(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmul(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
```

```
vuint16m1_t __riscv_vmul(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmul(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmul(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmul(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmul(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmul(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmul(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmul(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmul(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmul(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmul(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmul(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmul(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmul(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmul(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmul(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmul(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmul(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmul(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmul(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmul(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmul(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmul(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmul(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmul(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmul(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmulhu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmulhu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmulhu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmulhu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmulhu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmulhu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmulhu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmulhu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmulhu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmulhu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmulhu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmulhu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmulhu(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmulhu(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmulhu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmulhu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmulhu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmulhu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmulhu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmulhu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmulhu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmulhu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmulhu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmulhu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmulhu(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmulhu(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmulhu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmulhu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmulhu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmulhu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmulhu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmulhu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmulhu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmulhu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmulhu(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmulhu(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmulhu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmulhu(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmulhu(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmulhu(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmulhu(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
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vuint64m4_t __riscv_vmulhu(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmulhu(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmulhu(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vmul(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vint8mf8_t __riscv_vmul(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmul(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vint8mf4_t __riscv_vmul(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmul(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vint8mf2_t __riscv_vmul(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmul(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmul(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmul(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmul(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmul(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmul(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmul(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmul(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmul(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                         size_t vl);
vint16mf4_t __riscv_vmul(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmul(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                         size_t vl);
vint16mf2_t __riscv_vmul(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmul(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vint16m1_t __riscv_vmul(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmul(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmul(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmul(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmul(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmul(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmul(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmul(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                         size_t vl);
vint32mf2_t __riscv_vmul(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmul(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vint32m1_t __riscv_vmul(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmul(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vint32m2_t __riscv_vmul(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmul(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmul(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmul(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmul(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmul(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vint64m1_t __riscv_vmul(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmul(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vint64m2_t __riscv_vmul(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmul(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vint64m4_t __riscv_vmul(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmul(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmul(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulh(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                         size_t vl);
vint8mf8_t __riscv_vmulh(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulh(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                         size_t vl);
vint8mf4_t __riscv_vmulh(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulh(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
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                          size_t vl);
vint8mf2_t __riscv_vmulh(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmulh(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulh(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmulh(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulh(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmulh(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulh(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmulh(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulh(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulh(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                          size_t vl);
vint16mf4_t __riscv_vmulh(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                          size_t vl);
vint16mf2_t __riscv_vmulh(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                          size_t vl);
vint16mf2_t __riscv_vmulh(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                          size_t vl);
vint16m1_t __riscv_vmulh(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                         size_t vl);
vint16m1_t __riscv_vmulh(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmulh(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                         size_t vl);
vint16m2_t __riscv_vmulh(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmulh(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                         size_t vl);
vint16m4_t __riscv_vmulh(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmulh(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                         size_t vl);
vint16m8_t __riscv_vmulh(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulh(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                          size_t vl);
vint32mf2_t __riscv_vmulh(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                          size_t vl);
vint32m1_t __riscv_vmulh(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                         size_t vl);
vint32m1_t __riscv_vmulh(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmulh(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                         size_t vl);
vint32m2_t __riscv_vmulh(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmulh(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                         size_t vl);
vint32m4_t __riscv_vmulh(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmulh(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                         size_t vl);
vint32m8_t __riscv_vmulh(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmulh(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                         size_t vl);
vint64m1_t __riscv_vmulh(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmulh(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                         size_t vl);
vint64m2_t __riscv_vmulh(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmulh(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                         size_t vl);
vint64m4_t __riscv_vmulh(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmulh(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                         size_t vl);
vint64m8_t __riscv_vmulh(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulhsu(vbool64_t vm, vint8mf8_t vs2, vuint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vmulhsu(vbool64_t vm, vint8mf8_t vs2, uint8_t rs1,
                           size_t vl);
vint8mf4_t __riscv_vmulhsu(vbool32_t vm, vint8mf4_t vs2, vuint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vmulhsu(vbool32_t vm, vint8mf4_t vs2, uint8_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vmulhsu(vbool16_t vm, vint8mf2_t vs2, vuint8mf2_t vs1,
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                            size_t vl);
vint8mf2_t __riscv_vmulhsu(vbool16_t vm, vint8mf2_t vs2, uint8_t rs1,
                            size_t vl);
vint8m1_t __riscv_vmulhsu(vbool8_t vm, vint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vint8m1_t __riscv_vmulhsu(vbool8_t vm, vint8m1_t vs2, uint8_t rs1, size_t vl);
vint8m2_t __riscv_vmulhsu(vbool4_t vm, vint8m2_t vs2, vuint8m2_t vs1,
                           size_t vl);
vint8m2_t __riscv_vmulhsu(vbool4_t vm, vint8m2_t vs2, uint8_t rs1, size_t vl);
vint8m4_t __riscv_vmulhsu(vbool2_t vm, vint8m4_t vs2, vuint8m4_t vs1,
                           size_t vl);
vint8m4_t __riscv_vmulhsu(vbool2_t vm, vint8m4_t vs2, uint8_t rs1, size_t vl);
vint8m8_t __riscv_vmulhsu(vbool1_t vm, vint8m8_t vs2, vuint8m8_t vs1,
                           size_t vl);
vint8m8_t __riscv_vmulhsu(vbool1_t vm, vint8m8_t vs2, uint8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulhsu(vbool64_t vm, vint16mf4_t vs2, vuint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vmulhsu(vbool64_t vm, vint16mf4_t vs2, uint16_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vmulhsu(vbool32_t vm, vint16mf2_t vs2, vuint16mf2_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vmulhsu(vbool32_t vm, vint16mf2_t vs2, uint16_t rs1,
                            size_t vl);
vint16m1_t __riscv_vmulhsu(vbool16_t vm, vint16m1_t vs2, vuint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vmulhsu(vbool16_t vm, vint16m1_t vs2, uint16_t rs1,
                           size_t vl);
vint16m2_t __riscv_vmulhsu(vbool8_t vm, vint16m2_t vs2, vuint16m2_t vs1,
                           size_t vl);
vint16m2_t __riscv_vmulhsu(vbool8_t vm, vint16m2_t vs2, uint16_t rs1,
                           size_t vl);
vint16m4_t __riscv_vmulhsu(vbool4_t vm, vint16m4_t vs2, vuint16m4_t vs1,
                           size_t vl);
vint16m4_t __riscv_vmulhsu(vbool4_t vm, vint16m4_t vs2, uint16_t rs1,
                           size_t vl);
vint16m8_t __riscv_vmulhsu(vbool2_t vm, vint16m8_t vs2, vuint16m8_t vs1,
                           size_t vl);
vint16m8_t __riscv_vmulhsu(vbool2_t vm, vint16m8_t vs2, uint16_t rs1,
                           size_t vl);
vint32mf2_t __riscv_vmulhsu(vbool64_t vm, vint32mf2_t vs2, vuint32mf2_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vmulhsu(vbool64_t vm, vint32mf2_t vs2, uint32_t rs1,
                            size_t vl);
vint32m1_t __riscv_vmulhsu(vbool32_t vm, vint32m1_t vs2, vuint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vmulhsu(vbool32_t vm, vint32m1_t vs2, uint32_t rs1,
                           size_t vl);
vint32m2_t __riscv_vmulhsu(vbool16_t vm, vint32m2_t vs2, vuint32m2_t vs1,
                           size_t vl);
vint32m2_t __riscv_vmulhsu(vbool16_t vm, vint32m2_t vs2, uint32_t rs1,
                           size_t vl);
vint32m4_t __riscv_vmulhsu(vbool8_t vm, vint32m4_t vs2, vuint32m4_t vs1,
                           size_t vl);
vint32m4_t __riscv_vmulhsu(vbool8_t vm, vint32m4_t vs2, uint32_t rs1,
                           size_t vl);
vint32m8_t __riscv_vmulhsu(vbool4_t vm, vint32m8_t vs2, vuint32m8_t vs1,
                           size_t vl);
vint32m8_t __riscv_vmulhsu(vbool4_t vm, vint32m8_t vs2, uint32_t rs1,
                           size_t vl);
vint64m1_t __riscv_vmulhsu(vbool64_t vm, vint64m1_t vs2, vuint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vmulhsu(vbool64_t vm, vint64m1_t vs2, uint64_t rs1,
                           size_t vl);
vint64m2_t __riscv_vmulhsu(vbool32_t vm, vint64m2_t vs2, vuint64m2_t vs1,
                           size_t vl);
vint64m2_t __riscv_vmulhsu(vbool32_t vm, vint64m2_t vs2, uint64_t rs1,
                           size_t vl);
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vint64m4_t __riscv_vmulhsu(vbool16_t vm, vint64m4_t vs2, vuint64m4_t vs1,
                           size_t vl);
vint64m4_t __riscv_vmulhsu(vbool16_t vm, vint64m4_t vs2, uint64_t rs1,
                           size_t vl);
vint64m8_t __riscv_vmulhsu(vbool8_t vm, vint64m8_t vs2, vuint64m8_t vs1,
                           size_t vl);
vint64m8_t __riscv_vmulhsu(vbool8_t vm, vint64m8_t vs2, uint64_t rs1,
                           size_t vl);
vuint8mf8_t __riscv_vmul(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                         size_t vl);
vuint8mf8_t __riscv_vmul(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmul(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                         size_t vl);
vuint8mf4_t __riscv_vmul(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmul(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                         size_t vl);
vuint8mf2_t __riscv_vmul(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmul(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmul(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmul(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmul(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmul(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmul(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmul(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmul(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmul(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                          size_t vl);
vuint16mf4_t __riscv_vmul(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                          size_t vl);
vuint16mf2_t __riscv_vmul(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                          size_t vl);
vuint16mf2_t __riscv_vmul(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m1_t __riscv_vmul(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                         size_t vl);
vuint16m1_t __riscv_vmul(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                         size_t vl);
vuint16m2_t __riscv_vmul(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                         size_t vl);
vuint16m2_t __riscv_vmul(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmul(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                         size_t vl);
vuint16m4_t __riscv_vmul(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmul(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                         size_t vl);
vuint16m8_t __riscv_vmul(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmul(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vuint32mf2_t __riscv_vmul(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m1_t __riscv_vmul(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                         size_t vl);
vuint32m1_t __riscv_vmul(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                         size_t vl);
vuint32m2_t __riscv_vmul(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                         size_t vl);
vuint32m2_t __riscv_vmul(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                         size_t vl);
vuint32m4_t __riscv_vmul(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                         size_t vl);
vuint32m4_t __riscv_vmul(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmul(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                         size_t vl);
vuint32m8_t __riscv_vmul(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmul(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                         size_t vl);
vuint64m1_t __riscv_vmul(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
```

```
                          size_t vl);
vuint64m2_t __riscv_vmul(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                          size_t vl);
vuint64m2_t __riscv_vmul(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m4_t __riscv_vmul(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                          size_t vl);
vuint64m4_t __riscv_vmul(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m8_t __riscv_vmul(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                          size_t vl);
vuint64m8_t __riscv_vmul(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmulhu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                           size_t vl);
vuint8mf8_t __riscv_vmulhu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                           size_t vl);
vuint8mf4_t __riscv_vmulhu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                           size_t vl);
vuint8mf4_t __riscv_vmulhu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                           size_t vl);
vuint8mf2_t __riscv_vmulhu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                           size_t vl);
vuint8mf2_t __riscv_vmulhu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m1_t __riscv_vmulhu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                          size_t vl);
vuint8m1_t __riscv_vmulhu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmulhu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                          size_t vl);
vuint8m2_t __riscv_vmulhu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmulhu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                          size_t vl);
vuint8m4_t __riscv_vmulhu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmulhu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                          size_t vl);
vuint8m8_t __riscv_vmulhu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmulhu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                            size_t vl);
vuint16mf4_t __riscv_vmulhu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                            size_t vl);
vuint16mf2_t __riscv_vmulhu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                            size_t vl);
vuint16mf2_t __riscv_vmulhu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m1_t __riscv_vmulhu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                           size_t vl);
vuint16m1_t __riscv_vmulhu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m2_t __riscv_vmulhu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                           size_t vl);
vuint16m2_t __riscv_vmulhu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m4_t __riscv_vmulhu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                           size_t vl);
vuint16m4_t __riscv_vmulhu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m8_t __riscv_vmulhu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                           size_t vl);
vuint16m8_t __riscv_vmulhu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                           size_t vl);
vuint32mf2_t __riscv_vmulhu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                            size_t vl);
vuint32mf2_t __riscv_vmulhu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m1_t __riscv_vmulhu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                           size_t vl);
vuint32m1_t __riscv_vmulhu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
```

```
                          size_t vl);
vuint32m2_t __riscv_vmulhu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                          size_t vl);
vuint32m2_t __riscv_vmulhu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m4_t __riscv_vmulhu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                          size_t vl);
vuint32m4_t __riscv_vmulhu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m8_t __riscv_vmulhu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                          size_t vl);
vuint32m8_t __riscv_vmulhu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                          size_t vl);
vuint64m1_t __riscv_vmulhu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                          size_t vl);
vuint64m1_t __riscv_vmulhu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m2_t __riscv_vmulhu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                          size_t vl);
vuint64m2_t __riscv_vmulhu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m4_t __riscv_vmulhu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                          size_t vl);
vuint64m4_t __riscv_vmulhu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m8_t __riscv_vmulhu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                          size_t vl);
vuint64m8_t __riscv_vmulhu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                          size_t vl);
```

C.3.14. Vector Integer Divide Intrinsics

```
vint8mf8_t __riscv_vdiv(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vdiv(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vdiv(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vdiv(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vdiv(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vdiv(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vdiv(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vdiv(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vdiv(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vdiv(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vdiv(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vdiv(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vdiv(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vdiv(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vdiv(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vdiv(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vdiv(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vdiv(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vdiv(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vdiv(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vdiv(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vdiv(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vdiv(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vdiv(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vdiv(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vdiv(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vdiv(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vdiv(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vdiv(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vdiv(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vdiv(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vdiv(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vdiv(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
```

```
vint32m4_t __riscv_vdiv(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vdiv(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vdiv(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vdiv(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vdiv(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vdiv(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vdiv(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vdiv(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vdiv(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vdiv(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vdiv(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrem(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrem(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrem(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrem(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrem(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrem(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vrem(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrem(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vrem(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrem(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vrem(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrem(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vrem(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrem(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrem(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrem(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrem(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrem(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vrem(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrem(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vrem(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrem(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vrem(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrem(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vrem(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrem(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrem(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrem(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vrem(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrem(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vrem(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrem(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vrem(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrem(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vrem(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrem(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vrem(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrem(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vrem(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrem(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vrem(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrem(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vrem(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrem(vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vdivu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vdivu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vdivu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vdivu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vdivu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vdivu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vdivu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vdivu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vdivu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vdivu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vdivu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vdivu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
```

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vuint8m8_t __riscv_vdivu(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vdivu(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vdivu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vdivu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vdivu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vdivu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vdivu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vdivu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vdivu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vdivu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vdivu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vdivu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vdivu(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vdivu(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vdivu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vdivu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vdivu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vdivu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vdivu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vdivu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vdivu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vdivu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vdivu(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vdivu(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vdivu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vdivu(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vdivu(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vdivu(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vdivu(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vdivu(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vdivu(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vdivu(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vremu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vremu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vremu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vremu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vremu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vremu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vremu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vremu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vremu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vremu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vremu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vremu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vremu(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vremu(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vremu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vremu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vremu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vremu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vremu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vremu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vremu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vremu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vremu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vremu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vremu(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vremu(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vremu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vremu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vremu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vremu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vremu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vremu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vremu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vremu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vremu(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
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vuint32m8_t __riscv_vremu(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vremu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vremu(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vremu(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vremu(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vremu(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vremu(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vremu(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vremu(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vdiv(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                        size_t vl);
vint8mf8_t __riscv_vdiv(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vdiv(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vint8mf4_t __riscv_vdiv(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vdiv(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vint8mf2_t __riscv_vdiv(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vdiv(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vdiv(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vdiv(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vdiv(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vdiv(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vdiv(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vdiv(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vdiv(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vdiv(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                         size_t vl);
vint16mf4_t __riscv_vdiv(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vdiv(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                         size_t vl);
vint16mf2_t __riscv_vdiv(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vdiv(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vint16m1_t __riscv_vdiv(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vdiv(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vdiv(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vdiv(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vdiv(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vdiv(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vdiv(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vdiv(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                         size_t vl);
vint32mf2_t __riscv_vdiv(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vdiv(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vint32m1_t __riscv_vdiv(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vdiv(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vint32m2_t __riscv_vdiv(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vdiv(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vdiv(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vdiv(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vdiv(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vdiv(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vint64m1_t __riscv_vdiv(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vdiv(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vint64m2_t __riscv_vdiv(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vdiv(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vint64m4_t __riscv_vdiv(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vdiv(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vdiv(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrem(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
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                        size_t vl);
vint8mf8_t __riscv_vrem(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrem(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                        size_t vl);
vint8mf4_t __riscv_vrem(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrem(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                        size_t vl);
vint8mf2_t __riscv_vrem(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vrem(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrem(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vrem(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrem(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vrem(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrem(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vrem(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrem(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrem(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                         size_t vl);
vint16mf4_t __riscv_vrem(vbool64_t vm, vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrem(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                         size_t vl);
vint16mf2_t __riscv_vrem(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vrem(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                        size_t vl);
vint16m1_t __riscv_vrem(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vrem(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrem(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vrem(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrem(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vrem(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrem(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrem(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                         size_t vl);
vint32mf2_t __riscv_vrem(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vrem(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                        size_t vl);
vint32m1_t __riscv_vrem(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vrem(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                        size_t vl);
vint32m2_t __riscv_vrem(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vrem(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrem(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vrem(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrem(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vrem(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                        size_t vl);
vint64m1_t __riscv_vrem(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vrem(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                        size_t vl);
vint64m2_t __riscv_vrem(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vrem(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                        size_t vl);
vint64m4_t __riscv_vrem(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vrem(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrem(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vdivu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                          size_t vl);
vuint8mf8_t __riscv_vdivu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                          size_t vl);
vuint8mf4_t __riscv_vdivu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                          size_t vl);
vuint8mf4_t __riscv_vdivu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                          size_t vl);
vuint8mf2_t __riscv_vdivu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                          size_t vl);
vuint8mf2_t __riscv_vdivu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                          size_t vl);
```

```
vuint8m1_t __riscv_vdivu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                         size_t vl);
vuint8m1_t __riscv_vdivu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vdivu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                         size_t vl);
vuint8m2_t __riscv_vdivu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vdivu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                         size_t vl);
vuint8m4_t __riscv_vdivu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vdivu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                         size_t vl);
vuint8m8_t __riscv_vdivu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vdivu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                           size_t vl);
vuint16mf4_t __riscv_vdivu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                           size_t vl);
vuint16mf2_t __riscv_vdivu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                           size_t vl);
vuint16mf2_t __riscv_vdivu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m1_t __riscv_vdivu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                          size_t vl);
vuint16m1_t __riscv_vdivu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m2_t __riscv_vdivu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                          size_t vl);
vuint16m2_t __riscv_vdivu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m4_t __riscv_vdivu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                          size_t vl);
vuint16m4_t __riscv_vdivu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m8_t __riscv_vdivu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                          size_t vl);
vuint16m8_t __riscv_vdivu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                          size_t vl);
vuint32mf2_t __riscv_vdivu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                           size_t vl);
vuint32mf2_t __riscv_vdivu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m1_t __riscv_vdivu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                          size_t vl);
vuint32m1_t __riscv_vdivu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m2_t __riscv_vdivu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                          size_t vl);
vuint32m2_t __riscv_vdivu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m4_t __riscv_vdivu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                          size_t vl);
vuint32m4_t __riscv_vdivu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m8_t __riscv_vdivu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                          size_t vl);
vuint32m8_t __riscv_vdivu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                          size_t vl);
vuint64m1_t __riscv_vdivu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                          size_t vl);
vuint64m1_t __riscv_vdivu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m2_t __riscv_vdivu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                          size_t vl);
vuint64m2_t __riscv_vdivu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m4_t __riscv_vdivu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                          size_t vl);
vuint64m4_t __riscv_vdivu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
```

```
                          size_t vl);
vuint64m8_t __riscv_vdivu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                          size_t vl);
vuint64m8_t __riscv_vdivu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                          size_t vl);
vuint8mf8_t __riscv_vremu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                          size_t vl);
vuint8mf8_t __riscv_vremu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                          size_t vl);
vuint8mf4_t __riscv_vremu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                          size_t vl);
vuint8mf4_t __riscv_vremu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                          size_t vl);
vuint8mf2_t __riscv_vremu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                          size_t vl);
vuint8mf2_t __riscv_vremu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                          size_t vl);
vuint8m1_t __riscv_vremu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                         size_t vl);
vuint8m1_t __riscv_vremu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vremu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                         size_t vl);
vuint8m2_t __riscv_vremu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vremu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                         size_t vl);
vuint8m4_t __riscv_vremu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vremu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                         size_t vl);
vuint8m8_t __riscv_vremu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vremu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                           size_t vl);
vuint16mf4_t __riscv_vremu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                           size_t vl);
vuint16mf2_t __riscv_vremu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                           size_t vl);
vuint16mf2_t __riscv_vremu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m1_t __riscv_vremu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                          size_t vl);
vuint16m1_t __riscv_vremu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m2_t __riscv_vremu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                          size_t vl);
vuint16m2_t __riscv_vremu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m4_t __riscv_vremu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                          size_t vl);
vuint16m4_t __riscv_vremu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                          size_t vl);
vuint16m8_t __riscv_vremu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                          size_t vl);
vuint16m8_t __riscv_vremu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                          size_t vl);
vuint32mf2_t __riscv_vremu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                           size_t vl);
vuint32mf2_t __riscv_vremu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m1_t __riscv_vremu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                          size_t vl);
vuint32m1_t __riscv_vremu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m2_t __riscv_vremu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                          size_t vl);
vuint32m2_t __riscv_vremu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m4_t __riscv_vremu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                          size_t vl);
```

```
vuint32m4_t __riscv_vremu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                          size_t vl);
vuint32m8_t __riscv_vremu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                          size_t vl);
vuint32m8_t __riscv_vremu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                          size_t vl);
vuint64m1_t __riscv_vremu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                          size_t vl);
vuint64m1_t __riscv_vremu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m2_t __riscv_vremu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                          size_t vl);
vuint64m2_t __riscv_vremu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m4_t __riscv_vremu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                          size_t vl);
vuint64m4_t __riscv_vremu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                          size_t vl);
vuint64m8_t __riscv_vremu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                          size_t vl);
vuint64m8_t __riscv_vremu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                          size_t vl);
```

C.3.15. Vector Widening Integer Multiply Intrinsics

```
vint16mf4_t __riscv_vwmul(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmul(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmul(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmul(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwmul(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmul(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwmul(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmul(vint8m1_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwmul(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmul(vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwmul(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmul(vint8m4_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmul(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmul(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint32m1_t __riscv_vwmul(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmul(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwmul(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmul(vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwmul(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmul(vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwmul(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmul(vint16m4_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwmul(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmul(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwmul(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmul(vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwmul(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmul(vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwmul(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmul(vint32m4_t vs2, int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwmulsu(vint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmulsu(vint8mf8_t vs2, uint8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmulsu(vint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmulsu(vint8mf4_t vs2, uint8_t rs1, size_t vl);
vint16m1_t __riscv_vwmulsu(vint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmulsu(vint8mf2_t vs2, uint8_t rs1, size_t vl);
vint16m2_t __riscv_vwmulsu(vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmulsu(vint8m1_t vs2, uint8_t rs1, size_t vl);
vint16m4_t __riscv_vwmulsu(vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmulsu(vint8m2_t vs2, uint8_t rs1, size_t vl);
```

```
vint16m8_t __riscv_vwmulsu(vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmulsu(vint8m4_t vs2, uint8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmulsu(vint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmulsu(vint16mf4_t vs2, uint16_t rs1, size_t vl);
vint32m1_t __riscv_vwmulsu(vint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmulsu(vint16mf2_t vs2, uint16_t rs1, size_t vl);
vint32m2_t __riscv_vwmulsu(vint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmulsu(vint16m1_t vs2, uint16_t rs1, size_t vl);
vint32m4_t __riscv_vwmulsu(vint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmulsu(vint16m2_t vs2, uint16_t rs1, size_t vl);
vint32m8_t __riscv_vwmulsu(vint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmulsu(vint16m4_t vs2, uint16_t rs1, size_t vl);
vint64m1_t __riscv_vwmulsu(vint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmulsu(vint32mf2_t vs2, uint32_t rs1, size_t vl);
vint64m2_t __riscv_vwmulsu(vint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmulsu(vint32m1_t vs2, uint32_t rs1, size_t vl);
vint64m4_t __riscv_vwmulsu(vint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmulsu(vint32m2_t vs2, uint32_t rs1, size_t vl);
vint64m8_t __riscv_vwmulsu(vint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmulsu(vint32m4_t vs2, uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwmulu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwmulu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwmulu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwmulu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwmulu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwmulu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwmulu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwmulu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwmulu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwmulu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwmulu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwmulu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwmulu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwmulu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwmulu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwmulu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwmulu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwmulu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwmulu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwmulu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwmulu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwmulu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwmulu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwmulu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwmulu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwmulu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwmulu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwmulu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwmulu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwmulu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
// masked functions
vint16mf4_t __riscv_vwmul(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                          size_t vl);
vint16mf4_t __riscv_vwmul(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmul(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                          size_t vl);
vint16mf2_t __riscv_vwmul(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint16m1_t __riscv_vwmul(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                         size_t vl);
vint16m1_t __riscv_vwmul(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint16m2_t __riscv_vwmul(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmul(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint16m4_t __riscv_vwmul(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmul(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint16m8_t __riscv_vwmul(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmul(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmul(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
```

```
                          size_t vl);
vint32mf2_t __riscv_vwmul(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                          size_t vl);
vint32m1_t __riscv_vwmul(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                         size_t vl);
vint32m1_t __riscv_vwmul(vbool32_t vm, vint16mf2_t vs2, int16_t rs1, size_t vl);
vint32m2_t __riscv_vwmul(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                         size_t vl);
vint32m2_t __riscv_vwmul(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint32m4_t __riscv_vwmul(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                         size_t vl);
vint32m4_t __riscv_vwmul(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint32m8_t __riscv_vwmul(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                         size_t vl);
vint32m8_t __riscv_vwmul(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint64m1_t __riscv_vwmul(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                         size_t vl);
vint64m1_t __riscv_vwmul(vbool64_t vm, vint32mf2_t vs2, int32_t rs1, size_t vl);
vint64m2_t __riscv_vwmul(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                         size_t vl);
vint64m2_t __riscv_vwmul(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint64m4_t __riscv_vwmul(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                         size_t vl);
vint64m4_t __riscv_vwmul(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint64m8_t __riscv_vwmul(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                         size_t vl);
vint64m8_t __riscv_vwmul(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwmulsu(vbool64_t vm, vint8mf8_t vs2, vuint8mf8_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vwmulsu(vbool64_t vm, vint8mf8_t vs2, uint8_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vwmulsu(vbool32_t vm, vint8mf4_t vs2, vuint8mf4_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vwmulsu(vbool32_t vm, vint8mf4_t vs2, uint8_t rs1,
                            size_t vl);
vint16m1_t __riscv_vwmulsu(vbool16_t vm, vint8mf2_t vs2, vuint8mf2_t vs1,
                           size_t vl);
vint16m1_t __riscv_vwmulsu(vbool16_t vm, vint8mf2_t vs2, uint8_t rs1,
                           size_t vl);
vint16m2_t __riscv_vwmulsu(vbool8_t vm, vint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vint16m2_t __riscv_vwmulsu(vbool8_t vm, vint8m1_t vs2, uint8_t rs1, size_t vl);
vint16m4_t __riscv_vwmulsu(vbool4_t vm, vint8m2_t vs2, vuint8m2_t vs1,
                           size_t vl);
vint16m4_t __riscv_vwmulsu(vbool4_t vm, vint8m2_t vs2, uint8_t rs1, size_t vl);
vint16m8_t __riscv_vwmulsu(vbool2_t vm, vint8m4_t vs2, vuint8m4_t vs1,
                           size_t vl);
vint16m8_t __riscv_vwmulsu(vbool2_t vm, vint8m4_t vs2, uint8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmulsu(vbool64_t vm, vint16mf4_t vs2, vuint16mf4_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vwmulsu(vbool64_t vm, vint16mf4_t vs2, uint16_t rs1,
                            size_t vl);
vint32m1_t __riscv_vwmulsu(vbool32_t vm, vint16mf2_t vs2, vuint16mf2_t vs1,
                           size_t vl);
vint32m1_t __riscv_vwmulsu(vbool32_t vm, vint16mf2_t vs2, uint16_t rs1,
                           size_t vl);
vint32m2_t __riscv_vwmulsu(vbool16_t vm, vint16m1_t vs2, vuint16m1_t vs1,
                           size_t vl);
vint32m2_t __riscv_vwmulsu(vbool16_t vm, vint16m1_t vs2, uint16_t rs1,
                           size_t vl);
vint32m4_t __riscv_vwmulsu(vbool8_t vm, vint16m2_t vs2, vuint16m2_t vs1,
                           size_t vl);
vint32m4_t __riscv_vwmulsu(vbool8_t vm, vint16m2_t vs2, uint16_t rs1,
                           size_t vl);
vint32m8_t __riscv_vwmulsu(vbool4_t vm, vint16m4_t vs2, vuint16m4_t vs1,
                           size_t vl);
vint32m8_t __riscv_vwmulsu(vbool4_t vm, vint16m4_t vs2, uint16_t rs1,
```

```
                          size_t vl);
vint64m1_t __riscv_vwmulsu(vbool64_t vm, vint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vint64m1_t __riscv_vwmulsu(vbool64_t vm, vint32mf2_t vs2, uint32_t rs1,
                          size_t vl);
vint64m2_t __riscv_vwmulsu(vbool32_t vm, vint32m1_t vs2, vuint32m1_t vs1,
                          size_t vl);
vint64m2_t __riscv_vwmulsu(vbool32_t vm, vint32m1_t vs2, uint32_t rs1,
                          size_t vl);
vint64m4_t __riscv_vwmulsu(vbool16_t vm, vint32m2_t vs2, vuint32m2_t vs1,
                          size_t vl);
vint64m4_t __riscv_vwmulsu(vbool16_t vm, vint32m2_t vs2, uint32_t rs1,
                          size_t vl);
vint64m8_t __riscv_vwmulsu(vbool8_t vm, vint32m4_t vs2, vuint32m4_t vs1,
                          size_t vl);
vint64m8_t __riscv_vwmulsu(vbool8_t vm, vint32m4_t vs2, uint32_t rs1,
                          size_t vl);
vuint16mf4_t __riscv_vwmulu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                           size_t vl);
vuint16mf4_t __riscv_vwmulu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                           size_t vl);
vuint16mf2_t __riscv_vwmulu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                           size_t vl);
vuint16mf2_t __riscv_vwmulu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                           size_t vl);
vuint16m1_t __riscv_vwmulu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                          size_t vl);
vuint16m1_t __riscv_vwmulu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                          size_t vl);
vuint16m2_t __riscv_vwmulu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                          size_t vl);
vuint16m2_t __riscv_vwmulu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwmulu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                          size_t vl);
vuint16m4_t __riscv_vwmulu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwmulu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                          size_t vl);
vuint16m8_t __riscv_vwmulu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwmulu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                           size_t vl);
vuint32mf2_t __riscv_vwmulu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                           size_t vl);
vuint32m1_t __riscv_vwmulu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                          size_t vl);
vuint32m1_t __riscv_vwmulu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                          size_t vl);
vuint32m2_t __riscv_vwmulu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                          size_t vl);
vuint32m2_t __riscv_vwmulu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                          size_t vl);
vuint32m4_t __riscv_vwmulu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                          size_t vl);
vuint32m4_t __riscv_vwmulu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                          size_t vl);
vuint32m8_t __riscv_vwmulu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                          size_t vl);
vuint32m8_t __riscv_vwmulu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                          size_t vl);
vuint64m1_t __riscv_vwmulu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                          size_t vl);
vuint64m1_t __riscv_vwmulu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                          size_t vl);
vuint64m2_t __riscv_vwmulu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                          size_t vl);
vuint64m2_t __riscv_vwmulu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                          size_t vl);
vuint64m4_t __riscv_vwmulu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
```

```
                          size_t vl);
vuint64m4_t __riscv_vwmulu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                          size_t vl);
vuint64m8_t __riscv_vwmulu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                          size_t vl);
vuint64m8_t __riscv_vwmulu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                          size_t vl);
```

C.3.16. Vector Single-Width Integer Multiply-Add Intrinsics

```
vint8mf8_t __riscv_vmacc(vint8mf8_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                         size_t vl);
vint8mf8_t __riscv_vmacc(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc(vint8mf4_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                         size_t vl);
vint8mf4_t __riscv_vmacc(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc(vint8mf2_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                         size_t vl);
vint8mf2_t __riscv_vmacc(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmacc(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmacc(vint8m1_t vd, int8_t rs1, vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmacc(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmacc(vint8m2_t vd, int8_t rs1, vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmacc(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmacc(vint8m4_t vd, int8_t rs1, vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmacc(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmacc(vint8m8_t vd, int8_t rs1, vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc(vint16mf4_t vd, vint16mf4_t vs1, vint16mf4_t vs2,
                          size_t vl);
vint16mf4_t __riscv_vmacc(vint16mf4_t vd, int16_t rs1, vint16mf4_t vs2,
                          size_t vl);
vint16mf2_t __riscv_vmacc(vint16mf2_t vd, vint16mf2_t vs1, vint16mf2_t vs2,
                          size_t vl);
vint16mf2_t __riscv_vmacc(vint16mf2_t vd, int16_t rs1, vint16mf2_t vs2,
                          size_t vl);
vint16m1_t __riscv_vmacc(vint16m1_t vd, vint16m1_t vs1, vint16m1_t vs2,
                         size_t vl);
vint16m1_t __riscv_vmacc(vint16m1_t vd, int16_t rs1, vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmacc(vint16m2_t vd, vint16m2_t vs1, vint16m2_t vs2,
                         size_t vl);
vint16m2_t __riscv_vmacc(vint16m2_t vd, int16_t rs1, vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmacc(vint16m4_t vd, vint16m4_t vs1, vint16m4_t vs2,
                         size_t vl);
vint16m4_t __riscv_vmacc(vint16m4_t vd, int16_t rs1, vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmacc(vint16m8_t vd, vint16m8_t vs1, vint16m8_t vs2,
                         size_t vl);
vint16m8_t __riscv_vmacc(vint16m8_t vd, int16_t rs1, vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc(vint32mf2_t vd, vint32mf2_t vs1, vint32mf2_t vs2,
                          size_t vl);
vint32mf2_t __riscv_vmacc(vint32mf2_t vd, int32_t rs1, vint32mf2_t vs2,
                          size_t vl);
vint32m1_t __riscv_vmacc(vint32m1_t vd, vint32m1_t vs1, vint32m1_t vs2,
                         size_t vl);
vint32m1_t __riscv_vmacc(vint32m1_t vd, int32_t rs1, vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmacc(vint32m2_t vd, vint32m2_t vs1, vint32m2_t vs2,
                         size_t vl);
vint32m2_t __riscv_vmacc(vint32m2_t vd, int32_t rs1, vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmacc(vint32m4_t vd, vint32m4_t vs1, vint32m4_t vs2,
                         size_t vl);
vint32m4_t __riscv_vmacc(vint32m4_t vd, int32_t rs1, vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmacc(vint32m8_t vd, vint32m8_t vs1, vint32m8_t vs2,
                         size_t vl);
vint32m8_t __riscv_vmacc(vint32m8_t vd, int32_t rs1, vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmacc(vint64m1_t vd, vint64m1_t vs1, vint64m1_t vs2,
                         size_t vl);
```

```
vint64m1_t __riscv_vmacc(vint64m1_t vd, int64_t rs1, vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmacc(vint64m2_t vd, vint64m2_t vs1, vint64m2_t vs2,
                         size_t vl);
vint64m2_t __riscv_vmacc(vint64m2_t vd, int64_t rs1, vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmacc(vint64m4_t vd, vint64m4_t vs1, vint64m4_t vs2,
                         size_t vl);
vint64m4_t __riscv_vmacc(vint64m4_t vd, int64_t rs1, vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmacc(vint64m8_t vd, vint64m8_t vs1, vint64m8_t vs2,
                         size_t vl);
vint64m8_t __riscv_vmacc(vint64m8_t vd, int64_t rs1, vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac(vint8mf8_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                          size_t vl);
vint8mf8_t __riscv_vnmsac(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac(vint8mf4_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                          size_t vl);
vint8mf4_t __riscv_vnmsac(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac(vint8mf2_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                          size_t vl);
vint8mf2_t __riscv_vnmsac(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac(vint8m1_t vd, int8_t rs1, vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac(vint8m2_t vd, int8_t rs1, vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac(vint8m4_t vd, int8_t rs1, vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac(vint8m8_t vd, int8_t rs1, vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac(vint16mf4_t vd, vint16mf4_t vs1, vint16mf4_t vs2,
                           size_t vl);
vint16mf4_t __riscv_vnmsac(vint16mf4_t vd, int16_t rs1, vint16mf4_t vs2,
                           size_t vl);
vint16mf2_t __riscv_vnmsac(vint16mf2_t vd, vint16mf2_t vs1, vint16mf2_t vs2,
                           size_t vl);
vint16mf2_t __riscv_vnmsac(vint16mf2_t vd, int16_t rs1, vint16mf2_t vs2,
                           size_t vl);
vint16m1_t __riscv_vnmsac(vint16m1_t vd, vint16m1_t vs1, vint16m1_t vs2,
                          size_t vl);
vint16m1_t __riscv_vnmsac(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                          size_t vl);
vint16m2_t __riscv_vnmsac(vint16m2_t vd, vint16m2_t vs1, vint16m2_t vs2,
                          size_t vl);
vint16m2_t __riscv_vnmsac(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                          size_t vl);
vint16m4_t __riscv_vnmsac(vint16m4_t vd, vint16m4_t vs1, vint16m4_t vs2,
                          size_t vl);
vint16m4_t __riscv_vnmsac(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                          size_t vl);
vint16m8_t __riscv_vnmsac(vint16m8_t vd, vint16m8_t vs1, vint16m8_t vs2,
                          size_t vl);
vint16m8_t __riscv_vnmsac(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                          size_t vl);
vint32mf2_t __riscv_vnmsac(vint32mf2_t vd, vint32mf2_t vs1, vint32mf2_t vs2,
                           size_t vl);
vint32mf2_t __riscv_vnmsac(vint32mf2_t vd, int32_t rs1, vint32mf2_t vs2,
                           size_t vl);
vint32m1_t __riscv_vnmsac(vint32m1_t vd, vint32m1_t vs1, vint32m1_t vs2,
                          size_t vl);
vint32m1_t __riscv_vnmsac(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                          size_t vl);
vint32m2_t __riscv_vnmsac(vint32m2_t vd, vint32m2_t vs1, vint32m2_t vs2,
                          size_t vl);
vint32m2_t __riscv_vnmsac(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                          size_t vl);
vint32m4_t __riscv_vnmsac(vint32m4_t vd, vint32m4_t vs1, vint32m4_t vs2,
                          size_t vl);
vint32m4_t __riscv_vnmsac(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                          size_t vl);
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vint32m8_t __riscv_vnmsac(vint32m8_t vd, vint32m8_t vs1, vint32m8_t vs2,
                          size_t vl);
vint32m8_t __riscv_vnmsac(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                          size_t vl);
vint64m1_t __riscv_vnmsac(vint64m1_t vd, vint64m1_t vs1, vint64m1_t vs2,
                          size_t vl);
vint64m1_t __riscv_vnmsac(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                          size_t vl);
vint64m2_t __riscv_vnmsac(vint64m2_t vd, vint64m2_t vs1, vint64m2_t vs2,
                          size_t vl);
vint64m2_t __riscv_vnmsac(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                          size_t vl);
vint64m4_t __riscv_vnmsac(vint64m4_t vd, vint64m4_t vs1, vint64m4_t vs2,
                          size_t vl);
vint64m4_t __riscv_vnmsac(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                          size_t vl);
vint64m8_t __riscv_vnmsac(vint64m8_t vd, vint64m8_t vs1, vint64m8_t vs2,
                          size_t vl);
vint64m8_t __riscv_vnmsac(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
                          size_t vl);
vint8mf8_t __riscv_vmadd(vint8mf8_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                         size_t vl);
vint8mf8_t __riscv_vmadd(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd(vint8mf4_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                         size_t vl);
vint8mf4_t __riscv_vmadd(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd(vint8mf2_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                         size_t vl);
vint8mf2_t __riscv_vmadd(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmadd(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmadd(vint8m1_t vd, int8_t rs1, vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmadd(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmadd(vint8m2_t vd, int8_t rs1, vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmadd(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmadd(vint8m4_t vd, int8_t rs1, vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmadd(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmadd(vint8m8_t vd, int8_t rs1, vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd(vint16mf4_t vd, vint16mf4_t vs1, vint16mf4_t vs2,
                          size_t vl);
vint16mf4_t __riscv_vmadd(vint16mf4_t vd, int16_t rs1, vint16mf4_t vs2,
                          size_t vl);
vint16mf2_t __riscv_vmadd(vint16mf2_t vd, vint16mf2_t vs1, vint16mf2_t vs2,
                          size_t vl);
vint16mf2_t __riscv_vmadd(vint16mf2_t vd, int16_t rs1, vint16mf2_t vs2,
                          size_t vl);
vint16m1_t __riscv_vmadd(vint16m1_t vd, vint16m1_t vs1, vint16m1_t vs2,
                         size_t vl);
vint16m1_t __riscv_vmadd(vint16m1_t vd, int16_t rs1, vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmadd(vint16m2_t vd, vint16m2_t vs1, vint16m2_t vs2,
                         size_t vl);
vint16m2_t __riscv_vmadd(vint16m2_t vd, int16_t rs1, vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmadd(vint16m4_t vd, vint16m4_t vs1, vint16m4_t vs2,
                         size_t vl);
vint16m4_t __riscv_vmadd(vint16m4_t vd, int16_t rs1, vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmadd(vint16m8_t vd, vint16m8_t vs1, vint16m8_t vs2,
                         size_t vl);
vint16m8_t __riscv_vmadd(vint16m8_t vd, int16_t rs1, vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd(vint32mf2_t vd, vint32mf2_t vs1, vint32mf2_t vs2,
                          size_t vl);
vint32mf2_t __riscv_vmadd(vint32mf2_t vd, int32_t rs1, vint32mf2_t vs2,
                          size_t vl);
vint32m1_t __riscv_vmadd(vint32m1_t vd, vint32m1_t vs1, vint32m1_t vs2,
                         size_t vl);
vint32m1_t __riscv_vmadd(vint32m1_t vd, int32_t rs1, vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmadd(vint32m2_t vd, vint32m2_t vs1, vint32m2_t vs2,
                         size_t vl);
vint32m2_t __riscv_vmadd(vint32m2_t vd, int32_t rs1, vint32m2_t vs2, size_t vl);
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vint32m4_t __riscv_vmadd(vint32m4_t vd, vint32m4_t vs1, vint32m4_t vs2,
                         size_t vl);
vint32m4_t __riscv_vmadd(vint32m4_t vd, int32_t rs1, vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmadd(vint32m8_t vd, vint32m8_t vs1, vint32m8_t vs2,
                         size_t vl);
vint32m8_t __riscv_vmadd(vint32m8_t vd, int32_t rs1, vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmadd(vint64m1_t vd, vint64m1_t vs1, vint64m1_t vs2,
                         size_t vl);
vint64m1_t __riscv_vmadd(vint64m1_t vd, int64_t rs1, vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmadd(vint64m2_t vd, vint64m2_t vs1, vint64m2_t vs2,
                         size_t vl);
vint64m2_t __riscv_vmadd(vint64m2_t vd, int64_t rs1, vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmadd(vint64m4_t vd, vint64m4_t vs1, vint64m4_t vs2,
                         size_t vl);
vint64m4_t __riscv_vmadd(vint64m4_t vd, int64_t rs1, vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmadd(vint64m8_t vd, vint64m8_t vs1, vint64m8_t vs2,
                         size_t vl);
vint64m8_t __riscv_vmadd(vint64m8_t vd, int64_t rs1, vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub(vint8mf8_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                          size_t vl);
vint8mf8_t __riscv_vnmsub(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub(vint8mf4_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                          size_t vl);
vint8mf4_t __riscv_vnmsub(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub(vint8mf2_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                          size_t vl);
vint8mf2_t __riscv_vnmsub(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub(vint8m1_t vd, int8_t rs1, vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub(vint8m2_t vd, int8_t rs1, vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub(vint8m4_t vd, int8_t rs1, vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub(vint8m8_t vd, int8_t rs1, vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub(vint16mf4_t vd, vint16mf4_t vs1, vint16mf4_t vs2,
                           size_t vl);
vint16mf4_t __riscv_vnmsub(vint16mf4_t vd, int16_t rs1, vint16mf4_t vs2,
                           size_t vl);
vint16mf2_t __riscv_vnmsub(vint16mf2_t vd, vint16mf2_t vs1, vint16mf2_t vs2,
                           size_t vl);
vint16mf2_t __riscv_vnmsub(vint16mf2_t vd, int16_t rs1, vint16mf2_t vs2,
                           size_t vl);
vint16m1_t __riscv_vnmsub(vint16m1_t vd, vint16m1_t vs1, vint16m1_t vs2,
                          size_t vl);
vint16m1_t __riscv_vnmsub(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                          size_t vl);
vint16m2_t __riscv_vnmsub(vint16m2_t vd, vint16m2_t vs1, vint16m2_t vs2,
                          size_t vl);
vint16m2_t __riscv_vnmsub(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                          size_t vl);
vint16m4_t __riscv_vnmsub(vint16m4_t vd, vint16m4_t vs1, vint16m4_t vs2,
                          size_t vl);
vint16m4_t __riscv_vnmsub(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                          size_t vl);
vint16m8_t __riscv_vnmsub(vint16m8_t vd, vint16m8_t vs1, vint16m8_t vs2,
                          size_t vl);
vint16m8_t __riscv_vnmsub(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                          size_t vl);
vint32mf2_t __riscv_vnmsub(vint32mf2_t vd, vint32mf2_t vs1, vint32mf2_t vs2,
                           size_t vl);
vint32mf2_t __riscv_vnmsub(vint32mf2_t vd, int32_t rs1, vint32mf2_t vs2,
                           size_t vl);
vint32m1_t __riscv_vnmsub(vint32m1_t vd, vint32m1_t vs1, vint32m1_t vs2,
                          size_t vl);
vint32m1_t __riscv_vnmsub(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                          size_t vl);
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vint32m2_t __riscv_vnmsub(vint32m2_t vd, vint32m2_t vs1, vint32m2_t vs2,
                          size_t vl);
vint32m2_t __riscv_vnmsub(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                          size_t vl);
vint32m4_t __riscv_vnmsub(vint32m4_t vd, vint32m4_t vs1, vint32m4_t vs2,
                          size_t vl);
vint32m4_t __riscv_vnmsub(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                          size_t vl);
vint32m8_t __riscv_vnmsub(vint32m8_t vd, vint32m8_t vs1, vint32m8_t vs2,
                          size_t vl);
vint32m8_t __riscv_vnmsub(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                          size_t vl);
vint64m1_t __riscv_vnmsub(vint64m1_t vd, vint64m1_t vs1, vint64m1_t vs2,
                          size_t vl);
vint64m1_t __riscv_vnmsub(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                          size_t vl);
vint64m2_t __riscv_vnmsub(vint64m2_t vd, vint64m2_t vs1, vint64m2_t vs2,
                          size_t vl);
vint64m2_t __riscv_vnmsub(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                          size_t vl);
vint64m4_t __riscv_vnmsub(vint64m4_t vd, vint64m4_t vs1, vint64m4_t vs2,
                          size_t vl);
vint64m4_t __riscv_vnmsub(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                          size_t vl);
vint64m8_t __riscv_vnmsub(vint64m8_t vd, vint64m8_t vs1, vint64m8_t vs2,
                          size_t vl);
vint64m8_t __riscv_vnmsub(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
                          size_t vl);
vuint8mf8_t __riscv_vmacc(vuint8mf8_t vd, vuint8mf8_t vs1, vuint8mf8_t vs2,
                          size_t vl);
vuint8mf8_t __riscv_vmacc(vuint8mf8_t vd, uint8_t rs1, vuint8mf8_t vs2,
                          size_t vl);
vuint8mf4_t __riscv_vmacc(vuint8mf4_t vd, vuint8mf4_t vs1, vuint8mf4_t vs2,
                          size_t vl);
vuint8mf4_t __riscv_vmacc(vuint8mf4_t vd, uint8_t rs1, vuint8mf4_t vs2,
                          size_t vl);
vuint8mf2_t __riscv_vmacc(vuint8mf2_t vd, vuint8mf2_t vs1, vuint8mf2_t vs2,
                          size_t vl);
vuint8mf2_t __riscv_vmacc(vuint8mf2_t vd, uint8_t rs1, vuint8mf2_t vs2,
                          size_t vl);
vuint8m1_t __riscv_vmacc(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                         size_t vl);
vuint8m1_t __riscv_vmacc(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                         size_t vl);
vuint8m2_t __riscv_vmacc(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                         size_t vl);
vuint8m4_t __riscv_vmacc(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                         size_t vl);
vuint8m8_t __riscv_vmacc(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc(vuint16mf4_t vd, vuint16mf4_t vs1, vuint16mf4_t vs2,
                           size_t vl);
vuint16mf4_t __riscv_vmacc(vuint16mf4_t vd, uint16_t rs1, vuint16mf4_t vs2,
                           size_t vl);
vuint16mf2_t __riscv_vmacc(vuint16mf2_t vd, vuint16mf2_t vs1, vuint16mf2_t vs2,
                           size_t vl);
vuint16mf2_t __riscv_vmacc(vuint16mf2_t vd, uint16_t rs1, vuint16mf2_t vs2,
                           size_t vl);
vuint16m1_t __riscv_vmacc(vuint16m1_t vd, vuint16m1_t vs1, vuint16m1_t vs2,
                          size_t vl);
vuint16m1_t __riscv_vmacc(vuint16m1_t vd, uint16_t rs1, vuint16m1_t vs2,
                          size_t vl);
vuint16m2_t __riscv_vmacc(vuint16m2_t vd, vuint16m2_t vs1, vuint16m2_t vs2,
                          size_t vl);
vuint16m2_t __riscv_vmacc(vuint16m2_t vd, uint16_t rs1, vuint16m2_t vs2,
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                          size_t vl);
vuint16m4_t __riscv_vmacc(vuint16m4_t vd, vuint16m4_t vs1, vuint16m4_t vs2,
                          size_t vl);
vuint16m4_t __riscv_vmacc(vuint16m4_t vd, uint16_t rs1, vuint16m4_t vs2,
                          size_t vl);
vuint16m8_t __riscv_vmacc(vuint16m8_t vd, vuint16m8_t vs1, vuint16m8_t vs2,
                          size_t vl);
vuint16m8_t __riscv_vmacc(vuint16m8_t vd, uint16_t rs1, vuint16m8_t vs2,
                          size_t vl);
vuint32mf2_t __riscv_vmacc(vuint32mf2_t vd, vuint32mf2_t vs1, vuint32mf2_t vs2,
                           size_t vl);
vuint32mf2_t __riscv_vmacc(vuint32mf2_t vd, uint32_t rs1, vuint32mf2_t vs2,
                           size_t vl);
vuint32m1_t __riscv_vmacc(vuint32m1_t vd, vuint32m1_t vs1, vuint32m1_t vs2,
                          size_t vl);
vuint32m1_t __riscv_vmacc(vuint32m1_t vd, uint32_t rs1, vuint32m1_t vs2,
                          size_t vl);
vuint32m2_t __riscv_vmacc(vuint32m2_t vd, vuint32m2_t vs1, vuint32m2_t vs2,
                          size_t vl);
vuint32m2_t __riscv_vmacc(vuint32m2_t vd, uint32_t rs1, vuint32m2_t vs2,
                          size_t vl);
vuint32m4_t __riscv_vmacc(vuint32m4_t vd, vuint32m4_t vs1, vuint32m4_t vs2,
                          size_t vl);
vuint32m4_t __riscv_vmacc(vuint32m4_t vd, uint32_t rs1, vuint32m4_t vs2,
                          size_t vl);
vuint32m8_t __riscv_vmacc(vuint32m8_t vd, vuint32m8_t vs1, vuint32m8_t vs2,
                          size_t vl);
vuint32m8_t __riscv_vmacc(vuint32m8_t vd, uint32_t rs1, vuint32m8_t vs2,
                          size_t vl);
vuint64m1_t __riscv_vmacc(vuint64m1_t vd, vuint64m1_t vs1, vuint64m1_t vs2,
                          size_t vl);
vuint64m1_t __riscv_vmacc(vuint64m1_t vd, uint64_t rs1, vuint64m1_t vs2,
                          size_t vl);
vuint64m2_t __riscv_vmacc(vuint64m2_t vd, vuint64m2_t vs1, vuint64m2_t vs2,
                          size_t vl);
vuint64m2_t __riscv_vmacc(vuint64m2_t vd, uint64_t rs1, vuint64m2_t vs2,
                          size_t vl);
vuint64m4_t __riscv_vmacc(vuint64m4_t vd, vuint64m4_t vs1, vuint64m4_t vs2,
                          size_t vl);
vuint64m4_t __riscv_vmacc(vuint64m4_t vd, uint64_t rs1, vuint64m4_t vs2,
                          size_t vl);
vuint64m8_t __riscv_vmacc(vuint64m8_t vd, vuint64m8_t vs1, vuint64m8_t vs2,
                          size_t vl);
vuint64m8_t __riscv_vmacc(vuint64m8_t vd, uint64_t rs1, vuint64m8_t vs2,
                          size_t vl);
vuint8mf8_t __riscv_vnmsac(vuint8mf8_t vd, vuint8mf8_t vs1, vuint8mf8_t vs2,
                           size_t vl);
vuint8mf8_t __riscv_vnmsac(vuint8mf8_t vd, uint8_t rs1, vuint8mf8_t vs2,
                           size_t vl);
vuint8mf4_t __riscv_vnmsac(vuint8mf4_t vd, vuint8mf4_t vs1, vuint8mf4_t vs2,
                           size_t vl);
vuint8mf4_t __riscv_vnmsac(vuint8mf4_t vd, uint8_t rs1, vuint8mf4_t vs2,
                           size_t vl);
vuint8mf2_t __riscv_vnmsac(vuint8mf2_t vd, vuint8mf2_t vs1, vuint8mf2_t vs2,
                           size_t vl);
vuint8mf2_t __riscv_vnmsac(vuint8mf2_t vd, uint8_t rs1, vuint8mf2_t vs2,
                           size_t vl);
vuint8m1_t __riscv_vnmsac(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                          size_t vl);
vuint8m1_t __riscv_vnmsac(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                          size_t vl);
vuint8m2_t __riscv_vnmsac(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                          size_t vl);
vuint8m2_t __riscv_vnmsac(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                          size_t vl);
vuint8m4_t __riscv_vnmsac(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                          size_t vl);
```

```
vuint8m4_t __riscv_vnmsac(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                          size_t vl);
vuint8m8_t __riscv_vnmsac(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                          size_t vl);
vuint8m8_t __riscv_vnmsac(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                          size_t vl);
vuint16mf4_t __riscv_vnmsac(vuint16mf4_t vd, vuint16mf4_t vs1, vuint16mf4_t vs2,
                            size_t vl);
vuint16mf4_t __riscv_vnmsac(vuint16mf4_t vd, uint16_t rs1, vuint16mf4_t vs2,
                            size_t vl);
vuint16mf2_t __riscv_vnmsac(vuint16mf2_t vd, vuint16mf2_t vs1, vuint16mf2_t vs2,
                            size_t vl);
vuint16mf2_t __riscv_vnmsac(vuint16mf2_t vd, uint16_t rs1, vuint16mf2_t vs2,
                            size_t vl);
vuint16m1_t __riscv_vnmsac(vuint16m1_t vd, vuint16m1_t vs1, vuint16m1_t vs2,
                           size_t vl);
vuint16m1_t __riscv_vnmsac(vuint16m1_t vd, uint16_t rs1, vuint16m1_t vs2,
                           size_t vl);
vuint16m2_t __riscv_vnmsac(vuint16m2_t vd, vuint16m2_t vs1, vuint16m2_t vs2,
                           size_t vl);
vuint16m2_t __riscv_vnmsac(vuint16m2_t vd, uint16_t rs1, vuint16m2_t vs2,
                           size_t vl);
vuint16m4_t __riscv_vnmsac(vuint16m4_t vd, vuint16m4_t vs1, vuint16m4_t vs2,
                           size_t vl);
vuint16m4_t __riscv_vnmsac(vuint16m4_t vd, uint16_t rs1, vuint16m4_t vs2,
                           size_t vl);
vuint16m8_t __riscv_vnmsac(vuint16m8_t vd, vuint16m8_t vs1, vuint16m8_t vs2,
                           size_t vl);
vuint16m8_t __riscv_vnmsac(vuint16m8_t vd, uint16_t rs1, vuint16m8_t vs2,
                           size_t vl);
vuint32mf2_t __riscv_vnmsac(vuint32mf2_t vd, vuint32mf2_t vs1, vuint32mf2_t vs2,
                            size_t vl);
vuint32mf2_t __riscv_vnmsac(vuint32mf2_t vd, uint32_t rs1, vuint32mf2_t vs2,
                            size_t vl);
vuint32m1_t __riscv_vnmsac(vuint32m1_t vd, vuint32m1_t vs1, vuint32m1_t vs2,
                           size_t vl);
vuint32m1_t __riscv_vnmsac(vuint32m1_t vd, uint32_t rs1, vuint32m1_t vs2,
                           size_t vl);
vuint32m2_t __riscv_vnmsac(vuint32m2_t vd, vuint32m2_t vs1, vuint32m2_t vs2,
                           size_t vl);
vuint32m2_t __riscv_vnmsac(vuint32m2_t vd, uint32_t rs1, vuint32m2_t vs2,
                           size_t vl);
vuint32m4_t __riscv_vnmsac(vuint32m4_t vd, vuint32m4_t vs1, vuint32m4_t vs2,
                           size_t vl);
vuint32m4_t __riscv_vnmsac(vuint32m4_t vd, uint32_t rs1, vuint32m4_t vs2,
                           size_t vl);
vuint32m8_t __riscv_vnmsac(vuint32m8_t vd, vuint32m8_t vs1, vuint32m8_t vs2,
                           size_t vl);
vuint32m8_t __riscv_vnmsac(vuint32m8_t vd, uint32_t rs1, vuint32m8_t vs2,
                           size_t vl);
vuint64m1_t __riscv_vnmsac(vuint64m1_t vd, vuint64m1_t vs1, vuint64m1_t vs2,
                           size_t vl);
vuint64m1_t __riscv_vnmsac(vuint64m1_t vd, uint64_t rs1, vuint64m1_t vs2,
                           size_t vl);
vuint64m2_t __riscv_vnmsac(vuint64m2_t vd, vuint64m2_t vs1, vuint64m2_t vs2,
                           size_t vl);
vuint64m2_t __riscv_vnmsac(vuint64m2_t vd, uint64_t rs1, vuint64m2_t vs2,
                           size_t vl);
vuint64m4_t __riscv_vnmsac(vuint64m4_t vd, vuint64m4_t vs1, vuint64m4_t vs2,
                           size_t vl);
vuint64m4_t __riscv_vnmsac(vuint64m4_t vd, uint64_t rs1, vuint64m4_t vs2,
                           size_t vl);
vuint64m8_t __riscv_vnmsac(vuint64m8_t vd, vuint64m8_t vs1, vuint64m8_t vs2,
                           size_t vl);
vuint64m8_t __riscv_vnmsac(vuint64m8_t vd, uint64_t rs1, vuint64m8_t vs2,
                           size_t vl);
vuint8mf8_t __riscv_vmadd(vuint8mf8_t vd, vuint8mf8_t vs1, vuint8mf8_t vs2,
```

```
                          size_t vl);
vuint8mf8_t __riscv_vmadd(vuint8mf8_t vd, uint8_t rs1, vuint8mf8_t vs2,
                          size_t vl);
vuint8mf4_t __riscv_vmadd(vuint8mf4_t vd, vuint8mf4_t vs1, vuint8mf4_t vs2,
                          size_t vl);
vuint8mf4_t __riscv_vmadd(vuint8mf4_t vd, uint8_t rs1, vuint8mf4_t vs2,
                          size_t vl);
vuint8mf2_t __riscv_vmadd(vuint8mf2_t vd, vuint8mf2_t vs1, vuint8mf2_t vs2,
                          size_t vl);
vuint8mf2_t __riscv_vmadd(vuint8mf2_t vd, uint8_t rs1, vuint8mf2_t vs2,
                          size_t vl);
vuint8m1_t __riscv_vmadd(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                         size_t vl);
vuint8m1_t __riscv_vmadd(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                         size_t vl);
vuint8m2_t __riscv_vmadd(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                         size_t vl);
vuint8m4_t __riscv_vmadd(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                         size_t vl);
vuint8m8_t __riscv_vmadd(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd(vuint16mf4_t vd, vuint16mf4_t vs1, vuint16mf4_t vs2,
                           size_t vl);
vuint16mf4_t __riscv_vmadd(vuint16mf4_t vd, uint16_t rs1, vuint16mf4_t vs2,
                           size_t vl);
vuint16mf2_t __riscv_vmadd(vuint16mf2_t vd, vuint16mf2_t vs1, vuint16mf2_t vs2,
                           size_t vl);
vuint16mf2_t __riscv_vmadd(vuint16mf2_t vd, uint16_t rs1, vuint16mf2_t vs2,
                           size_t vl);
vuint16m1_t __riscv_vmadd(vuint16m1_t vd, vuint16m1_t vs1, vuint16m1_t vs2,
                          size_t vl);
vuint16m1_t __riscv_vmadd(vuint16m1_t vd, uint16_t rs1, vuint16m1_t vs2,
                          size_t vl);
vuint16m2_t __riscv_vmadd(vuint16m2_t vd, vuint16m2_t vs1, vuint16m2_t vs2,
                          size_t vl);
vuint16m2_t __riscv_vmadd(vuint16m2_t vd, uint16_t rs1, vuint16m2_t vs2,
                          size_t vl);
vuint16m4_t __riscv_vmadd(vuint16m4_t vd, vuint16m4_t vs1, vuint16m4_t vs2,
                          size_t vl);
vuint16m4_t __riscv_vmadd(vuint16m4_t vd, uint16_t rs1, vuint16m4_t vs2,
                          size_t vl);
vuint16m8_t __riscv_vmadd(vuint16m8_t vd, vuint16m8_t vs1, vuint16m8_t vs2,
                          size_t vl);
vuint16m8_t __riscv_vmadd(vuint16m8_t vd, uint16_t rs1, vuint16m8_t vs2,
                          size_t vl);
vuint32mf2_t __riscv_vmadd(vuint32mf2_t vd, vuint32mf2_t vs1, vuint32mf2_t vs2,
                           size_t vl);
vuint32mf2_t __riscv_vmadd(vuint32mf2_t vd, uint32_t rs1, vuint32mf2_t vs2,
                           size_t vl);
vuint32m1_t __riscv_vmadd(vuint32m1_t vd, vuint32m1_t vs1, vuint32m1_t vs2,
                          size_t vl);
vuint32m1_t __riscv_vmadd(vuint32m1_t vd, uint32_t rs1, vuint32m1_t vs2,
                          size_t vl);
vuint32m2_t __riscv_vmadd(vuint32m2_t vd, vuint32m2_t vs1, vuint32m2_t vs2,
                          size_t vl);
vuint32m2_t __riscv_vmadd(vuint32m2_t vd, uint32_t rs1, vuint32m2_t vs2,
                          size_t vl);
vuint32m4_t __riscv_vmadd(vuint32m4_t vd, vuint32m4_t vs1, vuint32m4_t vs2,
                          size_t vl);
vuint32m4_t __riscv_vmadd(vuint32m4_t vd, uint32_t rs1, vuint32m4_t vs2,
                          size_t vl);
vuint32m8_t __riscv_vmadd(vuint32m8_t vd, vuint32m8_t vs1, vuint32m8_t vs2,
                          size_t vl);
vuint32m8_t __riscv_vmadd(vuint32m8_t vd, uint32_t rs1, vuint32m8_t vs2,
                          size_t vl);
```

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vuint64m1_t __riscv_vmadd(vuint64m1_t vd, vuint64m1_t vs1, vuint64m1_t vs2,
                          size_t vl);
vuint64m1_t __riscv_vmadd(vuint64m1_t vd, uint64_t rs1, vuint64m1_t vs2,
                          size_t vl);
vuint64m2_t __riscv_vmadd(vuint64m2_t vd, vuint64m2_t vs1, vuint64m2_t vs2,
                          size_t vl);
vuint64m2_t __riscv_vmadd(vuint64m2_t vd, uint64_t rs1, vuint64m2_t vs2,
                          size_t vl);
vuint64m4_t __riscv_vmadd(vuint64m4_t vd, vuint64m4_t vs1, vuint64m4_t vs2,
                          size_t vl);
vuint64m4_t __riscv_vmadd(vuint64m4_t vd, uint64_t rs1, vuint64m4_t vs2,
                          size_t vl);
vuint64m8_t __riscv_vmadd(vuint64m8_t vd, vuint64m8_t vs1, vuint64m8_t vs2,
                          size_t vl);
vuint64m8_t __riscv_vmadd(vuint64m8_t vd, uint64_t rs1, vuint64m8_t vs2,
                          size_t vl);
vuint8mf8_t __riscv_vnmsub(vuint8mf8_t vd, vuint8mf8_t vs1, vuint8mf8_t vs2,
                           size_t vl);
vuint8mf8_t __riscv_vnmsub(vuint8mf8_t vd, uint8_t rs1, vuint8mf8_t vs2,
                           size_t vl);
vuint8mf4_t __riscv_vnmsub(vuint8mf4_t vd, vuint8mf4_t vs1, vuint8mf4_t vs2,
                           size_t vl);
vuint8mf4_t __riscv_vnmsub(vuint8mf4_t vd, uint8_t rs1, vuint8mf4_t vs2,
                           size_t vl);
vuint8mf2_t __riscv_vnmsub(vuint8mf2_t vd, vuint8mf2_t vs1, vuint8mf2_t vs2,
                           size_t vl);
vuint8mf2_t __riscv_vnmsub(vuint8mf2_t vd, uint8_t rs1, vuint8mf2_t vs2,
                           size_t vl);
vuint8m1_t __riscv_vnmsub(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                          size_t vl);
vuint8m1_t __riscv_vnmsub(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                          size_t vl);
vuint8m2_t __riscv_vnmsub(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                          size_t vl);
vuint8m2_t __riscv_vnmsub(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                          size_t vl);
vuint8m4_t __riscv_vnmsub(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                          size_t vl);
vuint8m4_t __riscv_vnmsub(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                          size_t vl);
vuint8m8_t __riscv_vnmsub(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                          size_t vl);
vuint8m8_t __riscv_vnmsub(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                          size_t vl);
vuint16mf4_t __riscv_vnmsub(vuint16mf4_t vd, vuint16mf4_t vs1, vuint16mf4_t vs2,
                            size_t vl);
vuint16mf4_t __riscv_vnmsub(vuint16mf4_t vd, uint16_t rs1, vuint16mf4_t vs2,
                            size_t vl);
vuint16mf2_t __riscv_vnmsub(vuint16mf2_t vd, vuint16mf2_t vs1, vuint16mf2_t vs2,
                            size_t vl);
vuint16mf2_t __riscv_vnmsub(vuint16mf2_t vd, uint16_t rs1, vuint16mf2_t vs2,
                            size_t vl);
vuint16m1_t __riscv_vnmsub(vuint16m1_t vd, vuint16m1_t vs1, vuint16m1_t vs2,
                           size_t vl);
vuint16m1_t __riscv_vnmsub(vuint16m1_t vd, uint16_t rs1, vuint16m1_t vs2,
                           size_t vl);
vuint16m2_t __riscv_vnmsub(vuint16m2_t vd, vuint16m2_t vs1, vuint16m2_t vs2,
                           size_t vl);
vuint16m2_t __riscv_vnmsub(vuint16m2_t vd, uint16_t rs1, vuint16m2_t vs2,
                           size_t vl);
vuint16m4_t __riscv_vnmsub(vuint16m4_t vd, vuint16m4_t vs1, vuint16m4_t vs2,
                           size_t vl);
vuint16m4_t __riscv_vnmsub(vuint16m4_t vd, uint16_t rs1, vuint16m4_t vs2,
                           size_t vl);
vuint16m8_t __riscv_vnmsub(vuint16m8_t vd, vuint16m8_t vs1, vuint16m8_t vs2,
                           size_t vl);
vuint16m8_t __riscv_vnmsub(vuint16m8_t vd, uint16_t rs1, vuint16m8_t vs2,
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                           size_t vl);
vuint32mf2_t __riscv_vnmsub(vuint32mf2_t vd, vuint32mf2_t vs1, vuint32mf2_t vs2,
                            size_t vl);
vuint32mf2_t __riscv_vnmsub(vuint32mf2_t vd, uint32_t rs1, vuint32mf2_t vs2,
                            size_t vl);
vuint32m1_t __riscv_vnmsub(vuint32m1_t vd, vuint32m1_t vs1, vuint32m1_t vs2,
                           size_t vl);
vuint32m1_t __riscv_vnmsub(vuint32m1_t vd, uint32_t rs1, vuint32m1_t vs2,
                           size_t vl);
vuint32m2_t __riscv_vnmsub(vuint32m2_t vd, vuint32m2_t vs1, vuint32m2_t vs2,
                           size_t vl);
vuint32m2_t __riscv_vnmsub(vuint32m2_t vd, uint32_t rs1, vuint32m2_t vs2,
                           size_t vl);
vuint32m4_t __riscv_vnmsub(vuint32m4_t vd, vuint32m4_t vs1, vuint32m4_t vs2,
                           size_t vl);
vuint32m4_t __riscv_vnmsub(vuint32m4_t vd, uint32_t rs1, vuint32m4_t vs2,
                           size_t vl);
vuint32m8_t __riscv_vnmsub(vuint32m8_t vd, vuint32m8_t vs1, vuint32m8_t vs2,
                           size_t vl);
vuint32m8_t __riscv_vnmsub(vuint32m8_t vd, uint32_t rs1, vuint32m8_t vs2,
                           size_t vl);
vuint64m1_t __riscv_vnmsub(vuint64m1_t vd, vuint64m1_t vs1, vuint64m1_t vs2,
                           size_t vl);
vuint64m1_t __riscv_vnmsub(vuint64m1_t vd, uint64_t rs1, vuint64m1_t vs2,
                           size_t vl);
vuint64m2_t __riscv_vnmsub(vuint64m2_t vd, vuint64m2_t vs1, vuint64m2_t vs2,
                           size_t vl);
vuint64m2_t __riscv_vnmsub(vuint64m2_t vd, uint64_t rs1, vuint64m2_t vs2,
                           size_t vl);
vuint64m4_t __riscv_vnmsub(vuint64m4_t vd, vuint64m4_t vs1, vuint64m4_t vs2,
                           size_t vl);
vuint64m4_t __riscv_vnmsub(vuint64m4_t vd, uint64_t rs1, vuint64m4_t vs2,
                           size_t vl);
vuint64m8_t __riscv_vnmsub(vuint64m8_t vd, vuint64m8_t vs1, vuint64m8_t vs2,
                           size_t vl);
vuint64m8_t __riscv_vnmsub(vuint64m8_t vd, uint64_t rs1, vuint64m8_t vs2,
                           size_t vl);
// masked functions
vint8mf8_t __riscv_vmacc(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                         vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmacc(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                         vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                         vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                         vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                         vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                         vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmacc(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                        size_t vl);
vint8m1_t __riscv_vmacc(vbool8_t vm, vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                        size_t vl);
vint8m2_t __riscv_vmacc(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                        size_t vl);
vint8m2_t __riscv_vmacc(vbool4_t vm, vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                        size_t vl);
vint8m4_t __riscv_vmacc(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                        size_t vl);
vint8m4_t __riscv_vmacc(vbool2_t vm, vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                        size_t vl);
vint8m8_t __riscv_vmacc(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                        size_t vl);
vint8m8_t __riscv_vmacc(vbool1_t vm, vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                        size_t vl);
vint16mf4_t __riscv_vmacc(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
```

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                          vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                          vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                          vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                          vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmacc(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                         vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmacc(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                         vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmacc(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                         vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmacc(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                         vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmacc(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                         vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmacc(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                         vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmacc(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                         vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmacc(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                         vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                          vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                          vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmacc(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                         vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmacc(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                         vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmacc(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                         vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmacc(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                         vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmacc(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                         vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmacc(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                         vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmacc(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                         vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmacc(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                         vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmacc(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                         vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmacc(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                         vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmacc(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                         vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmacc(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                         vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmacc(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                         vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmacc(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                         vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmacc(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                         vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmacc(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                         vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                          vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                          vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                          vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                          vint8mf4_t vs2, size_t vl);
```

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vint8mf2_t __riscv_vnmsac(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                          vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                          vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                         vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac(vbool8_t vm, vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                         size_t vl);
vint8m2_t __riscv_vnmsac(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                         vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac(vbool4_t vm, vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                         size_t vl);
vint8m4_t __riscv_vnmsac(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                         vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac(vbool2_t vm, vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                         size_t vl);
vint8m8_t __riscv_vnmsac(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                         vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac(vbool1_t vm, vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                         size_t vl);
vint16mf4_t __riscv_vnmsac(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                           vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                           vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                           vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                           vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                          vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                          vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                          vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                          vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                          vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                          vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                          vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                          vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                           vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                           vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                          vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                          vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                          vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                          vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                          vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                          vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                          vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                          vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                          vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac(vbool64_t vm, vint64m1_t vd, int64_t rs1,
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                          vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                          vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                          vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                          vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                          vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                          vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                          vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                         vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                         vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                         vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                         vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                         vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                         vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmadd(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                        size_t vl);
vint8m1_t __riscv_vmadd(vbool8_t vm, vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                        size_t vl);
vint8m2_t __riscv_vmadd(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                        size_t vl);
vint8m2_t __riscv_vmadd(vbool4_t vm, vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                        size_t vl);
vint8m4_t __riscv_vmadd(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                        size_t vl);
vint8m4_t __riscv_vmadd(vbool2_t vm, vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                        size_t vl);
vint8m8_t __riscv_vmadd(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                        size_t vl);
vint8m8_t __riscv_vmadd(vbool1_t vm, vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                        size_t vl);
vint16mf4_t __riscv_vmadd(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                          vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                          vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                          vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                          vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmadd(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                         vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmadd(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                         vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmadd(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                         vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmadd(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                         vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmadd(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                         vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmadd(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                         vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmadd(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                         vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmadd(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                         vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                          vint32mf2_t vs2, size_t vl);
```

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vint32mf2_t __riscv_vmadd(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                          vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmadd(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                         vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmadd(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                         vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmadd(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                         vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmadd(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                         vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmadd(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                         vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmadd(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                         vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmadd(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                         vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmadd(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                         vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmadd(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                         vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmadd(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                         vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmadd(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                         vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmadd(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                         vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmadd(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                         vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmadd(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                         vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmadd(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                         vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmadd(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                         vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                          vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                          vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                          vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                          vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                          vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                          vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                         vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub(vbool8_t vm, vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                         size_t vl);
vint8m2_t __riscv_vnmsub(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                         vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub(vbool4_t vm, vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                         size_t vl);
vint8m4_t __riscv_vnmsub(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                         vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub(vbool2_t vm, vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                         size_t vl);
vint8m8_t __riscv_vnmsub(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                         vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub(vbool1_t vm, vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                         size_t vl);
vint16mf4_t __riscv_vnmsub(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                           vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                           vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
```

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                          vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                          vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                          vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                          vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                          vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                          vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                          vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                          vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                          vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                          vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                          vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                          vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                          vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                          vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                          vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                          vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                          vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                          vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                          vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                          vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                          vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                          vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                          vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                          vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                          vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                          vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                          vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                          vint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                          vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                          vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                          vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                          vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                          vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                          vuint8mf2_t vs2, size_t vl);
```

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vuint8m1_t __riscv_vmacc(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                         vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                         vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                         vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                         vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                         vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                         vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                         vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                         vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                           vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                           vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                           vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                           vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                          vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                          vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                          vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                          vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                          vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                          vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                          vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                          vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                           vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                           vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                          vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                          vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                          vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                          vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                          vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                          vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                          vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                          vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                          vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                          vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                          vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
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                          vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                          vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                          vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                          vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                          vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                           vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                           vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                           vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                           vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                           vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                           vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                          vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                          vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                          vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                          vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                          vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                          vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                          vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                          vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                            vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                            vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                            vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                            vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                           vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                           vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                           vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                           vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsac(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                           vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsac(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                           vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                           vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                           vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                            vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                            vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsac(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                           vuint32m1_t vs2, size_t vl);
```

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vuint32m1_t __riscv_vnmsac(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                           vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                           vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                           vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                           vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                           vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                           vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                           vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                           vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                           vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                           vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                           vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                           vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                           vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                           vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                           vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                          vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                          vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                          vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                          vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                          vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                          vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                         vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                         vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                         vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                         vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                         vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                         vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                         vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                         vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                           vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                           vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                           vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                           vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
```

```
                          vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                          vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                          vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                          vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                          vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                          vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                          vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                          vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                           vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                           vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                          vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                          vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                          vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                          vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                          vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                          vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                          vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                          vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                          vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                          vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                          vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                          vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                          vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                          vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                          vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                          vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                           vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                           vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                           vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                           vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                           vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                           vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                          vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                          vuint8m1_t vs2, size_t vl);
```

```
vuint8m2_t __riscv_vnmsub(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                          vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                          vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                          vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                          vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                          vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                          vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                            vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                            vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                            vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                            vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsub(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                           vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsub(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                           vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                           vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                           vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                           vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                           vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                           vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                           vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                            vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                            vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                           vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                           vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                           vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                           vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                           vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                           vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                           vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                           vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                           vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                           vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                           vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                           vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                           vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
```

```
                          vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                          vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                          vuint64m8_t vs2, size_t vl);
```

C.3.17. Vector Widening Integer Multiply-Add Intrinsics

```
vint16mf4_t __riscv_vwmacc(vint16mf4_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                          size_t vl);
vint16mf4_t __riscv_vwmacc(vint16mf4_t vd, int8_t rs1, vint8mf8_t vs2,
                          size_t vl);
vint16mf2_t __riscv_vwmacc(vint16mf2_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                          size_t vl);
vint16mf2_t __riscv_vwmacc(vint16mf2_t vd, int8_t rs1, vint8mf4_t vs2,
                          size_t vl);
vint16m1_t __riscv_vwmacc(vint16m1_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                         size_t vl);
vint16m1_t __riscv_vwmacc(vint16m1_t vd, int8_t rs1, vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc(vint16m2_t vd, vint8m1_t vs1, vint8m1_t vs2,
                         size_t vl);
vint16m2_t __riscv_vwmacc(vint16m2_t vd, int8_t rs1, vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc(vint16m4_t vd, vint8m2_t vs1, vint8m2_t vs2,
                         size_t vl);
vint16m4_t __riscv_vwmacc(vint16m4_t vd, int8_t rs1, vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc(vint16m8_t vd, vint8m4_t vs1, vint8m4_t vs2,
                         size_t vl);
vint16m8_t __riscv_vwmacc(vint16m8_t vd, int8_t rs1, vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc(vint32mf2_t vd, vint16mf4_t vs1, vint16mf4_t vs2,
                          size_t vl);
vint32mf2_t __riscv_vwmacc(vint32mf2_t vd, int16_t rs1, vint16mf4_t vs2,
                          size_t vl);
vint32m1_t __riscv_vwmacc(vint32m1_t vd, vint16mf2_t vs1, vint16mf2_t vs2,
                         size_t vl);
vint32m1_t __riscv_vwmacc(vint32m1_t vd, int16_t rs1, vint16mf2_t vs2,
                         size_t vl);
vint32m2_t __riscv_vwmacc(vint32m2_t vd, vint16m1_t vs1, vint16m1_t vs2,
                         size_t vl);
vint32m2_t __riscv_vwmacc(vint32m2_t vd, int16_t rs1, vint16m1_t vs2,
                         size_t vl);
vint32m4_t __riscv_vwmacc(vint32m4_t vd, vint16m2_t vs1, vint16m2_t vs2,
                         size_t vl);
vint32m4_t __riscv_vwmacc(vint32m4_t vd, int16_t rs1, vint16m2_t vs2,
                         size_t vl);
vint32m8_t __riscv_vwmacc(vint32m8_t vd, vint16m4_t vs1, vint16m4_t vs2,
                         size_t vl);
vint32m8_t __riscv_vwmacc(vint32m8_t vd, int16_t rs1, vint16m4_t vs2,
                         size_t vl);
vint64m1_t __riscv_vwmacc(vint64m1_t vd, vint32mf2_t vs1, vint32mf2_t vs2,
                         size_t vl);
vint64m1_t __riscv_vwmacc(vint64m1_t vd, int32_t rs1, vint32mf2_t vs2,
                         size_t vl);
vint64m2_t __riscv_vwmacc(vint64m2_t vd, vint32m1_t vs1, vint32m1_t vs2,
                         size_t vl);
vint64m2_t __riscv_vwmacc(vint64m2_t vd, int32_t rs1, vint32m1_t vs2,
                         size_t vl);
vint64m4_t __riscv_vwmacc(vint64m4_t vd, vint32m2_t vs1, vint32m2_t vs2,
                         size_t vl);
vint64m4_t __riscv_vwmacc(vint64m4_t vd, int32_t rs1, vint32m2_t vs2,
                         size_t vl);
vint64m8_t __riscv_vwmacc(vint64m8_t vd, vint32m4_t vs1, vint32m4_t vs2,
                         size_t vl);
vint64m8_t __riscv_vwmacc(vint64m8_t vd, int32_t rs1, vint32m4_t vs2,
                         size_t vl);
vint16mf4_t __riscv_vwmaccsu(vint16mf4_t vd, vint8mf8_t vs1, vuint8mf8_t vs2,
```

```
                              size_t vl);
vint16mf4_t __riscv_vwmaccsu(vint16mf4_t vd, int8_t rs1, vuint8mf8_t vs2,
                              size_t vl);
vint16mf2_t __riscv_vwmaccsu(vint16mf2_t vd, vint8mf4_t vs1, vuint8mf4_t vs2,
                              size_t vl);
vint16mf2_t __riscv_vwmaccsu(vint16mf2_t vd, int8_t rs1, vuint8mf4_t vs2,
                              size_t vl);
vint16m1_t __riscv_vwmaccsu(vint16m1_t vd, vint8mf2_t vs1, vuint8mf2_t vs2,
                             size_t vl);
vint16m1_t __riscv_vwmaccsu(vint16m1_t vd, int8_t rs1, vuint8mf2_t vs2,
                             size_t vl);
vint16m2_t __riscv_vwmaccsu(vint16m2_t vd, vint8m1_t vs1, vuint8m1_t vs2,
                             size_t vl);
vint16m2_t __riscv_vwmaccsu(vint16m2_t vd, int8_t rs1, vuint8m1_t vs2,
                             size_t vl);
vint16m4_t __riscv_vwmaccsu(vint16m4_t vd, vint8m2_t vs1, vuint8m2_t vs2,
                             size_t vl);
vint16m4_t __riscv_vwmaccsu(vint16m4_t vd, int8_t rs1, vuint8m2_t vs2,
                             size_t vl);
vint16m8_t __riscv_vwmaccsu(vint16m8_t vd, vint8m4_t vs1, vuint8m4_t vs2,
                             size_t vl);
vint16m8_t __riscv_vwmaccsu(vint16m8_t vd, int8_t rs1, vuint8m4_t vs2,
                             size_t vl);
vint32mf2_t __riscv_vwmaccsu(vint32mf2_t vd, vint16mf4_t vs1, vuint16mf4_t vs2,
                              size_t vl);
vint32mf2_t __riscv_vwmaccsu(vint32mf2_t vd, int16_t rs1, vuint16mf4_t vs2,
                              size_t vl);
vint32m1_t __riscv_vwmaccsu(vint32m1_t vd, vint16mf2_t vs1, vuint16mf2_t vs2,
                             size_t vl);
vint32m1_t __riscv_vwmaccsu(vint32m1_t vd, int16_t rs1, vuint16mf2_t vs2,
                             size_t vl);
vint32m2_t __riscv_vwmaccsu(vint32m2_t vd, vint16m1_t vs1, vuint16m1_t vs2,
                             size_t vl);
vint32m2_t __riscv_vwmaccsu(vint32m2_t vd, int16_t rs1, vuint16m1_t vs2,
                             size_t vl);
vint32m4_t __riscv_vwmaccsu(vint32m4_t vd, vint16m2_t vs1, vuint16m2_t vs2,
                             size_t vl);
vint32m4_t __riscv_vwmaccsu(vint32m4_t vd, int16_t rs1, vuint16m2_t vs2,
                             size_t vl);
vint32m8_t __riscv_vwmaccsu(vint32m8_t vd, vint16m4_t vs1, vuint16m4_t vs2,
                             size_t vl);
vint32m8_t __riscv_vwmaccsu(vint32m8_t vd, int16_t rs1, vuint16m4_t vs2,
                             size_t vl);
vint64m1_t __riscv_vwmaccsu(vint64m1_t vd, vint32mf2_t vs1, vuint32mf2_t vs2,
                             size_t vl);
vint64m1_t __riscv_vwmaccsu(vint64m1_t vd, int32_t rs1, vuint32mf2_t vs2,
                             size_t vl);
vint64m2_t __riscv_vwmaccsu(vint64m2_t vd, vint32m1_t vs1, vuint32m1_t vs2,
                             size_t vl);
vint64m2_t __riscv_vwmaccsu(vint64m2_t vd, int32_t rs1, vuint32m1_t vs2,
                             size_t vl);
vint64m4_t __riscv_vwmaccsu(vint64m4_t vd, vint32m2_t vs1, vuint32m2_t vs2,
                             size_t vl);
vint64m4_t __riscv_vwmaccsu(vint64m4_t vd, int32_t rs1, vuint32m2_t vs2,
                             size_t vl);
vint64m8_t __riscv_vwmaccsu(vint64m8_t vd, vint32m4_t vs1, vuint32m4_t vs2,
                             size_t vl);
vint64m8_t __riscv_vwmaccsu(vint64m8_t vd, int32_t rs1, vuint32m4_t vs2,
                             size_t vl);
vint16mf4_t __riscv_vwmaccus(vint16mf4_t vd, uint8_t rs1, vint8mf8_t vs2,
                              size_t vl);
vint16mf2_t __riscv_vwmaccus(vint16mf2_t vd, uint8_t rs1, vint8mf4_t vs2,
                              size_t vl);
vint16m1_t __riscv_vwmaccus(vint16m1_t vd, uint8_t rs1, vint8mf2_t vs2,
                             size_t vl);
vint16m2_t __riscv_vwmaccus(vint16m2_t vd, uint8_t rs1, vint8m1_t vs2,
                             size_t vl);
```

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vint16m4_t __riscv_vwmaccus(vint16m4_t vd, uint8_t rs1, vint8m2_t vs2,
                            size_t vl);
vint16m8_t __riscv_vwmaccus(vint16m8_t vd, uint8_t rs1, vint8m4_t vs2,
                            size_t vl);
vint32mf2_t __riscv_vwmaccus(vint32mf2_t vd, uint16_t rs1, vint16mf4_t vs2,
                             size_t vl);
vint32m1_t __riscv_vwmaccus(vint32m1_t vd, uint16_t rs1, vint16mf2_t vs2,
                            size_t vl);
vint32m2_t __riscv_vwmaccus(vint32m2_t vd, uint16_t rs1, vint16m1_t vs2,
                            size_t vl);
vint32m4_t __riscv_vwmaccus(vint32m4_t vd, uint16_t rs1, vint16m2_t vs2,
                            size_t vl);
vint32m8_t __riscv_vwmaccus(vint32m8_t vd, uint16_t rs1, vint16m4_t vs2,
                            size_t vl);
vint64m1_t __riscv_vwmaccus(vint64m1_t vd, uint32_t rs1, vint32mf2_t vs2,
                            size_t vl);
vint64m2_t __riscv_vwmaccus(vint64m2_t vd, uint32_t rs1, vint32m1_t vs2,
                            size_t vl);
vint64m4_t __riscv_vwmaccus(vint64m4_t vd, uint32_t rs1, vint32m2_t vs2,
                            size_t vl);
vint64m8_t __riscv_vwmaccus(vint64m8_t vd, uint32_t rs1, vint32m4_t vs2,
                            size_t vl);
vuint16mf4_t __riscv_vwmaccu(vuint16mf4_t vd, vuint8mf8_t vs1, vuint8mf8_t vs2,
                             size_t vl);
vuint16mf4_t __riscv_vwmaccu(vuint16mf4_t vd, uint8_t rs1, vuint8mf8_t vs2,
                             size_t vl);
vuint16mf2_t __riscv_vwmaccu(vuint16mf2_t vd, vuint8mf4_t vs1, vuint8mf4_t vs2,
                             size_t vl);
vuint16mf2_t __riscv_vwmaccu(vuint16mf2_t vd, uint8_t rs1, vuint8mf4_t vs2,
                             size_t vl);
vuint16m1_t __riscv_vwmaccu(vuint16m1_t vd, vuint8mf2_t vs1, vuint8mf2_t vs2,
                            size_t vl);
vuint16m1_t __riscv_vwmaccu(vuint16m1_t vd, uint8_t rs1, vuint8mf2_t vs2,
                            size_t vl);
vuint16m2_t __riscv_vwmaccu(vuint16m2_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                            size_t vl);
vuint16m2_t __riscv_vwmaccu(vuint16m2_t vd, uint8_t rs1, vuint8m1_t vs2,
                            size_t vl);
vuint16m4_t __riscv_vwmaccu(vuint16m4_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                            size_t vl);
vuint16m4_t __riscv_vwmaccu(vuint16m4_t vd, uint8_t rs1, vuint8m2_t vs2,
                            size_t vl);
vuint16m8_t __riscv_vwmaccu(vuint16m8_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                            size_t vl);
vuint16m8_t __riscv_vwmaccu(vuint16m8_t vd, uint8_t rs1, vuint8m4_t vs2,
                            size_t vl);
vuint32mf2_t __riscv_vwmaccu(vuint32mf2_t vd, vuint16mf4_t vs1,
                             vuint16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu(vuint32mf2_t vd, uint16_t rs1, vuint16mf4_t vs2,
                             size_t vl);
vuint32m1_t __riscv_vwmaccu(vuint32m1_t vd, vuint16mf2_t vs1, vuint16mf2_t vs2,
                            size_t vl);
vuint32m1_t __riscv_vwmaccu(vuint32m1_t vd, uint16_t rs1, vuint16mf2_t vs2,
                            size_t vl);
vuint32m2_t __riscv_vwmaccu(vuint32m2_t vd, vuint16m1_t vs1, vuint16m1_t vs2,
                            size_t vl);
vuint32m2_t __riscv_vwmaccu(vuint32m2_t vd, uint16_t rs1, vuint16m1_t vs2,
                            size_t vl);
vuint32m4_t __riscv_vwmaccu(vuint32m4_t vd, vuint16m2_t vs1, vuint16m2_t vs2,
                            size_t vl);
vuint32m4_t __riscv_vwmaccu(vuint32m4_t vd, uint16_t rs1, vuint16m2_t vs2,
                            size_t vl);
vuint32m8_t __riscv_vwmaccu(vuint32m8_t vd, vuint16m4_t vs1, vuint16m4_t vs2,
                            size_t vl);
vuint32m8_t __riscv_vwmaccu(vuint32m8_t vd, uint16_t rs1, vuint16m4_t vs2,
                            size_t vl);
vuint64m1_t __riscv_vwmaccu(vuint64m1_t vd, vuint32mf2_t vs1, vuint32mf2_t vs2,
```

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                            size_t vl);
vuint64m1_t __riscv_vwmaccu(vuint64m1_t vd, uint32_t rs1, vuint32mf2_t vs2,
                            size_t vl);
vuint64m2_t __riscv_vwmaccu(vuint64m2_t vd, vuint32m1_t vs1, vuint32m1_t vs2,
                            size_t vl);
vuint64m2_t __riscv_vwmaccu(vuint64m2_t vd, uint32_t rs1, vuint32m1_t vs2,
                            size_t vl);
vuint64m4_t __riscv_vwmaccu(vuint64m4_t vd, vuint32m2_t vs1, vuint32m2_t vs2,
                            size_t vl);
vuint64m4_t __riscv_vwmaccu(vuint64m4_t vd, uint32_t rs1, vuint32m2_t vs2,
                            size_t vl);
vuint64m8_t __riscv_vwmaccu(vuint64m8_t vd, vuint32m4_t vs1, vuint32m4_t vs2,
                            size_t vl);
vuint64m8_t __riscv_vwmaccu(vuint64m8_t vd, uint32_t rs1, vuint32m4_t vs2,
                            size_t vl);
// masked functions
vint16mf4_t __riscv_vwmacc(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs1,
                           vint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmacc(vbool64_t vm, vint16mf4_t vd, int8_t rs1,
                           vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs1,
                           vint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc(vbool32_t vm, vint16mf2_t vd, int8_t rs1,
                           vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs1,
                          vint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                          vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc(vbool8_t vm, vint16m2_t vd, vint8m1_t vs1,
                          vint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc(vbool8_t vm, vint16m2_t vd, int8_t rs1, vint8m1_t vs2,
                          size_t vl);
vint16m4_t __riscv_vwmacc(vbool4_t vm, vint16m4_t vd, vint8m2_t vs1,
                          vint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc(vbool4_t vm, vint16m4_t vd, int8_t rs1, vint8m2_t vs2,
                          size_t vl);
vint16m8_t __riscv_vwmacc(vbool2_t vm, vint16m8_t vd, vint8m4_t vs1,
                          vint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc(vbool2_t vm, vint16m8_t vd, int8_t rs1, vint8m4_t vs2,
                          size_t vl);
vint32mf2_t __riscv_vwmacc(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs1,
                           vint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc(vbool64_t vm, vint32mf2_t vd, int16_t rs1,
                           vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs1,
                          vint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc(vbool32_t vm, vint32m1_t vd, int16_t rs1,
                          vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc(vbool16_t vm, vint32m2_t vd, vint16m1_t vs1,
                          vint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                          vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc(vbool8_t vm, vint32m4_t vd, vint16m2_t vs1,
                          vint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                          vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc(vbool4_t vm, vint32m8_t vd, vint16m4_t vs1,
                          vint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                          vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs1,
                          vint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                          vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc(vbool32_t vm, vint64m2_t vd, vint32m1_t vs1,
                          vint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc(vbool32_t vm, vint64m2_t vd, int32_t rs1,
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                          vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc(vbool16_t vm, vint64m4_t vd, vint32m2_t vs1,
                          vint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                          vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc(vbool8_t vm, vint64m8_t vd, vint32m4_t vs1,
                          vint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                          vint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs1,
                             vuint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu(vbool64_t vm, vint16mf4_t vd, int8_t rs1,
                             vuint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs1,
                             vuint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu(vbool32_t vm, vint16mf2_t vd, int8_t rs1,
                             vuint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs1,
                            vuint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                            vuint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs1,
                            vuint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                            vuint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs1,
                            vuint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                            vuint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs1,
                            vuint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                            vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs1,
                             vuint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu(vbool64_t vm, vint32mf2_t vd, int16_t rs1,
                             vuint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs1,
                            vuint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu(vbool32_t vm, vint32m1_t vd, int16_t rs1,
                            vuint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs1,
                            vuint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                            vuint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs1,
                            vuint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                            vuint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs1,
                            vuint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                            vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs1,
                            vuint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                            vuint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs1,
                            vuint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu(vbool32_t vm, vint64m2_t vd, int32_t rs1,
                            vuint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs1,
                            vuint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                            vuint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs1,
                            vuint32m4_t vs2, size_t vl);
```

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vint64m8_t __riscv_vwmaccsu(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                            vuint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccus(vbool64_t vm, vint16mf4_t vd, uint8_t rs1,
                             vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccus(vbool32_t vm, vint16mf2_t vd, uint8_t rs1,
                             vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccus(vbool16_t vm, vint16m1_t vd, uint8_t rs1,
                            vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccus(vbool8_t vm, vint16m2_t vd, uint8_t rs1,
                            vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccus(vbool4_t vm, vint16m4_t vd, uint8_t rs1,
                            vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccus(vbool2_t vm, vint16m8_t vd, uint8_t rs1,
                            vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccus(vbool64_t vm, vint32mf2_t vd, uint16_t rs1,
                             vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccus(vbool32_t vm, vint32m1_t vd, uint16_t rs1,
                            vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccus(vbool16_t vm, vint32m2_t vd, uint16_t rs1,
                            vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccus(vbool8_t vm, vint32m4_t vd, uint16_t rs1,
                            vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccus(vbool4_t vm, vint32m8_t vd, uint16_t rs1,
                            vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccus(vbool64_t vm, vint64m1_t vd, uint32_t rs1,
                            vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccus(vbool32_t vm, vint64m2_t vd, uint32_t rs1,
                            vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccus(vbool16_t vm, vint64m4_t vd, uint32_t rs1,
                            vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccus(vbool8_t vm, vint64m8_t vd, uint32_t rs1,
                            vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu(vbool64_t vm, vuint16mf4_t vd, vuint8mf8_t vs1,
                             vuint8mf8_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu(vbool64_t vm, vuint16mf4_t vd, uint8_t rs1,
                             vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu(vbool32_t vm, vuint16mf2_t vd, vuint8mf4_t vs1,
                             vuint8mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu(vbool32_t vm, vuint16mf2_t vd, uint8_t rs1,
                             vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs1,
                            vuint8mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu(vbool16_t vm, vuint16m1_t vd, uint8_t rs1,
                            vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs1,
                            vuint8m1_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu(vbool8_t vm, vuint16m2_t vd, uint8_t rs1,
                            vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs1,
                            vuint8m2_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu(vbool4_t vm, vuint16m4_t vd, uint8_t rs1,
                            vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs1,
                            vuint8m4_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu(vbool2_t vm, vuint16m8_t vd, uint8_t rs1,
                            vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu(vbool64_t vm, vuint32mf2_t vd, vuint16mf4_t vs1,
                             vuint16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu(vbool64_t vm, vuint32mf2_t vd, uint16_t rs1,
                             vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs1,
                            vuint16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu(vbool32_t vm, vuint32m1_t vd, uint16_t rs1,
                            vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs1,
                            vuint16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu(vbool16_t vm, vuint32m2_t vd, uint16_t rs1,
```

```
                            vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs1,
                            vuint16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu(vbool8_t vm, vuint32m4_t vd, uint16_t rs1,
                            vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs1,
                            vuint16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu(vbool4_t vm, vuint32m8_t vd, uint16_t rs1,
                            vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs1,
                            vuint32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu(vbool64_t vm, vuint64m1_t vd, uint32_t rs1,
                            vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs1,
                            vuint32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu(vbool32_t vm, vuint64m2_t vd, uint32_t rs1,
                            vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs1,
                            vuint32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu(vbool16_t vm, vuint64m4_t vd, uint32_t rs1,
                            vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vwmaccu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs1,
                            vuint32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vwmaccu(vbool8_t vm, vuint64m8_t vd, uint32_t rs1,
                            vuint32m4_t vs2, size_t vl);
```

C.3.18. Vector Integer Merge Intrinsics

```
vint8mf8_t __riscv_vmerge(vint8mf8_t vs2, vint8mf8_t vs1, vbool64_t v0,
                          size_t vl);
vint8mf8_t __riscv_vmerge(vint8mf8_t vs2, int8_t rs1, vbool64_t v0, size_t vl);
vint8mf4_t __riscv_vmerge(vint8mf4_t vs2, vint8mf4_t vs1, vbool32_t v0,
                          size_t vl);
vint8mf4_t __riscv_vmerge(vint8mf4_t vs2, int8_t rs1, vbool32_t v0, size_t vl);
vint8mf2_t __riscv_vmerge(vint8mf2_t vs2, vint8mf2_t vs1, vbool16_t v0,
                          size_t vl);
vint8mf2_t __riscv_vmerge(vint8mf2_t vs2, int8_t rs1, vbool16_t v0, size_t vl);
vint8m1_t __riscv_vmerge(vint8m1_t vs2, vint8m1_t vs1, vbool8_t v0, size_t vl);
vint8m1_t __riscv_vmerge(vint8m1_t vs2, int8_t rs1, vbool8_t v0, size_t vl);
vint8m2_t __riscv_vmerge(vint8m2_t vs2, vint8m2_t vs1, vbool4_t v0, size_t vl);
vint8m2_t __riscv_vmerge(vint8m2_t vs2, int8_t rs1, vbool4_t v0, size_t vl);
vint8m4_t __riscv_vmerge(vint8m4_t vs2, vint8m4_t vs1, vbool2_t v0, size_t vl);
vint8m4_t __riscv_vmerge(vint8m4_t vs2, int8_t rs1, vbool2_t v0, size_t vl);
vint8m8_t __riscv_vmerge(vint8m8_t vs2, vint8m8_t vs1, vbool1_t v0, size_t vl);
vint8m8_t __riscv_vmerge(vint8m8_t vs2, int8_t rs1, vbool1_t v0, size_t vl);
vint16mf4_t __riscv_vmerge(vint16mf4_t vs2, vint16mf4_t vs1, vbool64_t v0,
                           size_t vl);
vint16mf4_t __riscv_vmerge(vint16mf4_t vs2, int16_t rs1, vbool64_t v0,
                           size_t vl);
vint16mf2_t __riscv_vmerge(vint16mf2_t vs2, vint16mf2_t vs1, vbool32_t v0,
                           size_t vl);
vint16mf2_t __riscv_vmerge(vint16mf2_t vs2, int16_t rs1, vbool32_t v0,
                           size_t vl);
vint16m1_t __riscv_vmerge(vint16m1_t vs2, vint16m1_t vs1, vbool16_t v0,
                          size_t vl);
vint16m1_t __riscv_vmerge(vint16m1_t vs2, int16_t rs1, vbool16_t v0, size_t vl);
vint16m2_t __riscv_vmerge(vint16m2_t vs2, vint16m2_t vs1, vbool8_t v0,
                          size_t vl);
vint16m2_t __riscv_vmerge(vint16m2_t vs2, int16_t rs1, vbool8_t v0, size_t vl);
vint16m4_t __riscv_vmerge(vint16m4_t vs2, vint16m4_t vs1, vbool4_t v0,
                          size_t vl);
vint16m4_t __riscv_vmerge(vint16m4_t vs2, int16_t rs1, vbool4_t v0, size_t vl);
vint16m8_t __riscv_vmerge(vint16m8_t vs2, vint16m8_t vs1, vbool2_t v0,
                          size_t vl);
vint16m8_t __riscv_vmerge(vint16m8_t vs2, int16_t rs1, vbool2_t v0, size_t vl);
```

```
vint32mf2_t __riscv_vmerge(vint32mf2_t vs2, vint32mf2_t vs1, vbool64_t v0,
                           size_t vl);
vint32mf2_t __riscv_vmerge(vint32mf2_t vs2, int32_t rs1, vbool64_t v0,
                           size_t vl);
vint32m1_t __riscv_vmerge(vint32m1_t vs2, vint32m1_t vs1, vbool32_t v0,
                          size_t vl);
vint32m1_t __riscv_vmerge(vint32m1_t vs2, int32_t rs1, vbool32_t v0, size_t vl);
vint32m2_t __riscv_vmerge(vint32m2_t vs2, vint32m2_t vs1, vbool16_t v0,
                          size_t vl);
vint32m2_t __riscv_vmerge(vint32m2_t vs2, int32_t rs1, vbool16_t v0, size_t vl);
vint32m4_t __riscv_vmerge(vint32m4_t vs2, vint32m4_t vs1, vbool8_t v0,
                          size_t vl);
vint32m4_t __riscv_vmerge(vint32m4_t vs2, int32_t rs1, vbool8_t v0, size_t vl);
vint32m8_t __riscv_vmerge(vint32m8_t vs2, vint32m8_t vs1, vbool4_t v0,
                          size_t vl);
vint32m8_t __riscv_vmerge(vint32m8_t vs2, int32_t rs1, vbool4_t v0, size_t vl);
vint64m1_t __riscv_vmerge(vint64m1_t vs2, vint64m1_t vs1, vbool64_t v0,
                          size_t vl);
vint64m1_t __riscv_vmerge(vint64m1_t vs2, int64_t rs1, vbool64_t v0, size_t vl);
vint64m2_t __riscv_vmerge(vint64m2_t vs2, vint64m2_t vs1, vbool32_t v0,
                          size_t vl);
vint64m2_t __riscv_vmerge(vint64m2_t vs2, int64_t rs1, vbool32_t v0, size_t vl);
vint64m4_t __riscv_vmerge(vint64m4_t vs2, vint64m4_t vs1, vbool16_t v0,
                          size_t vl);
vint64m4_t __riscv_vmerge(vint64m4_t vs2, int64_t rs1, vbool16_t v0, size_t vl);
vint64m8_t __riscv_vmerge(vint64m8_t vs2, vint64m8_t vs1, vbool8_t v0,
                          size_t vl);
vint64m8_t __riscv_vmerge(vint64m8_t vs2, int64_t rs1, vbool8_t v0, size_t vl);
vuint8mf8_t __riscv_vmerge(vuint8mf8_t vs2, vuint8mf8_t vs1, vbool64_t v0,
                           size_t vl);
vuint8mf8_t __riscv_vmerge(vuint8mf8_t vs2, uint8_t rs1, vbool64_t v0,
                           size_t vl);
vuint8mf4_t __riscv_vmerge(vuint8mf4_t vs2, vuint8mf4_t vs1, vbool32_t v0,
                           size_t vl);
vuint8mf4_t __riscv_vmerge(vuint8mf4_t vs2, uint8_t rs1, vbool32_t v0,
                           size_t vl);
vuint8mf2_t __riscv_vmerge(vuint8mf2_t vs2, vuint8mf2_t vs1, vbool16_t v0,
                           size_t vl);
vuint8mf2_t __riscv_vmerge(vuint8mf2_t vs2, uint8_t rs1, vbool16_t v0,
                           size_t vl);
vuint8m1_t __riscv_vmerge(vuint8m1_t vs2, vuint8m1_t vs1, vbool8_t v0,
                          size_t vl);
vuint8m1_t __riscv_vmerge(vuint8m1_t vs2, uint8_t rs1, vbool8_t v0, size_t vl);
vuint8m2_t __riscv_vmerge(vuint8m2_t vs2, vuint8m2_t vs1, vbool4_t v0,
                          size_t vl);
vuint8m2_t __riscv_vmerge(vuint8m2_t vs2, uint8_t rs1, vbool4_t v0, size_t vl);
vuint8m4_t __riscv_vmerge(vuint8m4_t vs2, vuint8m4_t vs1, vbool2_t v0,
                          size_t vl);
vuint8m4_t __riscv_vmerge(vuint8m4_t vs2, uint8_t rs1, vbool2_t v0, size_t vl);
vuint8m8_t __riscv_vmerge(vuint8m8_t vs2, vuint8m8_t vs1, vbool1_t v0,
                          size_t vl);
vuint8m8_t __riscv_vmerge(vuint8m8_t vs2, uint8_t rs1, vbool1_t v0, size_t vl);
vuint16mf4_t __riscv_vmerge(vuint16mf4_t vs2, vuint16mf4_t vs1, vbool64_t v0,
                            size_t vl);
vuint16mf4_t __riscv_vmerge(vuint16mf4_t vs2, uint16_t rs1, vbool64_t v0,
                            size_t vl);
vuint16mf2_t __riscv_vmerge(vuint16mf2_t vs2, vuint16mf2_t vs1, vbool32_t v0,
                            size_t vl);
vuint16mf2_t __riscv_vmerge(vuint16mf2_t vs2, uint16_t rs1, vbool32_t v0,
                            size_t vl);
vuint16m1_t __riscv_vmerge(vuint16m1_t vs2, vuint16m1_t vs1, vbool16_t v0,
                           size_t vl);
vuint16m1_t __riscv_vmerge(vuint16m1_t vs2, uint16_t rs1, vbool16_t v0,
                           size_t vl);
vuint16m2_t __riscv_vmerge(vuint16m2_t vs2, vuint16m2_t vs1, vbool8_t v0,
                           size_t vl);
vuint16m2_t __riscv_vmerge(vuint16m2_t vs2, uint16_t rs1, vbool8_t v0,
```

```
                          size_t vl);
vuint16m4_t __riscv_vmerge(vuint16m4_t vs2, vuint16m4_t vs1, vbool4_t v0,
                          size_t vl);
vuint16m4_t __riscv_vmerge(vuint16m4_t vs2, uint16_t rs1, vbool4_t v0,
                          size_t vl);
vuint16m8_t __riscv_vmerge(vuint16m8_t vs2, vuint16m8_t vs1, vbool2_t v0,
                          size_t vl);
vuint16m8_t __riscv_vmerge(vuint16m8_t vs2, uint16_t rs1, vbool2_t v0,
                          size_t vl);
vuint32mf2_t __riscv_vmerge(vuint32mf2_t vs2, vuint32mf2_t vs1, vbool64_t v0,
                           size_t vl);
vuint32mf2_t __riscv_vmerge(vuint32mf2_t vs2, uint32_t rs1, vbool64_t v0,
                           size_t vl);
vuint32m1_t __riscv_vmerge(vuint32m1_t vs2, vuint32m1_t vs1, vbool32_t v0,
                          size_t vl);
vuint32m1_t __riscv_vmerge(vuint32m1_t vs2, uint32_t rs1, vbool32_t v0,
                          size_t vl);
vuint32m2_t __riscv_vmerge(vuint32m2_t vs2, vuint32m2_t vs1, vbool16_t v0,
                          size_t vl);
vuint32m2_t __riscv_vmerge(vuint32m2_t vs2, uint32_t rs1, vbool16_t v0,
                          size_t vl);
vuint32m4_t __riscv_vmerge(vuint32m4_t vs2, vuint32m4_t vs1, vbool8_t v0,
                          size_t vl);
vuint32m4_t __riscv_vmerge(vuint32m4_t vs2, uint32_t rs1, vbool8_t v0,
                          size_t vl);
vuint32m8_t __riscv_vmerge(vuint32m8_t vs2, vuint32m8_t vs1, vbool4_t v0,
                          size_t vl);
vuint32m8_t __riscv_vmerge(vuint32m8_t vs2, uint32_t rs1, vbool4_t v0,
                          size_t vl);
vuint64m1_t __riscv_vmerge(vuint64m1_t vs2, vuint64m1_t vs1, vbool64_t v0,
                          size_t vl);
vuint64m1_t __riscv_vmerge(vuint64m1_t vs2, uint64_t rs1, vbool64_t v0,
                          size_t vl);
vuint64m2_t __riscv_vmerge(vuint64m2_t vs2, vuint64m2_t vs1, vbool32_t v0,
                          size_t vl);
vuint64m2_t __riscv_vmerge(vuint64m2_t vs2, uint64_t rs1, vbool32_t v0,
                          size_t vl);
vuint64m4_t __riscv_vmerge(vuint64m4_t vs2, vuint64m4_t vs1, vbool16_t v0,
                          size_t vl);
vuint64m4_t __riscv_vmerge(vuint64m4_t vs2, uint64_t rs1, vbool16_t v0,
                          size_t vl);
vuint64m8_t __riscv_vmerge(vuint64m8_t vs2, vuint64m8_t vs1, vbool8_t v0,
                          size_t vl);
vuint64m8_t __riscv_vmerge(vuint64m8_t vs2, uint64_t rs1, vbool8_t v0,
                          size_t vl);
```

C.3.19. Vector Integer Move Intrinsics

```
vint8mf8_t __riscv_vmv_v(vint8mf8_t vs1, size_t vl);
vint8mf4_t __riscv_vmv_v(vint8mf4_t vs1, size_t vl);
vint8mf2_t __riscv_vmv_v(vint8mf2_t vs1, size_t vl);
vint8m1_t __riscv_vmv_v(vint8m1_t vs1, size_t vl);
vint8m2_t __riscv_vmv_v(vint8m2_t vs1, size_t vl);
vint8m4_t __riscv_vmv_v(vint8m4_t vs1, size_t vl);
vint8m8_t __riscv_vmv_v(vint8m8_t vs1, size_t vl);
vint16mf4_t __riscv_vmv_v(vint16mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vmv_v(vint16mf2_t vs1, size_t vl);
vint16m1_t __riscv_vmv_v(vint16m1_t vs1, size_t vl);
vint16m2_t __riscv_vmv_v(vint16m2_t vs1, size_t vl);
vint16m4_t __riscv_vmv_v(vint16m4_t vs1, size_t vl);
vint16m8_t __riscv_vmv_v(vint16m8_t vs1, size_t vl);
vint32mf2_t __riscv_vmv_v(vint32mf2_t vs1, size_t vl);
vint32m1_t __riscv_vmv_v(vint32m1_t vs1, size_t vl);
vint32m2_t __riscv_vmv_v(vint32m2_t vs1, size_t vl);
vint32m4_t __riscv_vmv_v(vint32m4_t vs1, size_t vl);
```

```
vint32m8_t __riscv_vmv_v(vint32m8_t vs1, size_t vl);
vint64m1_t __riscv_vmv_v(vint64m1_t vs1, size_t vl);
vint64m2_t __riscv_vmv_v(vint64m2_t vs1, size_t vl);
vint64m4_t __riscv_vmv_v(vint64m4_t vs1, size_t vl);
vint64m8_t __riscv_vmv_v(vint64m8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmv_v(vuint8mf8_t vs1, size_t vl);
vuint8mf4_t __riscv_vmv_v(vuint8mf4_t vs1, size_t vl);
vuint8mf2_t __riscv_vmv_v(vuint8mf2_t vs1, size_t vl);
vuint8m1_t __riscv_vmv_v(vuint8m1_t vs1, size_t vl);
vuint8m2_t __riscv_vmv_v(vuint8m2_t vs1, size_t vl);
vuint8m4_t __riscv_vmv_v(vuint8m4_t vs1, size_t vl);
vuint8m8_t __riscv_vmv_v(vuint8m8_t vs1, size_t vl);
vuint16mf4_t __riscv_vmv_v(vuint16mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vmv_v(vuint16mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vmv_v(vuint16m1_t vs1, size_t vl);
vuint16m2_t __riscv_vmv_v(vuint16m2_t vs1, size_t vl);
vuint16m4_t __riscv_vmv_v(vuint16m4_t vs1, size_t vl);
vuint16m8_t __riscv_vmv_v(vuint16m8_t vs1, size_t vl);
vuint32mf2_t __riscv_vmv_v(vuint32mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vmv_v(vuint32m1_t vs1, size_t vl);
vuint32m2_t __riscv_vmv_v(vuint32m2_t vs1, size_t vl);
vuint32m4_t __riscv_vmv_v(vuint32m4_t vs1, size_t vl);
vuint32m8_t __riscv_vmv_v(vuint32m8_t vs1, size_t vl);
vuint64m1_t __riscv_vmv_v(vuint64m1_t vs1, size_t vl);
vuint64m2_t __riscv_vmv_v(vuint64m2_t vs1, size_t vl);
vuint64m4_t __riscv_vmv_v(vuint64m4_t vs1, size_t vl);
vuint64m8_t __riscv_vmv_v(vuint64m8_t vs1, size_t vl);
```

C.4. Vector Fixed-Point Arithmetic Intrinsics

C.4.1. Vector Single-Width Saturating Add and Subtract Intrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vsadd(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsadd(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsadd(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsadd(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsadd(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsadd(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vsadd(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsadd(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vsadd(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsadd(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vsadd(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsadd(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vsadd(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsadd(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsadd(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsadd(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsadd(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsadd(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vsadd(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsadd(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vsadd(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsadd(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vsadd(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsadd(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vsadd(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsadd(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsadd(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsadd(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vsadd(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
```

```
vint32m1_t __riscv_vsadd(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vsadd(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsadd(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vsadd(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsadd(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vsadd(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsadd(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vsadd(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsadd(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vsadd(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsadd(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vsadd(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsadd(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vsadd(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsadd(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vssub(vint8mf8_t vs2, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vssub(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vssub(vint8mf4_t vs2, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vssub(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vssub(vint8mf2_t vs2, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vssub(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vssub(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vssub(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vssub(vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vssub(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vssub(vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vssub(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vssub(vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vssub(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vssub(vint16mf4_t vs2, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vssub(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vssub(vint16mf2_t vs2, vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vssub(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vssub(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vssub(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vssub(vint16m2_t vs2, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vssub(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vssub(vint16m4_t vs2, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vssub(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vssub(vint16m8_t vs2, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vssub(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vssub(vint32mf2_t vs2, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vssub(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vssub(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vssub(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vssub(vint32m2_t vs2, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vssub(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vssub(vint32m4_t vs2, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vssub(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vssub(vint32m8_t vs2, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vssub(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vssub(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vssub(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vssub(vint64m2_t vs2, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vssub(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vssub(vint64m4_t vs2, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vssub(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vssub(vint64m8_t vs2, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vssub(vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsaddu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsaddu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsaddu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsaddu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsaddu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsaddu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsaddu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsaddu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
```

```
vuint8m2_t __riscv_vsaddu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsaddu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsaddu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsaddu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsaddu(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsaddu(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsaddu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsaddu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsaddu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsaddu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsaddu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsaddu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsaddu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsaddu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsaddu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsaddu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsaddu(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsaddu(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsaddu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsaddu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsaddu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsaddu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsaddu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsaddu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsaddu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsaddu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsaddu(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsaddu(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsaddu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsaddu(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsaddu(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsaddu(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsaddu(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsaddu(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsaddu(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsaddu(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vssubu(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vssubu(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vssubu(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vssubu(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vssubu(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vssubu(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vssubu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vssubu(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vssubu(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vssubu(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vssubu(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vssubu(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vssubu(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vssubu(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vssubu(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vssubu(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vssubu(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vssubu(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vssubu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vssubu(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vssubu(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vssubu(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vssubu(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vssubu(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vssubu(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vssubu(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vssubu(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vssubu(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vssubu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vssubu(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vssubu(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
```

```
vuint32m2_t __riscv_vssubu(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vssubu(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vssubu(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vssubu(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vssubu(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vssubu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vssubu(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vssubu(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vssubu(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vssubu(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vssubu(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vssubu(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vssubu(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsadd(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                         size_t vl);
vint8mf8_t __riscv_vsadd(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsadd(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                         size_t vl);
vint8mf4_t __riscv_vsadd(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsadd(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                         size_t vl);
vint8mf2_t __riscv_vsadd(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vsadd(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsadd(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vsadd(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsadd(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vsadd(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsadd(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vsadd(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsadd(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsadd(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                          size_t vl);
vint16mf4_t __riscv_vsadd(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                          size_t vl);
vint16mf2_t __riscv_vsadd(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                          size_t vl);
vint16mf2_t __riscv_vsadd(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                          size_t vl);
vint16m1_t __riscv_vsadd(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                         size_t vl);
vint16m1_t __riscv_vsadd(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vsadd(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                         size_t vl);
vint16m2_t __riscv_vsadd(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vsadd(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                         size_t vl);
vint16m4_t __riscv_vsadd(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vsadd(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                         size_t vl);
vint16m8_t __riscv_vsadd(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsadd(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                          size_t vl);
vint32mf2_t __riscv_vsadd(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                          size_t vl);
vint32m1_t __riscv_vsadd(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                         size_t vl);
vint32m1_t __riscv_vsadd(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vsadd(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                         size_t vl);
vint32m2_t __riscv_vsadd(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vsadd(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                         size_t vl);
vint32m4_t __riscv_vsadd(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vsadd(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                         size_t vl);
vint32m8_t __riscv_vsadd(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
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vint64m1_t __riscv_vsadd(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                         size_t vl);
vint64m1_t __riscv_vsadd(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vsadd(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                         size_t vl);
vint64m2_t __riscv_vsadd(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vsadd(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                         size_t vl);
vint64m4_t __riscv_vsadd(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vsadd(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                         size_t vl);
vint64m8_t __riscv_vsadd(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vssub(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                         size_t vl);
vint8mf8_t __riscv_vssub(vbool64_t vm, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vssub(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                         size_t vl);
vint8mf4_t __riscv_vssub(vbool32_t vm, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vssub(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                         size_t vl);
vint8mf2_t __riscv_vssub(vbool16_t vm, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vssub(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vssub(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vssub(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vssub(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vssub(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vssub(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vssub(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vssub(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vssub(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                          size_t vl);
vint16mf4_t __riscv_vssub(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                          size_t vl);
vint16mf2_t __riscv_vssub(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                          size_t vl);
vint16mf2_t __riscv_vssub(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                          size_t vl);
vint16m1_t __riscv_vssub(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                         size_t vl);
vint16m1_t __riscv_vssub(vbool16_t vm, vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vssub(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                         size_t vl);
vint16m2_t __riscv_vssub(vbool8_t vm, vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vssub(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                         size_t vl);
vint16m4_t __riscv_vssub(vbool4_t vm, vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vssub(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                         size_t vl);
vint16m8_t __riscv_vssub(vbool2_t vm, vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vssub(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                          size_t vl);
vint32mf2_t __riscv_vssub(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                          size_t vl);
vint32m1_t __riscv_vssub(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                         size_t vl);
vint32m1_t __riscv_vssub(vbool32_t vm, vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vssub(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                         size_t vl);
vint32m2_t __riscv_vssub(vbool16_t vm, vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vssub(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                         size_t vl);
vint32m4_t __riscv_vssub(vbool8_t vm, vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vssub(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                         size_t vl);
vint32m8_t __riscv_vssub(vbool4_t vm, vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vssub(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                         size_t vl);
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vint64m1_t __riscv_vssub(vbool64_t vm, vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vssub(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                         size_t vl);
vint64m2_t __riscv_vssub(vbool32_t vm, vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vssub(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                         size_t vl);
vint64m4_t __riscv_vssub(vbool16_t vm, vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vssub(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                         size_t vl);
vint64m8_t __riscv_vssub(vbool8_t vm, vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsaddu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                           size_t vl);
vuint8mf8_t __riscv_vsaddu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                           size_t vl);
vuint8mf4_t __riscv_vsaddu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                           size_t vl);
vuint8mf4_t __riscv_vsaddu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                           size_t vl);
vuint8mf2_t __riscv_vsaddu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                           size_t vl);
vuint8mf2_t __riscv_vsaddu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m1_t __riscv_vsaddu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                          size_t vl);
vuint8m1_t __riscv_vsaddu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsaddu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                          size_t vl);
vuint8m2_t __riscv_vsaddu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsaddu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                          size_t vl);
vuint8m4_t __riscv_vsaddu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsaddu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                          size_t vl);
vuint8m8_t __riscv_vsaddu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsaddu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                            size_t vl);
vuint16mf4_t __riscv_vsaddu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                            size_t vl);
vuint16mf2_t __riscv_vsaddu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                            size_t vl);
vuint16mf2_t __riscv_vsaddu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m1_t __riscv_vsaddu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                           size_t vl);
vuint16m1_t __riscv_vsaddu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m2_t __riscv_vsaddu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                           size_t vl);
vuint16m2_t __riscv_vsaddu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m4_t __riscv_vsaddu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                           size_t vl);
vuint16m4_t __riscv_vsaddu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m8_t __riscv_vsaddu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                           size_t vl);
vuint16m8_t __riscv_vsaddu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                           size_t vl);
vuint32mf2_t __riscv_vsaddu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                            size_t vl);
vuint32mf2_t __riscv_vsaddu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m1_t __riscv_vsaddu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                           size_t vl);
vuint32m1_t __riscv_vsaddu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m2_t __riscv_vsaddu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
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                            size_t vl);
vuint32m2_t __riscv_vsaddu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m4_t __riscv_vsaddu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                            size_t vl);
vuint32m4_t __riscv_vsaddu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m8_t __riscv_vsaddu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                            size_t vl);
vuint32m8_t __riscv_vsaddu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                            size_t vl);
vuint64m1_t __riscv_vsaddu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vsaddu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m2_t __riscv_vsaddu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                            size_t vl);
vuint64m2_t __riscv_vsaddu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m4_t __riscv_vsaddu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                            size_t vl);
vuint64m4_t __riscv_vsaddu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m8_t __riscv_vsaddu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                            size_t vl);
vuint64m8_t __riscv_vsaddu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                            size_t vl);
vuint8mf8_t __riscv_vssubu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                            size_t vl);
vuint8mf8_t __riscv_vssubu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                            size_t vl);
vuint8mf4_t __riscv_vssubu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                            size_t vl);
vuint8mf4_t __riscv_vssubu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                            size_t vl);
vuint8mf2_t __riscv_vssubu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                            size_t vl);
vuint8mf2_t __riscv_vssubu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m1_t __riscv_vssubu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vssubu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vssubu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                          size_t vl);
vuint8m2_t __riscv_vssubu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vssubu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                          size_t vl);
vuint8m4_t __riscv_vssubu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vssubu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                          size_t vl);
vuint8m8_t __riscv_vssubu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vssubu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                            size_t vl);
vuint16mf4_t __riscv_vssubu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                            size_t vl);
vuint16mf2_t __riscv_vssubu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                            size_t vl);
vuint16mf2_t __riscv_vssubu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m1_t __riscv_vssubu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vssubu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m2_t __riscv_vssubu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                            size_t vl);
vuint16m2_t __riscv_vssubu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                            size_t vl);
```

```
vuint16m4_t __riscv_vssubu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                           size_t vl);
vuint16m4_t __riscv_vssubu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m8_t __riscv_vssubu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                           size_t vl);
vuint16m8_t __riscv_vssubu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                           size_t vl);
vuint32mf2_t __riscv_vssubu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                            size_t vl);
vuint32mf2_t __riscv_vssubu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m1_t __riscv_vssubu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                           size_t vl);
vuint32m1_t __riscv_vssubu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m2_t __riscv_vssubu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                           size_t vl);
vuint32m2_t __riscv_vssubu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m4_t __riscv_vssubu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                           size_t vl);
vuint32m4_t __riscv_vssubu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m8_t __riscv_vssubu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                           size_t vl);
vuint32m8_t __riscv_vssubu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                           size_t vl);
vuint64m1_t __riscv_vssubu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                           size_t vl);
vuint64m1_t __riscv_vssubu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                           size_t vl);
vuint64m2_t __riscv_vssubu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                           size_t vl);
vuint64m2_t __riscv_vssubu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                           size_t vl);
vuint64m4_t __riscv_vssubu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                           size_t vl);
vuint64m4_t __riscv_vssubu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                           size_t vl);
vuint64m8_t __riscv_vssubu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                           size_t vl);
vuint64m8_t __riscv_vssubu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                           size_t vl);
```

C.4.2. Vector Single-Width Averaging Add and Subtract Intrinsics

```
vint8mf8_t __riscv_vaadd(vint8mf8_t vs2, vint8mf8_t vs1, unsigned int vxrm,
                         size_t vl);
vint8mf8_t __riscv_vaadd(vint8mf8_t vs2, int8_t rs1, unsigned int vxrm,
                         size_t vl);
vint8mf4_t __riscv_vaadd(vint8mf4_t vs2, vint8mf4_t vs1, unsigned int vxrm,
                         size_t vl);
vint8mf4_t __riscv_vaadd(vint8mf4_t vs2, int8_t rs1, unsigned int vxrm,
                         size_t vl);
vint8mf2_t __riscv_vaadd(vint8mf2_t vs2, vint8mf2_t vs1, unsigned int vxrm,
                         size_t vl);
vint8mf2_t __riscv_vaadd(vint8mf2_t vs2, int8_t rs1, unsigned int vxrm,
                         size_t vl);
vint8m1_t __riscv_vaadd(vint8m1_t vs2, vint8m1_t vs1, unsigned int vxrm,
                        size_t vl);
vint8m1_t __riscv_vaadd(vint8m1_t vs2, int8_t rs1, unsigned int vxrm,
                        size_t vl);
vint8m2_t __riscv_vaadd(vint8m2_t vs2, vint8m2_t vs1, unsigned int vxrm,
                        size_t vl);
```

```
vint8m2_t __riscv_vaadd(vint8m2_t vs2, int8_t rs1, unsigned int vxrm,
                        size_t vl);
vint8m4_t __riscv_vaadd(vint8m4_t vs2, vint8m4_t vs1, unsigned int vxrm,
                        size_t vl);
vint8m4_t __riscv_vaadd(vint8m4_t vs2, int8_t rs1, unsigned int vxrm,
                        size_t vl);
vint8m8_t __riscv_vaadd(vint8m8_t vs2, vint8m8_t vs1, unsigned int vxrm,
                        size_t vl);
vint8m8_t __riscv_vaadd(vint8m8_t vs2, int8_t rs1, unsigned int vxrm,
                        size_t vl);
vint16mf4_t __riscv_vaadd(vint16mf4_t vs2, vint16mf4_t vs1, unsigned int vxrm,
                          size_t vl);
vint16mf4_t __riscv_vaadd(vint16mf4_t vs2, int16_t rs1, unsigned int vxrm,
                          size_t vl);
vint16mf2_t __riscv_vaadd(vint16mf2_t vs2, vint16mf2_t vs1, unsigned int vxrm,
                          size_t vl);
vint16mf2_t __riscv_vaadd(vint16mf2_t vs2, int16_t rs1, unsigned int vxrm,
                          size_t vl);
vint16m1_t __riscv_vaadd(vint16m1_t vs2, vint16m1_t vs1, unsigned int vxrm,
                         size_t vl);
vint16m1_t __riscv_vaadd(vint16m1_t vs2, int16_t rs1, unsigned int vxrm,
                         size_t vl);
vint16m2_t __riscv_vaadd(vint16m2_t vs2, vint16m2_t vs1, unsigned int vxrm,
                         size_t vl);
vint16m2_t __riscv_vaadd(vint16m2_t vs2, int16_t rs1, unsigned int vxrm,
                         size_t vl);
vint16m4_t __riscv_vaadd(vint16m4_t vs2, vint16m4_t vs1, unsigned int vxrm,
                         size_t vl);
vint16m4_t __riscv_vaadd(vint16m4_t vs2, int16_t rs1, unsigned int vxrm,
                         size_t vl);
vint16m8_t __riscv_vaadd(vint16m8_t vs2, vint16m8_t vs1, unsigned int vxrm,
                         size_t vl);
vint16m8_t __riscv_vaadd(vint16m8_t vs2, int16_t rs1, unsigned int vxrm,
                         size_t vl);
vint32mf2_t __riscv_vaadd(vint32mf2_t vs2, vint32mf2_t vs1, unsigned int vxrm,
                          size_t vl);
vint32mf2_t __riscv_vaadd(vint32mf2_t vs2, int32_t rs1, unsigned int vxrm,
                          size_t vl);
vint32m1_t __riscv_vaadd(vint32m1_t vs2, vint32m1_t vs1, unsigned int vxrm,
                         size_t vl);
vint32m1_t __riscv_vaadd(vint32m1_t vs2, int32_t rs1, unsigned int vxrm,
                         size_t vl);
vint32m2_t __riscv_vaadd(vint32m2_t vs2, vint32m2_t vs1, unsigned int vxrm,
                         size_t vl);
vint32m2_t __riscv_vaadd(vint32m2_t vs2, int32_t rs1, unsigned int vxrm,
                         size_t vl);
vint32m4_t __riscv_vaadd(vint32m4_t vs2, vint32m4_t vs1, unsigned int vxrm,
                         size_t vl);
vint32m4_t __riscv_vaadd(vint32m4_t vs2, int32_t rs1, unsigned int vxrm,
                         size_t vl);
vint32m8_t __riscv_vaadd(vint32m8_t vs2, vint32m8_t vs1, unsigned int vxrm,
                         size_t vl);
vint32m8_t __riscv_vaadd(vint32m8_t vs2, int32_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m1_t __riscv_vaadd(vint64m1_t vs2, vint64m1_t vs1, unsigned int vxrm,
                         size_t vl);
vint64m1_t __riscv_vaadd(vint64m1_t vs2, int64_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m2_t __riscv_vaadd(vint64m2_t vs2, vint64m2_t vs1, unsigned int vxrm,
                         size_t vl);
vint64m2_t __riscv_vaadd(vint64m2_t vs2, int64_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m4_t __riscv_vaadd(vint64m4_t vs2, vint64m4_t vs1, unsigned int vxrm,
                         size_t vl);
vint64m4_t __riscv_vaadd(vint64m4_t vs2, int64_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m8_t __riscv_vaadd(vint64m8_t vs2, vint64m8_t vs1, unsigned int vxrm,
```

```
                          size_t vl);
vint64m8_t __riscv_vaadd(vint64m8_t vs2, int64_t rs1, unsigned int vxrm,
                          size_t vl);
vint8mf8_t __riscv_vasub(vint8mf8_t vs2, vint8mf8_t vs1, unsigned int vxrm,
                          size_t vl);
vint8mf8_t __riscv_vasub(vint8mf8_t vs2, int8_t rs1, unsigned int vxrm,
                          size_t vl);
vint8mf4_t __riscv_vasub(vint8mf4_t vs2, vint8mf4_t vs1, unsigned int vxrm,
                          size_t vl);
vint8mf4_t __riscv_vasub(vint8mf4_t vs2, int8_t rs1, unsigned int vxrm,
                          size_t vl);
vint8mf2_t __riscv_vasub(vint8mf2_t vs2, vint8mf2_t vs1, unsigned int vxrm,
                          size_t vl);
vint8mf2_t __riscv_vasub(vint8mf2_t vs2, int8_t rs1, unsigned int vxrm,
                          size_t vl);
vint8m1_t __riscv_vasub(vint8m1_t vs2, vint8m1_t vs1, unsigned int vxrm,
                         size_t vl);
vint8m1_t __riscv_vasub(vint8m1_t vs2, int8_t rs1, unsigned int vxrm,
                          size_t vl);
vint8m2_t __riscv_vasub(vint8m2_t vs2, vint8m2_t vs1, unsigned int vxrm,
                         size_t vl);
vint8m2_t __riscv_vasub(vint8m2_t vs2, int8_t rs1, unsigned int vxrm,
                         size_t vl);
vint8m4_t __riscv_vasub(vint8m4_t vs2, vint8m4_t vs1, unsigned int vxrm,
                         size_t vl);
vint8m4_t __riscv_vasub(vint8m4_t vs2, int8_t rs1, unsigned int vxrm,
                         size_t vl);
vint8m8_t __riscv_vasub(vint8m8_t vs2, vint8m8_t vs1, unsigned int vxrm,
                         size_t vl);
vint8m8_t __riscv_vasub(vint8m8_t vs2, int8_t rs1, unsigned int vxrm,
                         size_t vl);
vint16mf4_t __riscv_vasub(vint16mf4_t vs2, vint16mf4_t vs1, unsigned int vxrm,
                           size_t vl);
vint16mf4_t __riscv_vasub(vint16mf4_t vs2, int16_t rs1, unsigned int vxrm,
                           size_t vl);
vint16mf2_t __riscv_vasub(vint16mf2_t vs2, vint16mf2_t vs1, unsigned int vxrm,
                           size_t vl);
vint16mf2_t __riscv_vasub(vint16mf2_t vs2, int16_t rs1, unsigned int vxrm,
                           size_t vl);
vint16m1_t __riscv_vasub(vint16m1_t vs2, vint16m1_t vs1, unsigned int vxrm,
                          size_t vl);
vint16m1_t __riscv_vasub(vint16m1_t vs2, int16_t rs1, unsigned int vxrm,
                          size_t vl);
vint16m2_t __riscv_vasub(vint16m2_t vs2, vint16m2_t vs1, unsigned int vxrm,
                          size_t vl);
vint16m2_t __riscv_vasub(vint16m2_t vs2, int16_t rs1, unsigned int vxrm,
                          size_t vl);
vint16m4_t __riscv_vasub(vint16m4_t vs2, vint16m4_t vs1, unsigned int vxrm,
                          size_t vl);
vint16m4_t __riscv_vasub(vint16m4_t vs2, int16_t rs1, unsigned int vxrm,
                          size_t vl);
vint16m8_t __riscv_vasub(vint16m8_t vs2, vint16m8_t vs1, unsigned int vxrm,
                          size_t vl);
vint16m8_t __riscv_vasub(vint16m8_t vs2, int16_t rs1, unsigned int vxrm,
                          size_t vl);
vint32mf2_t __riscv_vasub(vint32mf2_t vs2, vint32mf2_t vs1, unsigned int vxrm,
                           size_t vl);
vint32mf2_t __riscv_vasub(vint32mf2_t vs2, int32_t rs1, unsigned int vxrm,
                           size_t vl);
vint32m1_t __riscv_vasub(vint32m1_t vs2, vint32m1_t vs1, unsigned int vxrm,
                          size_t vl);
vint32m1_t __riscv_vasub(vint32m1_t vs2, int32_t rs1, unsigned int vxrm,
                          size_t vl);
vint32m2_t __riscv_vasub(vint32m2_t vs2, vint32m2_t vs1, unsigned int vxrm,
                          size_t vl);
vint32m2_t __riscv_vasub(vint32m2_t vs2, int32_t rs1, unsigned int vxrm,
                          size_t vl);
```

```
vint32m4_t __riscv_vasub(vint32m4_t vs2, vint32m4_t vs1, unsigned int vxrm,
                         size_t vl);
vint32m4_t __riscv_vasub(vint32m4_t vs2, int32_t rs1, unsigned int vxrm,
                         size_t vl);
vint32m8_t __riscv_vasub(vint32m8_t vs2, vint32m8_t vs1, unsigned int vxrm,
                         size_t vl);
vint32m8_t __riscv_vasub(vint32m8_t vs2, int32_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m1_t __riscv_vasub(vint64m1_t vs2, vint64m1_t vs1, unsigned int vxrm,
                         size_t vl);
vint64m1_t __riscv_vasub(vint64m1_t vs2, int64_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m2_t __riscv_vasub(vint64m2_t vs2, vint64m2_t vs1, unsigned int vxrm,
                         size_t vl);
vint64m2_t __riscv_vasub(vint64m2_t vs2, int64_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m4_t __riscv_vasub(vint64m4_t vs2, vint64m4_t vs1, unsigned int vxrm,
                         size_t vl);
vint64m4_t __riscv_vasub(vint64m4_t vs2, int64_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m8_t __riscv_vasub(vint64m8_t vs2, vint64m8_t vs1, unsigned int vxrm,
                         size_t vl);
vint64m8_t __riscv_vasub(vint64m8_t vs2, int64_t rs1, unsigned int vxrm,
                         size_t vl);
vuint8mf8_t __riscv_vaaddu(vuint8mf8_t vs2, vuint8mf8_t vs1, unsigned int vxrm,
                           size_t vl);
vuint8mf8_t __riscv_vaaddu(vuint8mf8_t vs2, uint8_t rs1, unsigned int vxrm,
                           size_t vl);
vuint8mf4_t __riscv_vaaddu(vuint8mf4_t vs2, vuint8mf4_t vs1, unsigned int vxrm,
                           size_t vl);
vuint8mf4_t __riscv_vaaddu(vuint8mf4_t vs2, uint8_t rs1, unsigned int vxrm,
                           size_t vl);
vuint8mf2_t __riscv_vaaddu(vuint8mf2_t vs2, vuint8mf2_t vs1, unsigned int vxrm,
                           size_t vl);
vuint8mf2_t __riscv_vaaddu(vuint8mf2_t vs2, uint8_t rs1, unsigned int vxrm,
                           size_t vl);
vuint8m1_t __riscv_vaaddu(vuint8m1_t vs2, vuint8m1_t vs1, unsigned int vxrm,
                          size_t vl);
vuint8m1_t __riscv_vaaddu(vuint8m1_t vs2, uint8_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8m2_t __riscv_vaaddu(vuint8m2_t vs2, vuint8m2_t vs1, unsigned int vxrm,
                          size_t vl);
vuint8m2_t __riscv_vaaddu(vuint8m2_t vs2, uint8_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8m4_t __riscv_vaaddu(vuint8m4_t vs2, vuint8m4_t vs1, unsigned int vxrm,
                          size_t vl);
vuint8m4_t __riscv_vaaddu(vuint8m4_t vs2, uint8_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8m8_t __riscv_vaaddu(vuint8m8_t vs2, vuint8m8_t vs1, unsigned int vxrm,
                          size_t vl);
vuint8m8_t __riscv_vaaddu(vuint8m8_t vs2, uint8_t rs1, unsigned int vxrm,
                          size_t vl);
vuint16mf4_t __riscv_vaaddu(vuint16mf4_t vs2, vuint16mf4_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu(vuint16mf4_t vs2, uint16_t rs1, unsigned int vxrm,
                            size_t vl);
vuint16mf2_t __riscv_vaaddu(vuint16mf2_t vs2, vuint16mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu(vuint16mf2_t vs2, uint16_t rs1, unsigned int vxrm,
                            size_t vl);
vuint16m1_t __riscv_vaaddu(vuint16m1_t vs2, vuint16m1_t vs1, unsigned int vxrm,
                           size_t vl);
vuint16m1_t __riscv_vaaddu(vuint16m1_t vs2, uint16_t rs1, unsigned int vxrm,
                           size_t vl);
vuint16m2_t __riscv_vaaddu(vuint16m2_t vs2, vuint16m2_t vs1, unsigned int vxrm,
                           size_t vl);
vuint16m2_t __riscv_vaaddu(vuint16m2_t vs2, uint16_t rs1, unsigned int vxrm,
```

```
                          size_t vl);
vuint16m4_t __riscv_vaaddu(vuint16m4_t vs2, vuint16m4_t vs1, unsigned int vxrm,
                          size_t vl);
vuint16m4_t __riscv_vaaddu(vuint16m4_t vs2, uint16_t rs1, unsigned int vxrm,
                          size_t vl);
vuint16m8_t __riscv_vaaddu(vuint16m8_t vs2, vuint16m8_t vs1, unsigned int vxrm,
                          size_t vl);
vuint16m8_t __riscv_vaaddu(vuint16m8_t vs2, uint16_t rs1, unsigned int vxrm,
                          size_t vl);
vuint32mf2_t __riscv_vaaddu(vuint32mf2_t vs2, vuint32mf2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu(vuint32mf2_t vs2, uint32_t rs1, unsigned int vxrm,
                           size_t vl);
vuint32m1_t __riscv_vaaddu(vuint32m1_t vs2, vuint32m1_t vs1, unsigned int vxrm,
                          size_t vl);
vuint32m1_t __riscv_vaaddu(vuint32m1_t vs2, uint32_t rs1, unsigned int vxrm,
                          size_t vl);
vuint32m2_t __riscv_vaaddu(vuint32m2_t vs2, vuint32m2_t vs1, unsigned int vxrm,
                          size_t vl);
vuint32m2_t __riscv_vaaddu(vuint32m2_t vs2, uint32_t rs1, unsigned int vxrm,
                          size_t vl);
vuint32m4_t __riscv_vaaddu(vuint32m4_t vs2, vuint32m4_t vs1, unsigned int vxrm,
                          size_t vl);
vuint32m4_t __riscv_vaaddu(vuint32m4_t vs2, uint32_t rs1, unsigned int vxrm,
                          size_t vl);
vuint32m8_t __riscv_vaaddu(vuint32m8_t vs2, vuint32m8_t vs1, unsigned int vxrm,
                          size_t vl);
vuint32m8_t __riscv_vaaddu(vuint32m8_t vs2, uint32_t rs1, unsigned int vxrm,
                          size_t vl);
vuint64m1_t __riscv_vaaddu(vuint64m1_t vs2, vuint64m1_t vs1, unsigned int vxrm,
                          size_t vl);
vuint64m1_t __riscv_vaaddu(vuint64m1_t vs2, uint64_t rs1, unsigned int vxrm,
                          size_t vl);
vuint64m2_t __riscv_vaaddu(vuint64m2_t vs2, vuint64m2_t vs1, unsigned int vxrm,
                          size_t vl);
vuint64m2_t __riscv_vaaddu(vuint64m2_t vs2, uint64_t rs1, unsigned int vxrm,
                          size_t vl);
vuint64m4_t __riscv_vaaddu(vuint64m4_t vs2, vuint64m4_t vs1, unsigned int vxrm,
                          size_t vl);
vuint64m4_t __riscv_vaaddu(vuint64m4_t vs2, uint64_t rs1, unsigned int vxrm,
                          size_t vl);
vuint64m8_t __riscv_vaaddu(vuint64m8_t vs2, vuint64m8_t vs1, unsigned int vxrm,
                          size_t vl);
vuint64m8_t __riscv_vaaddu(vuint64m8_t vs2, uint64_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8mf8_t __riscv_vasubu(vuint8mf8_t vs2, vuint8mf8_t vs1, unsigned int vxrm,
                          size_t vl);
vuint8mf8_t __riscv_vasubu(vuint8mf8_t vs2, uint8_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8mf4_t __riscv_vasubu(vuint8mf4_t vs2, vuint8mf4_t vs1, unsigned int vxrm,
                          size_t vl);
vuint8mf4_t __riscv_vasubu(vuint8mf4_t vs2, uint8_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8mf2_t __riscv_vasubu(vuint8mf2_t vs2, vuint8mf2_t vs1, unsigned int vxrm,
                          size_t vl);
vuint8mf2_t __riscv_vasubu(vuint8mf2_t vs2, uint8_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8m1_t __riscv_vasubu(vuint8m1_t vs2, vuint8m1_t vs1, unsigned int vxrm,
                         size_t vl);
vuint8m1_t __riscv_vasubu(vuint8m1_t vs2, uint8_t rs1, unsigned int vxrm,
                         size_t vl);
vuint8m2_t __riscv_vasubu(vuint8m2_t vs2, vuint8m2_t vs1, unsigned int vxrm,
                         size_t vl);
vuint8m2_t __riscv_vasubu(vuint8m2_t vs2, uint8_t rs1, unsigned int vxrm,
                         size_t vl);
vuint8m4_t __riscv_vasubu(vuint8m4_t vs2, vuint8m4_t vs1, unsigned int vxrm,
                         size_t vl);
```

```
vuint8m4_t __riscv_vasubu(vuint8m4_t vs2, uint8_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8m8_t __riscv_vasubu(vuint8m8_t vs2, vuint8m8_t vs1, unsigned int vxrm,
                          size_t vl);
vuint8m8_t __riscv_vasubu(vuint8m8_t vs2, uint8_t rs1, unsigned int vxrm,
                          size_t vl);
vuint16mf4_t __riscv_vasubu(vuint16mf4_t vs2, vuint16mf4_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu(vuint16mf4_t vs2, uint16_t rs1, unsigned int vxrm,
                            size_t vl);
vuint16mf2_t __riscv_vasubu(vuint16mf2_t vs2, vuint16mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu(vuint16mf2_t vs2, uint16_t rs1, unsigned int vxrm,
                            size_t vl);
vuint16m1_t __riscv_vasubu(vuint16m1_t vs2, vuint16m1_t vs1, unsigned int vxrm,
                           size_t vl);
vuint16m1_t __riscv_vasubu(vuint16m1_t vs2, uint16_t rs1, unsigned int vxrm,
                           size_t vl);
vuint16m2_t __riscv_vasubu(vuint16m2_t vs2, vuint16m2_t vs1, unsigned int vxrm,
                           size_t vl);
vuint16m2_t __riscv_vasubu(vuint16m2_t vs2, uint16_t rs1, unsigned int vxrm,
                           size_t vl);
vuint16m4_t __riscv_vasubu(vuint16m4_t vs2, vuint16m4_t vs1, unsigned int vxrm,
                           size_t vl);
vuint16m4_t __riscv_vasubu(vuint16m4_t vs2, uint16_t rs1, unsigned int vxrm,
                           size_t vl);
vuint16m8_t __riscv_vasubu(vuint16m8_t vs2, vuint16m8_t vs1, unsigned int vxrm,
                           size_t vl);
vuint16m8_t __riscv_vasubu(vuint16m8_t vs2, uint16_t rs1, unsigned int vxrm,
                           size_t vl);
vuint32mf2_t __riscv_vasubu(vuint32mf2_t vs2, vuint32mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu(vuint32mf2_t vs2, uint32_t rs1, unsigned int vxrm,
                            size_t vl);
vuint32m1_t __riscv_vasubu(vuint32m1_t vs2, vuint32m1_t vs1, unsigned int vxrm,
                           size_t vl);
vuint32m1_t __riscv_vasubu(vuint32m1_t vs2, uint32_t rs1, unsigned int vxrm,
                           size_t vl);
vuint32m2_t __riscv_vasubu(vuint32m2_t vs2, vuint32m2_t vs1, unsigned int vxrm,
                           size_t vl);
vuint32m2_t __riscv_vasubu(vuint32m2_t vs2, uint32_t rs1, unsigned int vxrm,
                           size_t vl);
vuint32m4_t __riscv_vasubu(vuint32m4_t vs2, vuint32m4_t vs1, unsigned int vxrm,
                           size_t vl);
vuint32m4_t __riscv_vasubu(vuint32m4_t vs2, uint32_t rs1, unsigned int vxrm,
                           size_t vl);
vuint32m8_t __riscv_vasubu(vuint32m8_t vs2, vuint32m8_t vs1, unsigned int vxrm,
                           size_t vl);
vuint32m8_t __riscv_vasubu(vuint32m8_t vs2, uint32_t rs1, unsigned int vxrm,
                           size_t vl);
vuint64m1_t __riscv_vasubu(vuint64m1_t vs2, vuint64m1_t vs1, unsigned int vxrm,
                           size_t vl);
vuint64m1_t __riscv_vasubu(vuint64m1_t vs2, uint64_t rs1, unsigned int vxrm,
                           size_t vl);
vuint64m2_t __riscv_vasubu(vuint64m2_t vs2, vuint64m2_t vs1, unsigned int vxrm,
                           size_t vl);
vuint64m2_t __riscv_vasubu(vuint64m2_t vs2, uint64_t rs1, unsigned int vxrm,
                           size_t vl);
vuint64m4_t __riscv_vasubu(vuint64m4_t vs2, vuint64m4_t vs1, unsigned int vxrm,
                           size_t vl);
vuint64m4_t __riscv_vasubu(vuint64m4_t vs2, uint64_t rs1, unsigned int vxrm,
                           size_t vl);
vuint64m8_t __riscv_vasubu(vuint64m8_t vs2, vuint64m8_t vs1, unsigned int vxrm,
                           size_t vl);
vuint64m8_t __riscv_vasubu(vuint64m8_t vs2, uint64_t rs1, unsigned int vxrm,
                           size_t vl);
// masked functions
```

```
vint8mf8_t __riscv_vaadd(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                         unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vaadd(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                         unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                         unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                         unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                         unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                         unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                        unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                        unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                        unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                        unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                        unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                        unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                        unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                        unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                          unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                          unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                          unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                         unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                         unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                         unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                         unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                          unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                         unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                         unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
```

```
                          unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                          unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                          unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                          unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                          unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                          unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                          unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                          unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                          unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                          unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                          unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                          unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                          unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                          unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                          unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                          unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                         unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                         unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                         unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                         unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                         unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                          unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                          unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                          unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                          unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                          unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                          unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                          unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                          unsigned int vxrm, size_t vl);
```

```
vint16m4_t __riscv_vasub(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                         unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                         unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                          unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                         unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                         unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                         unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                         unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                         unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                         unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                         unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                         unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                         unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                           unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                           unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                           unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                           unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                           unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                          unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                          unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                          unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                          unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                          unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                          unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
```

```
                          unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                          unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                            unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                            unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                           unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                           unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                           unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                           unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                            unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                           unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                           unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                           unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                           unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                           unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                           unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                           unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                           unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                           unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                           unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                           unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                           unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                           unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                           unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                           unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                           unsigned int vxrm, size_t vl);
```

```
vuint8mf4_t __riscv_vasubu(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                           unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                           unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                           unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                          unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                          unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                          unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                          unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                          unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                          unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                          unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                          unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                            unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                            unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                           unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                           unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                           unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                           unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                            unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                           unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                           unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                           unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                           unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                           unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                           unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
```

```
                          unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                          unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                          unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                          unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                          unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                          unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                          unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                          unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                          unsigned int vxrm, size_t vl);
```

C.4.3. Vector Single-Width Fractional Multiply with Rounding and SaturationIntrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vsmul(vint8mf8_t vs2, vint8mf8_t vs1, unsigned int vxrm,
                         size_t vl);
vint8mf8_t __riscv_vsmul(vint8mf8_t vs2, int8_t rs1, unsigned int vxrm,
                         size_t vl);
vint8mf4_t __riscv_vsmul(vint8mf4_t vs2, vint8mf4_t vs1, unsigned int vxrm,
                         size_t vl);
vint8mf4_t __riscv_vsmul(vint8mf4_t vs2, int8_t rs1, unsigned int vxrm,
                         size_t vl);
vint8mf2_t __riscv_vsmul(vint8mf2_t vs2, vint8mf2_t vs1, unsigned int vxrm,
                         size_t vl);
vint8mf2_t __riscv_vsmul(vint8mf2_t vs2, int8_t rs1, unsigned int vxrm,
                         size_t vl);
vint8m1_t __riscv_vsmul(vint8m1_t vs2, vint8m1_t vs1, unsigned int vxrm,
                        size_t vl);
vint8m1_t __riscv_vsmul(vint8m1_t vs2, int8_t rs1, unsigned int vxrm,
                        size_t vl);
vint8m2_t __riscv_vsmul(vint8m2_t vs2, vint8m2_t vs1, unsigned int vxrm,
                        size_t vl);
vint8m2_t __riscv_vsmul(vint8m2_t vs2, int8_t rs1, unsigned int vxrm,
                        size_t vl);
vint8m4_t __riscv_vsmul(vint8m4_t vs2, vint8m4_t vs1, unsigned int vxrm,
                        size_t vl);
vint8m4_t __riscv_vsmul(vint8m4_t vs2, int8_t rs1, unsigned int vxrm,
                        size_t vl);
vint8m8_t __riscv_vsmul(vint8m8_t vs2, vint8m8_t vs1, unsigned int vxrm,
                        size_t vl);
vint8m8_t __riscv_vsmul(vint8m8_t vs2, int8_t rs1, unsigned int vxrm,
                        size_t vl);
vint16mf4_t __riscv_vsmul(vint16mf4_t vs2, vint16mf4_t vs1, unsigned int vxrm,
                          size_t vl);
vint16mf4_t __riscv_vsmul(vint16mf4_t vs2, int16_t rs1, unsigned int vxrm,
                          size_t vl);
vint16mf2_t __riscv_vsmul(vint16mf2_t vs2, vint16mf2_t vs1, unsigned int vxrm,
                          size_t vl);
vint16mf2_t __riscv_vsmul(vint16mf2_t vs2, int16_t rs1, unsigned int vxrm,
                          size_t vl);
vint16m1_t __riscv_vsmul(vint16m1_t vs2, vint16m1_t vs1, unsigned int vxrm,
                         size_t vl);
vint16m1_t __riscv_vsmul(vint16m1_t vs2, int16_t rs1, unsigned int vxrm,
                         size_t vl);
vint16m2_t __riscv_vsmul(vint16m2_t vs2, vint16m2_t vs1, unsigned int vxrm,
```

```
                          size_t vl);
vint16m2_t __riscv_vsmul(vint16m2_t vs2, int16_t rs1, unsigned int vxrm,
                          size_t vl);
vint16m4_t __riscv_vsmul(vint16m4_t vs2, vint16m4_t vs1, unsigned int vxrm,
                          size_t vl);
vint16m4_t __riscv_vsmul(vint16m4_t vs2, int16_t rs1, unsigned int vxrm,
                          size_t vl);
vint16m8_t __riscv_vsmul(vint16m8_t vs2, vint16m8_t vs1, unsigned int vxrm,
                          size_t vl);
vint16m8_t __riscv_vsmul(vint16m8_t vs2, int16_t rs1, unsigned int vxrm,
                          size_t vl);
vint32mf2_t __riscv_vsmul(vint32mf2_t vs2, vint32mf2_t vs1, unsigned int vxrm,
                           size_t vl);
vint32mf2_t __riscv_vsmul(vint32mf2_t vs2, int32_t rs1, unsigned int vxrm,
                           size_t vl);
vint32m1_t __riscv_vsmul(vint32m1_t vs2, vint32m1_t vs1, unsigned int vxrm,
                          size_t vl);
vint32m1_t __riscv_vsmul(vint32m1_t vs2, int32_t rs1, unsigned int vxrm,
                          size_t vl);
vint32m2_t __riscv_vsmul(vint32m2_t vs2, vint32m2_t vs1, unsigned int vxrm,
                          size_t vl);
vint32m2_t __riscv_vsmul(vint32m2_t vs2, int32_t rs1, unsigned int vxrm,
                          size_t vl);
vint32m4_t __riscv_vsmul(vint32m4_t vs2, vint32m4_t vs1, unsigned int vxrm,
                          size_t vl);
vint32m4_t __riscv_vsmul(vint32m4_t vs2, int32_t rs1, unsigned int vxrm,
                          size_t vl);
vint32m8_t __riscv_vsmul(vint32m8_t vs2, vint32m8_t vs1, unsigned int vxrm,
                          size_t vl);
vint32m8_t __riscv_vsmul(vint32m8_t vs2, int32_t rs1, unsigned int vxrm,
                          size_t vl);
vint64m1_t __riscv_vsmul(vint64m1_t vs2, vint64m1_t vs1, unsigned int vxrm,
                          size_t vl);
vint64m1_t __riscv_vsmul(vint64m1_t vs2, int64_t rs1, unsigned int vxrm,
                          size_t vl);
vint64m2_t __riscv_vsmul(vint64m2_t vs2, vint64m2_t vs1, unsigned int vxrm,
                          size_t vl);
vint64m2_t __riscv_vsmul(vint64m2_t vs2, int64_t rs1, unsigned int vxrm,
                          size_t vl);
vint64m4_t __riscv_vsmul(vint64m4_t vs2, vint64m4_t vs1, unsigned int vxrm,
                          size_t vl);
vint64m4_t __riscv_vsmul(vint64m4_t vs2, int64_t rs1, unsigned int vxrm,
                          size_t vl);
vint64m8_t __riscv_vsmul(vint64m8_t vs2, vint64m8_t vs1, unsigned int vxrm,
                          size_t vl);
vint64m8_t __riscv_vsmul(vint64m8_t vs2, int64_t rs1, unsigned int vxrm,
                          size_t vl);
// masked functions
vint8mf8_t __riscv_vsmul(vbool64_t vm, vint8mf8_t vs2, vint8mf8_t vs1,
                          unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vsmul(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                          unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul(vbool32_t vm, vint8mf4_t vs2, vint8mf4_t vs1,
                          unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                          unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul(vbool16_t vm, vint8mf2_t vs2, vint8mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                          unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1,
                        unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                        unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul(vbool4_t vm, vint8m2_t vs2, vint8m2_t vs1,
                        unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
```

```
                        unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul(vbool2_t vm, vint8m4_t vs2, vint8m4_t vs1,
                        unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                        unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul(vbool1_t vm, vint8m8_t vs2, vint8m8_t vs1,
                        unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                        unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul(vbool64_t vm, vint16mf4_t vs2, vint16mf4_t vs1,
                          unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                          unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul(vbool32_t vm, vint16mf2_t vs2, vint16mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                          unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                         unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul(vbool8_t vm, vint16m2_t vs2, vint16m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                         unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul(vbool4_t vm, vint16m4_t vs2, vint16m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                         unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul(vbool2_t vm, vint16m8_t vs2, vint16m8_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                         unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul(vbool64_t vm, vint32mf2_t vs2, vint32mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                          unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                         unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul(vbool16_t vm, vint32m2_t vs2, vint32m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                         unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul(vbool8_t vm, vint32m4_t vs2, vint32m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                         unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul(vbool4_t vm, vint32m8_t vs2, vint32m8_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                         unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                         unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul(vbool32_t vm, vint64m2_t vs2, vint64m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                         unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul(vbool16_t vm, vint64m4_t vs2, vint64m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                         unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul(vbool8_t vm, vint64m8_t vs2, vint64m8_t vs1,
                         unsigned int vxrm, size_t vl);
```

```
vint64m8_t __riscv_vsmul(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                         unsigned int vxrm, size_t vl);
```

C.4.4. Vector Single-Width Scaling Shift Intrinsics

```
vint8mf8_t __riscv_vssra(vint8mf8_t vs2, vuint8mf8_t vs1, unsigned int vxrm,
                         size_t vl);
vint8mf8_t __riscv_vssra(vint8mf8_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint8mf4_t __riscv_vssra(vint8mf4_t vs2, vuint8mf4_t vs1, unsigned int vxrm,
                         size_t vl);
vint8mf4_t __riscv_vssra(vint8mf4_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint8mf2_t __riscv_vssra(vint8mf2_t vs2, vuint8mf2_t vs1, unsigned int vxrm,
                         size_t vl);
vint8mf2_t __riscv_vssra(vint8mf2_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint8m1_t __riscv_vssra(vint8m1_t vs2, vuint8m1_t vs1, unsigned int vxrm,
                        size_t vl);
vint8m1_t __riscv_vssra(vint8m1_t vs2, size_t rs1, unsigned int vxrm,
                        size_t vl);
vint8m2_t __riscv_vssra(vint8m2_t vs2, vuint8m2_t vs1, unsigned int vxrm,
                        size_t vl);
vint8m2_t __riscv_vssra(vint8m2_t vs2, size_t rs1, unsigned int vxrm,
                        size_t vl);
vint8m4_t __riscv_vssra(vint8m4_t vs2, vuint8m4_t vs1, unsigned int vxrm,
                        size_t vl);
vint8m4_t __riscv_vssra(vint8m4_t vs2, size_t rs1, unsigned int vxrm,
                        size_t vl);
vint8m8_t __riscv_vssra(vint8m8_t vs2, vuint8m8_t vs1, unsigned int vxrm,
                        size_t vl);
vint8m8_t __riscv_vssra(vint8m8_t vs2, size_t rs1, unsigned int vxrm,
                        size_t vl);
vint16mf4_t __riscv_vssra(vint16mf4_t vs2, vuint16mf4_t vs1, unsigned int vxrm,
                          size_t vl);
vint16mf4_t __riscv_vssra(vint16mf4_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vint16mf2_t __riscv_vssra(vint16mf2_t vs2, vuint16mf2_t vs1, unsigned int vxrm,
                          size_t vl);
vint16mf2_t __riscv_vssra(vint16mf2_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vint16m1_t __riscv_vssra(vint16m1_t vs2, vuint16m1_t vs1, unsigned int vxrm,
                         size_t vl);
vint16m1_t __riscv_vssra(vint16m1_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint16m2_t __riscv_vssra(vint16m2_t vs2, vuint16m2_t vs1, unsigned int vxrm,
                         size_t vl);
vint16m2_t __riscv_vssra(vint16m2_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint16m4_t __riscv_vssra(vint16m4_t vs2, vuint16m4_t vs1, unsigned int vxrm,
                         size_t vl);
vint16m4_t __riscv_vssra(vint16m4_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint16m8_t __riscv_vssra(vint16m8_t vs2, vuint16m8_t vs1, unsigned int vxrm,
                         size_t vl);
vint16m8_t __riscv_vssra(vint16m8_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint32mf2_t __riscv_vssra(vint32mf2_t vs2, vuint32mf2_t vs1, unsigned int vxrm,
                          size_t vl);
vint32mf2_t __riscv_vssra(vint32mf2_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vint32m1_t __riscv_vssra(vint32m1_t vs2, vuint32m1_t vs1, unsigned int vxrm,
                         size_t vl);
vint32m1_t __riscv_vssra(vint32m1_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
```

```
vint32m2_t __riscv_vssra(vint32m2_t vs2, vuint32m2_t vs1, unsigned int vxrm,
                         size_t vl);
vint32m2_t __riscv_vssra(vint32m2_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint32m4_t __riscv_vssra(vint32m4_t vs2, vuint32m4_t vs1, unsigned int vxrm,
                         size_t vl);
vint32m4_t __riscv_vssra(vint32m4_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint32m8_t __riscv_vssra(vint32m8_t vs2, vuint32m8_t vs1, unsigned int vxrm,
                         size_t vl);
vint32m8_t __riscv_vssra(vint32m8_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m1_t __riscv_vssra(vint64m1_t vs2, vuint64m1_t vs1, unsigned int vxrm,
                         size_t vl);
vint64m1_t __riscv_vssra(vint64m1_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m2_t __riscv_vssra(vint64m2_t vs2, vuint64m2_t vs1, unsigned int vxrm,
                         size_t vl);
vint64m2_t __riscv_vssra(vint64m2_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m4_t __riscv_vssra(vint64m4_t vs2, vuint64m4_t vs1, unsigned int vxrm,
                         size_t vl);
vint64m4_t __riscv_vssra(vint64m4_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint64m8_t __riscv_vssra(vint64m8_t vs2, vuint64m8_t vs1, unsigned int vxrm,
                         size_t vl);
vint64m8_t __riscv_vssra(vint64m8_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vuint8mf8_t __riscv_vssrl(vuint8mf8_t vs2, vuint8mf8_t vs1, unsigned int vxrm,
                          size_t vl);
vuint8mf8_t __riscv_vssrl(vuint8mf8_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8mf4_t __riscv_vssrl(vuint8mf4_t vs2, vuint8mf4_t vs1, unsigned int vxrm,
                          size_t vl);
vuint8mf4_t __riscv_vssrl(vuint8mf4_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8mf2_t __riscv_vssrl(vuint8mf2_t vs2, vuint8mf2_t vs1, unsigned int vxrm,
                          size_t vl);
vuint8mf2_t __riscv_vssrl(vuint8mf2_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8m1_t __riscv_vssrl(vuint8m1_t vs2, vuint8m1_t vs1, unsigned int vxrm,
                         size_t vl);
vuint8m1_t __riscv_vssrl(vuint8m1_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vuint8m2_t __riscv_vssrl(vuint8m2_t vs2, vuint8m2_t vs1, unsigned int vxrm,
                         size_t vl);
vuint8m2_t __riscv_vssrl(vuint8m2_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vuint8m4_t __riscv_vssrl(vuint8m4_t vs2, vuint8m4_t vs1, unsigned int vxrm,
                         size_t vl);
vuint8m4_t __riscv_vssrl(vuint8m4_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vuint8m8_t __riscv_vssrl(vuint8m8_t vs2, vuint8m8_t vs1, unsigned int vxrm,
                         size_t vl);
vuint8m8_t __riscv_vssrl(vuint8m8_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vuint16mf4_t __riscv_vssrl(vuint16mf4_t vs2, vuint16mf4_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl(vuint16mf4_t vs2, size_t rs1, unsigned int vxrm,
                           size_t vl);
vuint16mf2_t __riscv_vssrl(vuint16mf2_t vs2, vuint16mf2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl(vuint16mf2_t vs2, size_t rs1, unsigned int vxrm,
                           size_t vl);
vuint16m1_t __riscv_vssrl(vuint16m1_t vs2, vuint16m1_t vs1, unsigned int vxrm,
                          size_t vl);
vuint16m1_t __riscv_vssrl(vuint16m1_t vs2, size_t rs1, unsigned int vxrm,
```

```
                          size_t vl);
vuint16m2_t __riscv_vssrl(vuint16m2_t vs2, vuint16m2_t vs1, unsigned int vxrm,
                          size_t vl);
vuint16m2_t __riscv_vssrl(vuint16m2_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint16m4_t __riscv_vssrl(vuint16m4_t vs2, vuint16m4_t vs1, unsigned int vxrm,
                          size_t vl);
vuint16m4_t __riscv_vssrl(vuint16m4_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint16m8_t __riscv_vssrl(vuint16m8_t vs2, vuint16m8_t vs1, unsigned int vxrm,
                          size_t vl);
vuint16m8_t __riscv_vssrl(vuint16m8_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint32mf2_t __riscv_vssrl(vuint32mf2_t vs2, vuint32mf2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl(vuint32mf2_t vs2, size_t rs1, unsigned int vxrm,
                           size_t vl);
vuint32m1_t __riscv_vssrl(vuint32m1_t vs2, vuint32m1_t vs1, unsigned int vxrm,
                          size_t vl);
vuint32m1_t __riscv_vssrl(vuint32m1_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint32m2_t __riscv_vssrl(vuint32m2_t vs2, vuint32m2_t vs1, unsigned int vxrm,
                          size_t vl);
vuint32m2_t __riscv_vssrl(vuint32m2_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint32m4_t __riscv_vssrl(vuint32m4_t vs2, vuint32m4_t vs1, unsigned int vxrm,
                          size_t vl);
vuint32m4_t __riscv_vssrl(vuint32m4_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint32m8_t __riscv_vssrl(vuint32m8_t vs2, vuint32m8_t vs1, unsigned int vxrm,
                          size_t vl);
vuint32m8_t __riscv_vssrl(vuint32m8_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint64m1_t __riscv_vssrl(vuint64m1_t vs2, vuint64m1_t vs1, unsigned int vxrm,
                          size_t vl);
vuint64m1_t __riscv_vssrl(vuint64m1_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint64m2_t __riscv_vssrl(vuint64m2_t vs2, vuint64m2_t vs1, unsigned int vxrm,
                          size_t vl);
vuint64m2_t __riscv_vssrl(vuint64m2_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint64m4_t __riscv_vssrl(vuint64m4_t vs2, vuint64m4_t vs1, unsigned int vxrm,
                          size_t vl);
vuint64m4_t __riscv_vssrl(vuint64m4_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint64m8_t __riscv_vssrl(vuint64m8_t vs2, vuint64m8_t vs1, unsigned int vxrm,
                          size_t vl);
vuint64m8_t __riscv_vssrl(vuint64m8_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
// masked functions
vint8mf8_t __riscv_vssra(vbool64_t vm, vint8mf8_t vs2, vuint8mf8_t vs1,
                         unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vssra(vbool64_t vm, vint8mf8_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra(vbool32_t vm, vint8mf4_t vs2, vuint8mf4_t vs1,
                         unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra(vbool32_t vm, vint8mf4_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra(vbool16_t vm, vint8mf2_t vs2, vuint8mf2_t vs1,
                         unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra(vbool16_t vm, vint8mf2_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra(vbool8_t vm, vint8m1_t vs2, vuint8m1_t vs1,
                        unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra(vbool8_t vm, vint8m1_t vs2, size_t rs1,
                        unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra(vbool4_t vm, vint8m2_t vs2, vuint8m2_t vs1,
```

```
                        unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra(vbool4_t vm, vint8m2_t vs2, size_t rs1,
                        unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra(vbool2_t vm, vint8m4_t vs2, vuint8m4_t vs1,
                        unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra(vbool2_t vm, vint8m4_t vs2, size_t rs1,
                        unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra(vbool1_t vm, vint8m8_t vs2, vuint8m8_t vs1,
                        unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra(vbool1_t vm, vint8m8_t vs2, size_t rs1,
                        unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra(vbool64_t vm, vint16mf4_t vs2, vuint16mf4_t vs1,
                          unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra(vbool64_t vm, vint16mf4_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra(vbool32_t vm, vint16mf2_t vs2, vuint16mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra(vbool32_t vm, vint16mf2_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra(vbool16_t vm, vint16m1_t vs2, vuint16m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra(vbool16_t vm, vint16m1_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra(vbool8_t vm, vint16m2_t vs2, vuint16m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra(vbool8_t vm, vint16m2_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra(vbool4_t vm, vint16m4_t vs2, vuint16m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra(vbool4_t vm, vint16m4_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra(vbool2_t vm, vint16m8_t vs2, vuint16m8_t vs1,
                         unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra(vbool2_t vm, vint16m8_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra(vbool64_t vm, vint32mf2_t vs2, vuint32mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra(vbool64_t vm, vint32mf2_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra(vbool32_t vm, vint32m1_t vs2, vuint32m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra(vbool32_t vm, vint32m1_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra(vbool16_t vm, vint32m2_t vs2, vuint32m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra(vbool16_t vm, vint32m2_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra(vbool8_t vm, vint32m4_t vs2, vuint32m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra(vbool8_t vm, vint32m4_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra(vbool4_t vm, vint32m8_t vs2, vuint32m8_t vs1,
                         unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra(vbool4_t vm, vint32m8_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra(vbool64_t vm, vint64m1_t vs2, vuint64m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra(vbool64_t vm, vint64m1_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra(vbool32_t vm, vint64m2_t vs2, vuint64m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra(vbool32_t vm, vint64m2_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra(vbool16_t vm, vint64m4_t vs2, vuint64m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra(vbool16_t vm, vint64m4_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
```

```
vint64m8_t __riscv_vssra(vbool8_t vm, vint64m8_t vs2, vuint64m8_t vs1,
                         unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra(vbool8_t vm, vint64m8_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                          unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl(vbool64_t vm, vuint8mf8_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                          unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl(vbool32_t vm, vuint8mf4_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl(vbool16_t vm, vuint8mf2_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                         unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl(vbool8_t vm, vuint8m1_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                         unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl(vbool4_t vm, vuint8m2_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                         unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl(vbool2_t vm, vuint8m4_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                         unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl(vbool1_t vm, vuint8m8_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl(vbool64_t vm, vuint16mf4_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl(vbool32_t vm, vuint16mf2_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                          unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl(vbool16_t vm, vuint16m1_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                          unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl(vbool8_t vm, vuint16m2_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                          unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl(vbool4_t vm, vuint16m4_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                          unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl(vbool2_t vm, vuint16m8_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl(vbool64_t vm, vuint32mf2_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                          unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl(vbool32_t vm, vuint32m1_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                          unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl(vbool16_t vm, vuint32m2_t vs2, size_t rs1,
```

```
                          unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                          unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl(vbool8_t vm, vuint32m4_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                          unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl(vbool4_t vm, vuint32m8_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                          unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl(vbool64_t vm, vuint64m1_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                          unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl(vbool32_t vm, vuint64m2_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                          unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl(vbool16_t vm, vuint64m4_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                          unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl(vbool8_t vm, vuint64m8_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
```

C.4.5. Vector Narrowing Fixed-Point Clip Intrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vnclip(vint16mf4_t vs2, vuint8mf8_t vs1, unsigned int vxrm,
                          size_t vl);
vint8mf8_t __riscv_vnclip(vint16mf4_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vint8mf4_t __riscv_vnclip(vint16mf2_t vs2, vuint8mf4_t vs1, unsigned int vxrm,
                          size_t vl);
vint8mf4_t __riscv_vnclip(vint16mf2_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vint8mf2_t __riscv_vnclip(vint16m1_t vs2, vuint8mf2_t vs1, unsigned int vxrm,
                          size_t vl);
vint8mf2_t __riscv_vnclip(vint16m1_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vint8m1_t __riscv_vnclip(vint16m2_t vs2, vuint8m1_t vs1, unsigned int vxrm,
                         size_t vl);
vint8m1_t __riscv_vnclip(vint16m2_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint8m2_t __riscv_vnclip(vint16m4_t vs2, vuint8m2_t vs1, unsigned int vxrm,
                         size_t vl);
vint8m2_t __riscv_vnclip(vint16m4_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint8m4_t __riscv_vnclip(vint16m8_t vs2, vuint8m4_t vs1, unsigned int vxrm,
                         size_t vl);
vint8m4_t __riscv_vnclip(vint16m8_t vs2, size_t rs1, unsigned int vxrm,
                         size_t vl);
vint16mf4_t __riscv_vnclip(vint32mf2_t vs2, vuint16mf4_t vs1, unsigned int vxrm,
                           size_t vl);
vint16mf4_t __riscv_vnclip(vint32mf2_t vs2, size_t rs1, unsigned int vxrm,
                           size_t vl);
vint16mf2_t __riscv_vnclip(vint32m1_t vs2, vuint16mf2_t vs1, unsigned int vxrm,
                           size_t vl);
vint16mf2_t __riscv_vnclip(vint32m1_t vs2, size_t rs1, unsigned int vxrm,
                           size_t vl);
vint16m1_t __riscv_vnclip(vint32m2_t vs2, vuint16m1_t vs1, unsigned int vxrm,
                          size_t vl);
```

```
vint16m1_t __riscv_vnclip(vint32m2_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vint16m2_t __riscv_vnclip(vint32m4_t vs2, vuint16m2_t vs1, unsigned int vxrm,
                          size_t vl);
vint16m2_t __riscv_vnclip(vint32m4_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vint16m4_t __riscv_vnclip(vint32m8_t vs2, vuint16m4_t vs1, unsigned int vxrm,
                          size_t vl);
vint16m4_t __riscv_vnclip(vint32m8_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vint32mf2_t __riscv_vnclip(vint64m1_t vs2, vuint32mf2_t vs1, unsigned int vxrm,
                           size_t vl);
vint32mf2_t __riscv_vnclip(vint64m1_t vs2, size_t rs1, unsigned int vxrm,
                           size_t vl);
vint32m1_t __riscv_vnclip(vint64m2_t vs2, vuint32m1_t vs1, unsigned int vxrm,
                          size_t vl);
vint32m1_t __riscv_vnclip(vint64m2_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vint32m2_t __riscv_vnclip(vint64m4_t vs2, vuint32m2_t vs1, unsigned int vxrm,
                          size_t vl);
vint32m2_t __riscv_vnclip(vint64m4_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vint32m4_t __riscv_vnclip(vint64m8_t vs2, vuint32m4_t vs1, unsigned int vxrm,
                          size_t vl);
vint32m4_t __riscv_vnclip(vint64m8_t vs2, size_t rs1, unsigned int vxrm,
                          size_t vl);
vuint8mf8_t __riscv_vnclipu(vuint16mf4_t vs2, vuint8mf8_t vs1,
                            unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu(vuint16mf4_t vs2, size_t rs1, unsigned int vxrm,
                            size_t vl);
vuint8mf4_t __riscv_vnclipu(vuint16mf2_t vs2, vuint8mf4_t vs1,
                            unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu(vuint16mf2_t vs2, size_t rs1, unsigned int vxrm,
                            size_t vl);
vuint8mf2_t __riscv_vnclipu(vuint16m1_t vs2, vuint8mf2_t vs1, unsigned int vxrm,
                            size_t vl);
vuint8mf2_t __riscv_vnclipu(vuint16m1_t vs2, size_t rs1, unsigned int vxrm,
                            size_t vl);
vuint8m1_t __riscv_vnclipu(vuint16m2_t vs2, vuint8m1_t vs1, unsigned int vxrm,
                           size_t vl);
vuint8m1_t __riscv_vnclipu(vuint16m2_t vs2, size_t rs1, unsigned int vxrm,
                           size_t vl);
vuint8m2_t __riscv_vnclipu(vuint16m4_t vs2, vuint8m2_t vs1, unsigned int vxrm,
                           size_t vl);
vuint8m2_t __riscv_vnclipu(vuint16m4_t vs2, size_t rs1, unsigned int vxrm,
                           size_t vl);
vuint8m4_t __riscv_vnclipu(vuint16m8_t vs2, vuint8m4_t vs1, unsigned int vxrm,
                           size_t vl);
vuint8m4_t __riscv_vnclipu(vuint16m8_t vs2, size_t rs1, unsigned int vxrm,
                           size_t vl);
vuint16mf4_t __riscv_vnclipu(vuint32mf2_t vs2, vuint16mf4_t vs1,
                             unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu(vuint32mf2_t vs2, size_t rs1, unsigned int vxrm,
                             size_t vl);
vuint16mf2_t __riscv_vnclipu(vuint32m1_t vs2, vuint16mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu(vuint32m1_t vs2, size_t rs1, unsigned int vxrm,
                             size_t vl);
vuint16m1_t __riscv_vnclipu(vuint32m2_t vs2, vuint16m1_t vs1, unsigned int vxrm,
                            size_t vl);
vuint16m1_t __riscv_vnclipu(vuint32m2_t vs2, size_t rs1, unsigned int vxrm,
                            size_t vl);
vuint16m2_t __riscv_vnclipu(vuint32m4_t vs2, vuint16m2_t vs1, unsigned int vxrm,
                            size_t vl);
vuint16m2_t __riscv_vnclipu(vuint32m4_t vs2, size_t rs1, unsigned int vxrm,
                            size_t vl);
vuint16m4_t __riscv_vnclipu(vuint32m8_t vs2, vuint16m4_t vs1, unsigned int vxrm,
```

```
                            size_t vl);
vuint16m4_t __riscv_vnclipu(vuint32m8_t vs2, size_t rs1, unsigned int vxrm,
                            size_t vl);
vuint32mf2_t __riscv_vnclipu(vuint64m1_t vs2, vuint32mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu(vuint64m1_t vs2, size_t rs1, unsigned int vxrm,
                             size_t vl);
vuint32m1_t __riscv_vnclipu(vuint64m2_t vs2, vuint32m1_t vs1, unsigned int vxrm,
                            size_t vl);
vuint32m1_t __riscv_vnclipu(vuint64m2_t vs2, size_t rs1, unsigned int vxrm,
                            size_t vl);
vuint32m2_t __riscv_vnclipu(vuint64m4_t vs2, vuint32m2_t vs1, unsigned int vxrm,
                            size_t vl);
vuint32m2_t __riscv_vnclipu(vuint64m4_t vs2, size_t rs1, unsigned int vxrm,
                            size_t vl);
vuint32m4_t __riscv_vnclipu(vuint64m8_t vs2, vuint32m4_t vs1, unsigned int vxrm,
                            size_t vl);
vuint32m4_t __riscv_vnclipu(vuint64m8_t vs2, size_t rs1, unsigned int vxrm,
                            size_t vl);
// masked functions
vint8mf8_t __riscv_vnclip(vbool64_t vm, vint16mf4_t vs2, vuint8mf8_t vs1,
                          unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vnclip(vbool64_t vm, vint16mf4_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip(vbool32_t vm, vint16mf2_t vs2, vuint8mf4_t vs1,
                          unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip(vbool32_t vm, vint16mf2_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip(vbool16_t vm, vint16m1_t vs2, vuint8mf2_t vs1,
                          unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip(vbool16_t vm, vint16m1_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip(vbool8_t vm, vint16m2_t vs2, vuint8m1_t vs1,
                         unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip(vbool8_t vm, vint16m2_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip(vbool4_t vm, vint16m4_t vs2, vuint8m2_t vs1,
                         unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip(vbool4_t vm, vint16m4_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip(vbool2_t vm, vint16m8_t vs2, vuint8m4_t vs1,
                         unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip(vbool2_t vm, vint16m8_t vs2, size_t rs1,
                         unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip(vbool64_t vm, vint32mf2_t vs2, vuint16mf4_t vs1,
                           unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip(vbool64_t vm, vint32mf2_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip(vbool32_t vm, vint32m1_t vs2, vuint16mf2_t vs1,
                           unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip(vbool32_t vm, vint32m1_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip(vbool16_t vm, vint32m2_t vs2, vuint16m1_t vs1,
                          unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip(vbool16_t vm, vint32m2_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip(vbool8_t vm, vint32m4_t vs2, vuint16m2_t vs1,
                          unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip(vbool8_t vm, vint32m4_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip(vbool4_t vm, vint32m8_t vs2, vuint16m4_t vs1,
                          unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip(vbool4_t vm, vint32m8_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip(vbool64_t vm, vint64m1_t vs2, vuint32mf2_t vs1,
                           unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip(vbool64_t vm, vint64m1_t vs2, size_t rs1,
```

```
                          unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip(vbool32_t vm, vint64m2_t vs2, vuint32m1_t vs1,
                          unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip(vbool32_t vm, vint64m2_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip(vbool16_t vm, vint64m4_t vs2, vuint32m2_t vs1,
                          unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip(vbool16_t vm, vint64m4_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip(vbool8_t vm, vint64m8_t vs2, vuint32m4_t vs1,
                          unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip(vbool8_t vm, vint64m8_t vs2, size_t rs1,
                          unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu(vbool64_t vm, vuint16mf4_t vs2, vuint8mf8_t vs1,
                            unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu(vbool64_t vm, vuint16mf4_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu(vbool32_t vm, vuint16mf2_t vs2, vuint8mf4_t vs1,
                            unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu(vbool32_t vm, vuint16mf2_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu(vbool16_t vm, vuint16m1_t vs2, vuint8mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu(vbool16_t vm, vuint16m1_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu(vbool8_t vm, vuint16m2_t vs2, vuint8m1_t vs1,
                           unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu(vbool8_t vm, vuint16m2_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu(vbool4_t vm, vuint16m4_t vs2, vuint8m2_t vs1,
                           unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu(vbool4_t vm, vuint16m4_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu(vbool2_t vm, vuint16m8_t vs2, vuint8m4_t vs1,
                           unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu(vbool2_t vm, vuint16m8_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu(vbool64_t vm, vuint32mf2_t vs2, vuint16mf4_t vs1,
                             unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu(vbool64_t vm, vuint32mf2_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu(vbool32_t vm, vuint32m1_t vs2, vuint16mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu(vbool32_t vm, vuint32m1_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu(vbool16_t vm, vuint32m2_t vs2, vuint16m1_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu(vbool16_t vm, vuint32m2_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu(vbool8_t vm, vuint32m4_t vs2, vuint16m2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu(vbool8_t vm, vuint32m4_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu(vbool4_t vm, vuint32m8_t vs2, vuint16m4_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu(vbool4_t vm, vuint32m8_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu(vbool64_t vm, vuint64m1_t vs2, vuint32mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu(vbool64_t vm, vuint64m1_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu(vbool32_t vm, vuint64m2_t vs2, vuint32m1_t vs1,
                            unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu(vbool32_t vm, vuint64m2_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu(vbool16_t vm, vuint64m4_t vs2, vuint32m2_t vs1,
                            unsigned int vxrm, size_t vl);
```

```
vuint32m2_t __riscv_vnclipu(vbool16_t vm, vuint64m4_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu(vbool8_t vm, vuint64m8_t vs2, vuint32m4_t vs1,
                            unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu(vbool8_t vm, vuint64m8_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
```

C.5. Vector Floating-Point Intrinsics

C.5.1. Vector Single-Width Floating-Point Add/Subtract Intrinsics

```
vfloat16mf4_t __riscv_vfadd(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfadd(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfadd(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfadd(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfadd(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfadd(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfadd(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfadd(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfadd(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfadd(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfadd(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfadd(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfadd(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfadd(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfadd(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfadd(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfadd(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfadd(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfadd(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfadd(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfadd(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfadd(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfadd(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfadd(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfadd(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfadd(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfadd(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfadd(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfadd(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsub(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsub(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsub(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsub(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsub(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsub(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsub(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsub(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsub(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsub(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsub(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsub(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsub(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsub(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsub(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsub(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsub(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsub(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsub(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsub(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsub(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsub(vfloat32m8_t vs2, float rs1, size_t vl);
```

```
vfloat64m1_t __riscv_vfsub(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsub(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsub(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsub(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsub(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsub(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsub(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsub(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrsub(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrsub(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrsub(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrsub(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrsub(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrsub(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrsub(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfrsub(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfrsub(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfrsub(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfrsub(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfrsub(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfrsub(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfrsub(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfrsub(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfneg(vfloat16mf4_t vs, size_t vl);
vfloat16mf2_t __riscv_vfneg(vfloat16mf2_t vs, size_t vl);
vfloat16m1_t __riscv_vfneg(vfloat16m1_t vs, size_t vl);
vfloat16m2_t __riscv_vfneg(vfloat16m2_t vs, size_t vl);
vfloat16m4_t __riscv_vfneg(vfloat16m4_t vs, size_t vl);
vfloat16m8_t __riscv_vfneg(vfloat16m8_t vs, size_t vl);
vfloat32mf2_t __riscv_vfneg(vfloat32mf2_t vs, size_t vl);
vfloat32m1_t __riscv_vfneg(vfloat32m1_t vs, size_t vl);
vfloat32m2_t __riscv_vfneg(vfloat32m2_t vs, size_t vl);
vfloat32m4_t __riscv_vfneg(vfloat32m4_t vs, size_t vl);
vfloat32m8_t __riscv_vfneg(vfloat32m8_t vs, size_t vl);
vfloat64m1_t __riscv_vfneg(vfloat64m1_t vs, size_t vl);
vfloat64m2_t __riscv_vfneg(vfloat64m2_t vs, size_t vl);
vfloat64m4_t __riscv_vfneg(vfloat64m4_t vs, size_t vl);
vfloat64m8_t __riscv_vfneg(vfloat64m8_t vs, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                            size_t vl);
vfloat16mf4_t __riscv_vfadd(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16mf2_t __riscv_vfadd(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            size_t vl);
vfloat16mf2_t __riscv_vfadd(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m1_t __riscv_vfadd(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                           size_t vl);
vfloat16m1_t __riscv_vfadd(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m2_t __riscv_vfadd(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                           size_t vl);
vfloat16m2_t __riscv_vfadd(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m4_t __riscv_vfadd(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                           size_t vl);
vfloat16m4_t __riscv_vfadd(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m8_t __riscv_vfadd(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                           size_t vl);
vfloat16m8_t __riscv_vfadd(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                           size_t vl);
vfloat32mf2_t __riscv_vfadd(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            size_t vl);
vfloat32mf2_t __riscv_vfadd(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                            size_t vl);
```

```
vfloat32m1_t __riscv_vfadd(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                           size_t vl);
vfloat32m1_t __riscv_vfadd(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                           size_t vl);
vfloat32m2_t __riscv_vfadd(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                           size_t vl);
vfloat32m2_t __riscv_vfadd(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                           size_t vl);
vfloat32m4_t __riscv_vfadd(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                           size_t vl);
vfloat32m4_t __riscv_vfadd(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfadd(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                           size_t vl);
vfloat32m8_t __riscv_vfadd(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfadd(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                           size_t vl);
vfloat64m1_t __riscv_vfadd(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                           size_t vl);
vfloat64m2_t __riscv_vfadd(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                           size_t vl);
vfloat64m2_t __riscv_vfadd(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                           size_t vl);
vfloat64m4_t __riscv_vfadd(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                           size_t vl);
vfloat64m4_t __riscv_vfadd(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                           size_t vl);
vfloat64m8_t __riscv_vfadd(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                           size_t vl);
vfloat64m8_t __riscv_vfadd(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                           size_t vl);
vfloat16mf4_t __riscv_vfsub(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                            size_t vl);
vfloat16mf4_t __riscv_vfsub(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16mf2_t __riscv_vfsub(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            size_t vl);
vfloat16mf2_t __riscv_vfsub(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m1_t __riscv_vfsub(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                           size_t vl);
vfloat16m1_t __riscv_vfsub(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m2_t __riscv_vfsub(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                           size_t vl);
vfloat16m2_t __riscv_vfsub(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m4_t __riscv_vfsub(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                           size_t vl);
vfloat16m4_t __riscv_vfsub(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m8_t __riscv_vfsub(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                           size_t vl);
vfloat16m8_t __riscv_vfsub(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                           size_t vl);
vfloat32mf2_t __riscv_vfsub(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            size_t vl);
vfloat32mf2_t __riscv_vfsub(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                            size_t vl);
vfloat32m1_t __riscv_vfsub(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                           size_t vl);
vfloat32m1_t __riscv_vfsub(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                           size_t vl);
vfloat32m2_t __riscv_vfsub(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                           size_t vl);
vfloat32m2_t __riscv_vfsub(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                           size_t vl);
vfloat32m4_t __riscv_vfsub(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
```

```
                            size_t vl);
vfloat32m4_t __riscv_vfsub(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsub(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                            size_t vl);
vfloat32m8_t __riscv_vfsub(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsub(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                            size_t vl);
vfloat64m1_t __riscv_vfsub(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                            size_t vl);
vfloat64m2_t __riscv_vfsub(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                            size_t vl);
vfloat64m2_t __riscv_vfsub(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                            size_t vl);
vfloat64m4_t __riscv_vfsub(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                            size_t vl);
vfloat64m4_t __riscv_vfsub(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                            size_t vl);
vfloat64m8_t __riscv_vfsub(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                            size_t vl);
vfloat64m8_t __riscv_vfsub(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                            size_t vl);
vfloat16mf4_t __riscv_vfrsub(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                             size_t vl);
vfloat16mf2_t __riscv_vfrsub(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                             size_t vl);
vfloat16m1_t __riscv_vfrsub(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m2_t __riscv_vfrsub(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m4_t __riscv_vfrsub(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m8_t __riscv_vfrsub(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                            size_t vl);
vfloat32mf2_t __riscv_vfrsub(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                             size_t vl);
vfloat32m1_t __riscv_vfrsub(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                            size_t vl);
vfloat32m2_t __riscv_vfrsub(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                            size_t vl);
vfloat32m4_t __riscv_vfrsub(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                            size_t vl);
vfloat32m8_t __riscv_vfrsub(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                            size_t vl);
vfloat64m1_t __riscv_vfrsub(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                            size_t vl);
vfloat64m2_t __riscv_vfrsub(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                            size_t vl);
vfloat64m4_t __riscv_vfrsub(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                            size_t vl);
vfloat64m8_t __riscv_vfrsub(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                            size_t vl);
vfloat16mf4_t __riscv_vfneg(vbool64_t vm, vfloat16mf4_t vs, size_t vl);
vfloat16mf2_t __riscv_vfneg(vbool32_t vm, vfloat16mf2_t vs, size_t vl);
vfloat16m1_t __riscv_vfneg(vbool16_t vm, vfloat16m1_t vs, size_t vl);
vfloat16m2_t __riscv_vfneg(vbool8_t vm, vfloat16m2_t vs, size_t vl);
vfloat16m4_t __riscv_vfneg(vbool4_t vm, vfloat16m4_t vs, size_t vl);
vfloat16m8_t __riscv_vfneg(vbool2_t vm, vfloat16m8_t vs, size_t vl);
vfloat32mf2_t __riscv_vfneg(vbool64_t vm, vfloat32mf2_t vs, size_t vl);
vfloat32m1_t __riscv_vfneg(vbool32_t vm, vfloat32m1_t vs, size_t vl);
vfloat32m2_t __riscv_vfneg(vbool16_t vm, vfloat32m2_t vs, size_t vl);
vfloat32m4_t __riscv_vfneg(vbool8_t vm, vfloat32m4_t vs, size_t vl);
vfloat32m8_t __riscv_vfneg(vbool4_t vm, vfloat32m8_t vs, size_t vl);
vfloat64m1_t __riscv_vfneg(vbool64_t vm, vfloat64m1_t vs, size_t vl);
vfloat64m2_t __riscv_vfneg(vbool32_t vm, vfloat64m2_t vs, size_t vl);
vfloat64m4_t __riscv_vfneg(vbool16_t vm, vfloat64m4_t vs, size_t vl);
vfloat64m8_t __riscv_vfneg(vbool8_t vm, vfloat64m8_t vs, size_t vl);
vfloat16mf4_t __riscv_vfadd(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
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                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfadd(vfloat16mf4_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16mf2_t __riscv_vfadd(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd(vfloat16mf2_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16m1_t __riscv_vfadd(vfloat16m1_t vs2, vfloat16m1_t vs1, unsigned int frm,
                          size_t vl);
vfloat16m1_t __riscv_vfadd(vfloat16m1_t vs2, _Float16 rs1, unsigned int frm,
                          size_t vl);
vfloat16m2_t __riscv_vfadd(vfloat16m2_t vs2, vfloat16m2_t vs1, unsigned int frm,
                          size_t vl);
vfloat16m2_t __riscv_vfadd(vfloat16m2_t vs2, _Float16 rs1, unsigned int frm,
                          size_t vl);
vfloat16m4_t __riscv_vfadd(vfloat16m4_t vs2, vfloat16m4_t vs1, unsigned int frm,
                          size_t vl);
vfloat16m4_t __riscv_vfadd(vfloat16m4_t vs2, _Float16 rs1, unsigned int frm,
                          size_t vl);
vfloat16m8_t __riscv_vfadd(vfloat16m8_t vs2, vfloat16m8_t vs1, unsigned int frm,
                          size_t vl);
vfloat16m8_t __riscv_vfadd(vfloat16m8_t vs2, _Float16 rs1, unsigned int frm,
                          size_t vl);
vfloat32mf2_t __riscv_vfadd(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd(vfloat32mf2_t vs2, float rs1, unsigned int frm,
                           size_t vl);
vfloat32m1_t __riscv_vfadd(vfloat32m1_t vs2, vfloat32m1_t vs1, unsigned int frm,
                          size_t vl);
vfloat32m1_t __riscv_vfadd(vfloat32m1_t vs2, float rs1, unsigned int frm,
                          size_t vl);
vfloat32m2_t __riscv_vfadd(vfloat32m2_t vs2, vfloat32m2_t vs1, unsigned int frm,
                          size_t vl);
vfloat32m2_t __riscv_vfadd(vfloat32m2_t vs2, float rs1, unsigned int frm,
                          size_t vl);
vfloat32m4_t __riscv_vfadd(vfloat32m4_t vs2, vfloat32m4_t vs1, unsigned int frm,
                          size_t vl);
vfloat32m4_t __riscv_vfadd(vfloat32m4_t vs2, float rs1, unsigned int frm,
                          size_t vl);
vfloat32m8_t __riscv_vfadd(vfloat32m8_t vs2, vfloat32m8_t vs1, unsigned int frm,
                          size_t vl);
vfloat32m8_t __riscv_vfadd(vfloat32m8_t vs2, float rs1, unsigned int frm,
                          size_t vl);
vfloat64m1_t __riscv_vfadd(vfloat64m1_t vs2, vfloat64m1_t vs1, unsigned int frm,
                          size_t vl);
vfloat64m1_t __riscv_vfadd(vfloat64m1_t vs2, double rs1, unsigned int frm,
                          size_t vl);
vfloat64m2_t __riscv_vfadd(vfloat64m2_t vs2, vfloat64m2_t vs1, unsigned int frm,
                          size_t vl);
vfloat64m2_t __riscv_vfadd(vfloat64m2_t vs2, double rs1, unsigned int frm,
                          size_t vl);
vfloat64m4_t __riscv_vfadd(vfloat64m4_t vs2, vfloat64m4_t vs1, unsigned int frm,
                          size_t vl);
vfloat64m4_t __riscv_vfadd(vfloat64m4_t vs2, double rs1, unsigned int frm,
                          size_t vl);
vfloat64m8_t __riscv_vfadd(vfloat64m8_t vs2, vfloat64m8_t vs1, unsigned int frm,
                          size_t vl);
vfloat64m8_t __riscv_vfadd(vfloat64m8_t vs2, double rs1, unsigned int frm,
                          size_t vl);
vfloat16mf4_t __riscv_vfsub(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub(vfloat16mf4_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16mf2_t __riscv_vfsub(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub(vfloat16mf2_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
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vfloat16m1_t __riscv_vfsub(vfloat16m1_t vs2, vfloat16m1_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m1_t __riscv_vfsub(vfloat16m1_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16m2_t __riscv_vfsub(vfloat16m2_t vs2, vfloat16m2_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m2_t __riscv_vfsub(vfloat16m2_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16m4_t __riscv_vfsub(vfloat16m4_t vs2, vfloat16m4_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m4_t __riscv_vfsub(vfloat16m4_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16m8_t __riscv_vfsub(vfloat16m8_t vs2, vfloat16m8_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m8_t __riscv_vfsub(vfloat16m8_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat32mf2_t __riscv_vfsub(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub(vfloat32mf2_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat32m1_t __riscv_vfsub(vfloat32m1_t vs2, vfloat32m1_t vs1, unsigned int frm,
                           size_t vl);
vfloat32m1_t __riscv_vfsub(vfloat32m1_t vs2, float rs1, unsigned int frm,
                           size_t vl);
vfloat32m2_t __riscv_vfsub(vfloat32m2_t vs2, vfloat32m2_t vs1, unsigned int frm,
                           size_t vl);
vfloat32m2_t __riscv_vfsub(vfloat32m2_t vs2, float rs1, unsigned int frm,
                           size_t vl);
vfloat32m4_t __riscv_vfsub(vfloat32m4_t vs2, vfloat32m4_t vs1, unsigned int frm,
                           size_t vl);
vfloat32m4_t __riscv_vfsub(vfloat32m4_t vs2, float rs1, unsigned int frm,
                           size_t vl);
vfloat32m8_t __riscv_vfsub(vfloat32m8_t vs2, vfloat32m8_t vs1, unsigned int frm,
                           size_t vl);
vfloat32m8_t __riscv_vfsub(vfloat32m8_t vs2, float rs1, unsigned int frm,
                           size_t vl);
vfloat64m1_t __riscv_vfsub(vfloat64m1_t vs2, vfloat64m1_t vs1, unsigned int frm,
                           size_t vl);
vfloat64m1_t __riscv_vfsub(vfloat64m1_t vs2, double rs1, unsigned int frm,
                           size_t vl);
vfloat64m2_t __riscv_vfsub(vfloat64m2_t vs2, vfloat64m2_t vs1, unsigned int frm,
                           size_t vl);
vfloat64m2_t __riscv_vfsub(vfloat64m2_t vs2, double rs1, unsigned int frm,
                           size_t vl);
vfloat64m4_t __riscv_vfsub(vfloat64m4_t vs2, vfloat64m4_t vs1, unsigned int frm,
                           size_t vl);
vfloat64m4_t __riscv_vfsub(vfloat64m4_t vs2, double rs1, unsigned int frm,
                           size_t vl);
vfloat64m8_t __riscv_vfsub(vfloat64m8_t vs2, vfloat64m8_t vs1, unsigned int frm,
                           size_t vl);
vfloat64m8_t __riscv_vfsub(vfloat64m8_t vs2, double rs1, unsigned int frm,
                           size_t vl);
vfloat16mf4_t __riscv_vfrsub(vfloat16mf4_t vs2, _Float16 rs1, unsigned int frm,
                             size_t vl);
vfloat16mf2_t __riscv_vfrsub(vfloat16mf2_t vs2, _Float16 rs1, unsigned int frm,
                             size_t vl);
vfloat16m1_t __riscv_vfrsub(vfloat16m1_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat16m2_t __riscv_vfrsub(vfloat16m2_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat16m4_t __riscv_vfrsub(vfloat16m4_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat16m8_t __riscv_vfrsub(vfloat16m8_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat32mf2_t __riscv_vfrsub(vfloat32mf2_t vs2, float rs1, unsigned int frm,
                             size_t vl);
vfloat32m1_t __riscv_vfrsub(vfloat32m1_t vs2, float rs1, unsigned int frm,
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                            size_t vl);
vfloat32m2_t __riscv_vfrsub(vfloat32m2_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat32m4_t __riscv_vfrsub(vfloat32m4_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat32m8_t __riscv_vfrsub(vfloat32m8_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat64m1_t __riscv_vfrsub(vfloat64m1_t vs2, double rs1, unsigned int frm,
                            size_t vl);
vfloat64m2_t __riscv_vfrsub(vfloat64m2_t vs2, double rs1, unsigned int frm,
                            size_t vl);
vfloat64m4_t __riscv_vfrsub(vfloat64m4_t vs2, double rs1, unsigned int frm,
                            size_t vl);
vfloat64m8_t __riscv_vfrsub(vfloat64m8_t vs2, double rs1, unsigned int frm,
                            size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfadd(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                           unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd(vbool32_t vm, vfloat64m2_t vs2, double rs1,
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                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                          unsigned int frm, size_t vl);
```

```
vfloat64m8_t __riscv_vfsub(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrsub(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrsub(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrsub(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrsub(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrsub(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrsub(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrsub(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrsub(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrsub(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrsub(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrsub(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrsub(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrsub(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrsub(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrsub(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                            unsigned int frm, size_t vl);
```

C.5.2. Vector Widening Floating-Point Add/Subtract Intrinsics

```
vfloat32mf2_t __riscv_vfwadd_vv(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv(vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf(vfloat32mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv(vfloat32m1_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf(vfloat32m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv(vfloat32m2_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf(vfloat32m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv(vfloat32m4_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf(vfloat32m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv(vfloat32m8_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf(vfloat32m8_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv(vfloat64m1_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf(vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv(vfloat64m2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf(vfloat64m2_t vs2, float rs1, size_t vl);
```

```
vfloat64m4_t __riscv_vfwadd_vv(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv(vfloat64m4_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf(vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv(vfloat64m8_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf(vfloat64m8_t vs2, float rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv(vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf(vfloat32mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv(vfloat32m1_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf(vfloat32m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_vf(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv(vfloat32m2_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf(vfloat32m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv(vfloat32m4_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf(vfloat32m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv(vfloat32m8_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf(vfloat32m8_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv(vfloat64m1_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf(vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv(vfloat64m2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf(vfloat64m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv(vfloat64m4_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf(vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv(vfloat64m8_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf(vfloat64m8_t vs2, float rs1, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv(vbool64_t vm, vfloat16mf4_t vs2,
                                vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv(vbool64_t vm, vfloat32mf2_t vs2,
                                vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf(vbool64_t vm, vfloat32mf2_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32m1_t __riscv_vfwadd_vv(vbool32_t vm, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32m1_t __riscv_vfwadd_wv(vbool32_t vm, vfloat32m1_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf(vbool32_t vm, vfloat32m1_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32m2_t __riscv_vfwadd_vv(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                               size_t vl);
vfloat32m2_t __riscv_vfwadd_vf(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                               size_t vl);
```

```
vfloat32m2_t __riscv_vfwadd_wv(vbool16_t vm, vfloat32m2_t vs2, vfloat16m1_t vs1,
                               size_t vl);
vfloat32m2_t __riscv_vfwadd_wf(vbool16_t vm, vfloat32m2_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32m4_t __riscv_vfwadd_vv(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                               size_t vl);
vfloat32m4_t __riscv_vfwadd_vf(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32m4_t __riscv_vfwadd_wv(vbool8_t vm, vfloat32m4_t vs2, vfloat16m2_t vs1,
                               size_t vl);
vfloat32m4_t __riscv_vfwadd_wf(vbool8_t vm, vfloat32m4_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32m8_t __riscv_vfwadd_vv(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                               size_t vl);
vfloat32m8_t __riscv_vfwadd_vf(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32m8_t __riscv_vfwadd_wv(vbool4_t vm, vfloat32m8_t vs2, vfloat16m4_t vs1,
                               size_t vl);
vfloat32m8_t __riscv_vfwadd_wf(vbool4_t vm, vfloat32m8_t vs2, _Float16 rs1,
                               size_t vl);
vfloat64m1_t __riscv_vfwadd_vv(vbool64_t vm, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                               size_t vl);
vfloat64m1_t __riscv_vfwadd_wv(vbool64_t vm, vfloat64m1_t vs2,
                               vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf(vbool64_t vm, vfloat64m1_t vs2, float rs1,
                               size_t vl);
vfloat64m2_t __riscv_vfwadd_vv(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                               size_t vl);
vfloat64m2_t __riscv_vfwadd_vf(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                               size_t vl);
vfloat64m2_t __riscv_vfwadd_wv(vbool32_t vm, vfloat64m2_t vs2, vfloat32m1_t vs1,
                               size_t vl);
vfloat64m2_t __riscv_vfwadd_wf(vbool32_t vm, vfloat64m2_t vs2, float rs1,
                               size_t vl);
vfloat64m4_t __riscv_vfwadd_vv(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                               size_t vl);
vfloat64m4_t __riscv_vfwadd_vf(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                               size_t vl);
vfloat64m4_t __riscv_vfwadd_wv(vbool16_t vm, vfloat64m4_t vs2, vfloat32m2_t vs1,
                               size_t vl);
vfloat64m4_t __riscv_vfwadd_wf(vbool16_t vm, vfloat64m4_t vs2, float rs1,
                               size_t vl);
vfloat64m8_t __riscv_vfwadd_vv(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                               size_t vl);
vfloat64m8_t __riscv_vfwadd_vf(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                               size_t vl);
vfloat64m8_t __riscv_vfwadd_wv(vbool8_t vm, vfloat64m8_t vs2, vfloat32m4_t vs1,
                               size_t vl);
vfloat64m8_t __riscv_vfwadd_wf(vbool8_t vm, vfloat64m8_t vs2, float rs1,
                               size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv(vbool64_t vm, vfloat16mf4_t vs2,
                                vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv(vbool64_t vm, vfloat32mf2_t vs2,
                                vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf(vbool64_t vm, vfloat32mf2_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32m1_t __riscv_vfwsub_vv(vbool32_t vm, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32m1_t __riscv_vfwsub_wv(vbool32_t vm, vfloat32m1_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf(vbool32_t vm, vfloat32m1_t vs2, _Float16 rs1,
```

```
                                size_t vl);
vfloat32m2_t __riscv_vfwsub_vv(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                                size_t vl);
vfloat32m2_t __riscv_vfwsub_vf(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32m2_t __riscv_vfwsub_wv(vbool16_t vm, vfloat32m2_t vs2, vfloat16m1_t vs1,
                                size_t vl);
vfloat32m2_t __riscv_vfwsub_wf(vbool16_t vm, vfloat32m2_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32m4_t __riscv_vfwsub_vv(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                                size_t vl);
vfloat32m4_t __riscv_vfwsub_vf(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32m4_t __riscv_vfwsub_wv(vbool8_t vm, vfloat32m4_t vs2, vfloat16m2_t vs1,
                                size_t vl);
vfloat32m4_t __riscv_vfwsub_wf(vbool8_t vm, vfloat32m4_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32m8_t __riscv_vfwsub_vv(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                                size_t vl);
vfloat32m8_t __riscv_vfwsub_vf(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32m8_t __riscv_vfwsub_wv(vbool4_t vm, vfloat32m8_t vs2, vfloat16m4_t vs1,
                                size_t vl);
vfloat32m8_t __riscv_vfwsub_wf(vbool4_t vm, vfloat32m8_t vs2, _Float16 rs1,
                                size_t vl);
vfloat64m1_t __riscv_vfwsub_vv(vbool64_t vm, vfloat32mf2_t vs2,
                                vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                                size_t vl);
vfloat64m1_t __riscv_vfwsub_wv(vbool64_t vm, vfloat64m1_t vs2,
                                vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf(vbool64_t vm, vfloat64m1_t vs2, float rs1,
                                size_t vl);
vfloat64m2_t __riscv_vfwsub_vv(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                                size_t vl);
vfloat64m2_t __riscv_vfwsub_vf(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                                size_t vl);
vfloat64m2_t __riscv_vfwsub_wv(vbool32_t vm, vfloat64m2_t vs2, vfloat32m1_t vs1,
                                size_t vl);
vfloat64m2_t __riscv_vfwsub_wf(vbool32_t vm, vfloat64m2_t vs2, float rs1,
                                size_t vl);
vfloat64m4_t __riscv_vfwsub_vv(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                                size_t vl);
vfloat64m4_t __riscv_vfwsub_vf(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                                size_t vl);
vfloat64m4_t __riscv_vfwsub_wv(vbool16_t vm, vfloat64m4_t vs2, vfloat32m2_t vs1,
                                size_t vl);
vfloat64m4_t __riscv_vfwsub_wf(vbool16_t vm, vfloat64m4_t vs2, float rs1,
                                size_t vl);
vfloat64m8_t __riscv_vfwsub_vv(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                                size_t vl);
vfloat64m8_t __riscv_vfwsub_vf(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                size_t vl);
vfloat64m8_t __riscv_vfwsub_wv(vbool8_t vm, vfloat64m8_t vs2, vfloat32m4_t vs1,
                                size_t vl);
vfloat64m8_t __riscv_vfwsub_wf(vbool8_t vm, vfloat64m8_t vs2, float rs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfwadd_vv(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf(vfloat16mf4_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv(vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf(vfloat32mf2_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                unsigned int frm, size_t vl);
```

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vfloat32m1_t __riscv_vfwadd_vf(vfloat16mf2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv(vfloat32m1_t vs2, vfloat16mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf(vfloat32m1_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m2_t __riscv_vfwadd_vv(vfloat16m1_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf(vfloat16m1_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m2_t __riscv_vfwadd_wv(vfloat32m2_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf(vfloat32m2_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m4_t __riscv_vfwadd_vv(vfloat16m2_t vs2, vfloat16m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf(vfloat16m2_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m4_t __riscv_vfwadd_wv(vfloat32m4_t vs2, vfloat16m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf(vfloat32m4_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m8_t __riscv_vfwadd_vv(vfloat16m4_t vs2, vfloat16m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf(vfloat16m4_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m8_t __riscv_vfwadd_wv(vfloat32m8_t vs2, vfloat16m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf(vfloat32m8_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat64m1_t __riscv_vfwadd_vv(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf(vfloat32mf2_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m1_t __riscv_vfwadd_wv(vfloat64m1_t vs2, vfloat32mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf(vfloat64m1_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m2_t __riscv_vfwadd_vv(vfloat32m1_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf(vfloat32m1_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m2_t __riscv_vfwadd_wv(vfloat64m2_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf(vfloat64m2_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m4_t __riscv_vfwadd_vv(vfloat32m2_t vs2, vfloat32m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf(vfloat32m2_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m4_t __riscv_vfwadd_wv(vfloat64m4_t vs2, vfloat32m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf(vfloat64m4_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m8_t __riscv_vfwadd_vv(vfloat32m4_t vs2, vfloat32m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf(vfloat32m4_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m8_t __riscv_vfwadd_wv(vfloat64m8_t vs2, vfloat32m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf(vfloat64m8_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf(vfloat16mf4_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv(vfloat32mf2_t vs2, vfloat16mf4_t vs1,
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                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf(vfloat32mf2_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf(vfloat16mf2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv(vfloat32m1_t vs2, vfloat16mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf(vfloat32m1_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m2_t __riscv_vfwsub_vv(vfloat16m1_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vf(vfloat16m1_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m2_t __riscv_vfwsub_wv(vfloat32m2_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf(vfloat32m2_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m4_t __riscv_vfwsub_vv(vfloat16m2_t vs2, vfloat16m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf(vfloat16m2_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m4_t __riscv_vfwsub_wv(vfloat32m4_t vs2, vfloat16m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf(vfloat32m4_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m8_t __riscv_vfwsub_vv(vfloat16m4_t vs2, vfloat16m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf(vfloat16m4_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat32m8_t __riscv_vfwsub_wv(vfloat32m8_t vs2, vfloat16m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf(vfloat32m8_t vs2, _Float16 rs1, unsigned int frm,
                               size_t vl);
vfloat64m1_t __riscv_vfwsub_vv(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf(vfloat32mf2_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m1_t __riscv_vfwsub_wv(vfloat64m1_t vs2, vfloat32mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf(vfloat64m1_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m2_t __riscv_vfwsub_vv(vfloat32m1_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf(vfloat32m1_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m2_t __riscv_vfwsub_wv(vfloat64m2_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf(vfloat64m2_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m4_t __riscv_vfwsub_vv(vfloat32m2_t vs2, vfloat32m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf(vfloat32m2_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m4_t __riscv_vfwsub_wv(vfloat64m4_t vs2, vfloat32m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf(vfloat64m4_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m8_t __riscv_vfwsub_vv(vfloat32m4_t vs2, vfloat32m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf(vfloat32m4_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat64m8_t __riscv_vfwsub_wv(vfloat64m8_t vs2, vfloat32m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf(vfloat64m8_t vs2, float rs1, unsigned int frm,
                               size_t vl);
```

```
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv(vbool64_t vm, vfloat16mf4_t vs2,
                                vfloat16mf4_t vs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv(vbool64_t vm, vfloat32mf2_t vs2,
                                vfloat16mf4_t vs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf(vbool64_t vm, vfloat32mf2_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv(vbool32_t vm, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv(vbool32_t vm, vfloat32m1_t vs2,
                               vfloat16mf2_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf(vbool32_t vm, vfloat32m1_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv(vbool16_t vm, vfloat32m2_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf(vbool16_t vm, vfloat32m2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv(vbool8_t vm, vfloat32m4_t vs2, vfloat16m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf(vbool8_t vm, vfloat32m4_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv(vbool4_t vm, vfloat32m8_t vs2, vfloat16m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf(vbool4_t vm, vfloat32m8_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv(vbool64_t vm, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv(vbool64_t vm, vfloat64m1_t vs2,
                               vfloat32mf2_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf(vbool64_t vm, vfloat64m1_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv(vbool32_t vm, vfloat64m2_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf(vbool32_t vm, vfloat64m2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv(vbool16_t vm, vfloat64m4_t vs2, vfloat32m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf(vbool16_t vm, vfloat64m4_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                               unsigned int frm, size_t vl);
```

```
vfloat64m8_t __riscv_vfwadd_vf(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv(vbool8_t vm, vfloat64m8_t vs2, vfloat32m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf(vbool8_t vm, vfloat64m8_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv(vbool64_t vm, vfloat16mf4_t vs2,
                                vfloat16mf4_t vs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv(vbool64_t vm, vfloat32mf2_t vs2,
                                vfloat16mf4_t vs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf(vbool64_t vm, vfloat32mf2_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv(vbool32_t vm, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv(vbool32_t vm, vfloat32m1_t vs2,
                               vfloat16mf2_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf(vbool32_t vm, vfloat32m1_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vf(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv(vbool16_t vm, vfloat32m2_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf(vbool16_t vm, vfloat32m2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv(vbool8_t vm, vfloat32m4_t vs2, vfloat16m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf(vbool8_t vm, vfloat32m4_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv(vbool4_t vm, vfloat32m8_t vs2, vfloat16m4_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf(vbool4_t vm, vfloat32m8_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv(vbool64_t vm, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv(vbool64_t vm, vfloat64m1_t vs2,
                               vfloat32mf2_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf(vbool64_t vm, vfloat64m1_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv(vbool32_t vm, vfloat64m2_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf(vbool32_t vm, vfloat64m2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv(vbool16_t vm, vfloat64m4_t vs2, vfloat32m2_t vs1,
```

```
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf(vbool16_t vm, vfloat64m4_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv(vbool8_t vm, vfloat64m8_t vs2, vfloat32m4_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf(vbool8_t vm, vfloat64m8_t vs2, float rs1,
                                unsigned int frm, size_t vl);
```

C.5.3. Vector Single-Width Floating-Point Multiply/Divide Intrinsics

```
vfloat16mf4_t __riscv_vfmul(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmul(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmul(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmul(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmul(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmul(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmul(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmul(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmul(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmul(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmul(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmul(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmul(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmul(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmul(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmul(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmul(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmul(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmul(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmul(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmul(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmul(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmul(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmul(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfmul(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmul(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfmul(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmul(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfmul(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmul(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfdiv(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfdiv(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfdiv(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfdiv(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfdiv(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfdiv(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfdiv(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfdiv(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfdiv(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfdiv(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfdiv(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfdiv(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfdiv(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfdiv(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfdiv(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfdiv(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfdiv(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
```

```
vfloat32m8_t __riscv_vfdiv(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfdiv(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfdiv(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfdiv(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfdiv(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfdiv(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfdiv(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfdiv(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfdiv(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrdiv(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrdiv(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrdiv(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrdiv(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrdiv(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrdiv(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrdiv(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfrdiv(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfrdiv(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfrdiv(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfrdiv(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfrdiv(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfrdiv(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfrdiv(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfrdiv(vfloat64m8_t vs2, double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                            size_t vl);
vfloat16mf4_t __riscv_vfmul(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16mf2_t __riscv_vfmul(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            size_t vl);
vfloat16mf2_t __riscv_vfmul(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m1_t __riscv_vfmul(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                           size_t vl);
vfloat16m1_t __riscv_vfmul(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m2_t __riscv_vfmul(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                           size_t vl);
vfloat16m2_t __riscv_vfmul(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m4_t __riscv_vfmul(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                           size_t vl);
vfloat16m4_t __riscv_vfmul(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m8_t __riscv_vfmul(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                           size_t vl);
vfloat16m8_t __riscv_vfmul(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                           size_t vl);
vfloat32mf2_t __riscv_vfmul(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            size_t vl);
vfloat32mf2_t __riscv_vfmul(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                            size_t vl);
vfloat32m1_t __riscv_vfmul(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                           size_t vl);
vfloat32m1_t __riscv_vfmul(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                           size_t vl);
vfloat32m2_t __riscv_vfmul(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                           size_t vl);
vfloat32m2_t __riscv_vfmul(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                           size_t vl);
vfloat32m4_t __riscv_vfmul(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                           size_t vl);
vfloat32m4_t __riscv_vfmul(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmul(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                           size_t vl);
vfloat32m8_t __riscv_vfmul(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
```

```
vfloat64m1_t __riscv_vfmul(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                           size_t vl);
vfloat64m1_t __riscv_vfmul(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                           size_t vl);
vfloat64m2_t __riscv_vfmul(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                           size_t vl);
vfloat64m2_t __riscv_vfmul(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                           size_t vl);
vfloat64m4_t __riscv_vfmul(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                           size_t vl);
vfloat64m4_t __riscv_vfmul(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                           size_t vl);
vfloat64m8_t __riscv_vfmul(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                           size_t vl);
vfloat64m8_t __riscv_vfmul(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                           size_t vl);
vfloat16mf4_t __riscv_vfdiv(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                            size_t vl);
vfloat16mf4_t __riscv_vfdiv(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16mf2_t __riscv_vfdiv(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            size_t vl);
vfloat16mf2_t __riscv_vfdiv(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m1_t __riscv_vfdiv(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                           size_t vl);
vfloat16m1_t __riscv_vfdiv(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m2_t __riscv_vfdiv(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                           size_t vl);
vfloat16m2_t __riscv_vfdiv(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m4_t __riscv_vfdiv(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                           size_t vl);
vfloat16m4_t __riscv_vfdiv(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m8_t __riscv_vfdiv(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                           size_t vl);
vfloat16m8_t __riscv_vfdiv(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                           size_t vl);
vfloat32mf2_t __riscv_vfdiv(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            size_t vl);
vfloat32mf2_t __riscv_vfdiv(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                            size_t vl);
vfloat32m1_t __riscv_vfdiv(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                           size_t vl);
vfloat32m1_t __riscv_vfdiv(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                           size_t vl);
vfloat32m2_t __riscv_vfdiv(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                           size_t vl);
vfloat32m2_t __riscv_vfdiv(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                           size_t vl);
vfloat32m4_t __riscv_vfdiv(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                           size_t vl);
vfloat32m4_t __riscv_vfdiv(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfdiv(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                           size_t vl);
vfloat32m8_t __riscv_vfdiv(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfdiv(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                           size_t vl);
vfloat64m1_t __riscv_vfdiv(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                           size_t vl);
vfloat64m2_t __riscv_vfdiv(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                           size_t vl);
vfloat64m2_t __riscv_vfdiv(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                           size_t vl);
vfloat64m4_t __riscv_vfdiv(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
```

```
                            size_t vl);
vfloat64m4_t __riscv_vfdiv(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                            size_t vl);
vfloat64m8_t __riscv_vfdiv(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                            size_t vl);
vfloat64m8_t __riscv_vfdiv(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                            size_t vl);
vfloat16mf4_t __riscv_vfrdiv(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                             size_t vl);
vfloat16mf2_t __riscv_vfrdiv(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                             size_t vl);
vfloat16m1_t __riscv_vfrdiv(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m2_t __riscv_vfrdiv(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m4_t __riscv_vfrdiv(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m8_t __riscv_vfrdiv(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                            size_t vl);
vfloat32mf2_t __riscv_vfrdiv(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                             size_t vl);
vfloat32m1_t __riscv_vfrdiv(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                            size_t vl);
vfloat32m2_t __riscv_vfrdiv(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                            size_t vl);
vfloat32m4_t __riscv_vfrdiv(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                            size_t vl);
vfloat32m8_t __riscv_vfrdiv(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                            size_t vl);
vfloat64m1_t __riscv_vfrdiv(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                            size_t vl);
vfloat64m2_t __riscv_vfrdiv(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                            size_t vl);
vfloat64m4_t __riscv_vfrdiv(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                            size_t vl);
vfloat64m8_t __riscv_vfrdiv(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                            size_t vl);
vfloat16mf4_t __riscv_vfmul(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmul(vfloat16mf4_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat16mf2_t __riscv_vfmul(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul(vfloat16mf2_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat16m1_t __riscv_vfmul(vfloat16m1_t vs2, vfloat16m1_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m1_t __riscv_vfmul(vfloat16m1_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16m2_t __riscv_vfmul(vfloat16m2_t vs2, vfloat16m2_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m2_t __riscv_vfmul(vfloat16m2_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16m4_t __riscv_vfmul(vfloat16m4_t vs2, vfloat16m4_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m4_t __riscv_vfmul(vfloat16m4_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16m8_t __riscv_vfmul(vfloat16m8_t vs2, vfloat16m8_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m8_t __riscv_vfmul(vfloat16m8_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat32mf2_t __riscv_vfmul(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul(vfloat32mf2_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat32m1_t __riscv_vfmul(vfloat32m1_t vs2, vfloat32m1_t vs1, unsigned int frm,
                           size_t vl);
```

```
vfloat32m1_t __riscv_vfmul(vfloat32m1_t vs2, float rs1, unsigned int frm,
                           size_t vl);
vfloat32m2_t __riscv_vfmul(vfloat32m2_t vs2, vfloat32m2_t vs1, unsigned int frm,
                           size_t vl);
vfloat32m2_t __riscv_vfmul(vfloat32m2_t vs2, float rs1, unsigned int frm,
                           size_t vl);
vfloat32m4_t __riscv_vfmul(vfloat32m4_t vs2, vfloat32m4_t vs1, unsigned int frm,
                           size_t vl);
vfloat32m4_t __riscv_vfmul(vfloat32m4_t vs2, float rs1, unsigned int frm,
                           size_t vl);
vfloat32m8_t __riscv_vfmul(vfloat32m8_t vs2, vfloat32m8_t vs1, unsigned int frm,
                           size_t vl);
vfloat32m8_t __riscv_vfmul(vfloat32m8_t vs2, float rs1, unsigned int frm,
                           size_t vl);
vfloat64m1_t __riscv_vfmul(vfloat64m1_t vs2, vfloat64m1_t vs1, unsigned int frm,
                           size_t vl);
vfloat64m1_t __riscv_vfmul(vfloat64m1_t vs2, double rs1, unsigned int frm,
                           size_t vl);
vfloat64m2_t __riscv_vfmul(vfloat64m2_t vs2, vfloat64m2_t vs1, unsigned int frm,
                           size_t vl);
vfloat64m2_t __riscv_vfmul(vfloat64m2_t vs2, double rs1, unsigned int frm,
                           size_t vl);
vfloat64m4_t __riscv_vfmul(vfloat64m4_t vs2, vfloat64m4_t vs1, unsigned int frm,
                           size_t vl);
vfloat64m4_t __riscv_vfmul(vfloat64m4_t vs2, double rs1, unsigned int frm,
                           size_t vl);
vfloat64m8_t __riscv_vfmul(vfloat64m8_t vs2, vfloat64m8_t vs1, unsigned int frm,
                           size_t vl);
vfloat64m8_t __riscv_vfmul(vfloat64m8_t vs2, double rs1, unsigned int frm,
                           size_t vl);
vfloat16mf4_t __riscv_vfdiv(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv(vfloat16mf4_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat16mf2_t __riscv_vfdiv(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv(vfloat16mf2_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat16m1_t __riscv_vfdiv(vfloat16m1_t vs2, vfloat16m1_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m1_t __riscv_vfdiv(vfloat16m1_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16m2_t __riscv_vfdiv(vfloat16m2_t vs2, vfloat16m2_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m2_t __riscv_vfdiv(vfloat16m2_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16m4_t __riscv_vfdiv(vfloat16m4_t vs2, vfloat16m4_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m4_t __riscv_vfdiv(vfloat16m4_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat16m8_t __riscv_vfdiv(vfloat16m8_t vs2, vfloat16m8_t vs1, unsigned int frm,
                           size_t vl);
vfloat16m8_t __riscv_vfdiv(vfloat16m8_t vs2, _Float16 rs1, unsigned int frm,
                           size_t vl);
vfloat32mf2_t __riscv_vfdiv(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv(vfloat32mf2_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat32m1_t __riscv_vfdiv(vfloat32m1_t vs2, vfloat32m1_t vs1, unsigned int frm,
                           size_t vl);
vfloat32m1_t __riscv_vfdiv(vfloat32m1_t vs2, float rs1, unsigned int frm,
                           size_t vl);
vfloat32m2_t __riscv_vfdiv(vfloat32m2_t vs2, vfloat32m2_t vs1, unsigned int frm,
                           size_t vl);
vfloat32m2_t __riscv_vfdiv(vfloat32m2_t vs2, float rs1, unsigned int frm,
                           size_t vl);
vfloat32m4_t __riscv_vfdiv(vfloat32m4_t vs2, vfloat32m4_t vs1, unsigned int frm,
```

```
                            size_t vl);
vfloat32m4_t __riscv_vfdiv(vfloat32m4_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat32m8_t __riscv_vfdiv(vfloat32m8_t vs2, vfloat32m8_t vs1, unsigned int frm,
                            size_t vl);
vfloat32m8_t __riscv_vfdiv(vfloat32m8_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat64m1_t __riscv_vfdiv(vfloat64m1_t vs2, vfloat64m1_t vs1, unsigned int frm,
                            size_t vl);
vfloat64m1_t __riscv_vfdiv(vfloat64m1_t vs2, double rs1, unsigned int frm,
                            size_t vl);
vfloat64m2_t __riscv_vfdiv(vfloat64m2_t vs2, vfloat64m2_t vs1, unsigned int frm,
                            size_t vl);
vfloat64m2_t __riscv_vfdiv(vfloat64m2_t vs2, double rs1, unsigned int frm,
                            size_t vl);
vfloat64m4_t __riscv_vfdiv(vfloat64m4_t vs2, vfloat64m4_t vs1, unsigned int frm,
                            size_t vl);
vfloat64m4_t __riscv_vfdiv(vfloat64m4_t vs2, double rs1, unsigned int frm,
                            size_t vl);
vfloat64m8_t __riscv_vfdiv(vfloat64m8_t vs2, vfloat64m8_t vs1, unsigned int frm,
                            size_t vl);
vfloat64m8_t __riscv_vfdiv(vfloat64m8_t vs2, double rs1, unsigned int frm,
                            size_t vl);
vfloat16mf4_t __riscv_vfrdiv(vfloat16mf4_t vs2, _Float16 rs1, unsigned int frm,
                             size_t vl);
vfloat16mf2_t __riscv_vfrdiv(vfloat16mf2_t vs2, _Float16 rs1, unsigned int frm,
                             size_t vl);
vfloat16m1_t __riscv_vfrdiv(vfloat16m1_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat16m2_t __riscv_vfrdiv(vfloat16m2_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat16m4_t __riscv_vfrdiv(vfloat16m4_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat16m8_t __riscv_vfrdiv(vfloat16m8_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat32mf2_t __riscv_vfrdiv(vfloat32mf2_t vs2, float rs1, unsigned int frm,
                             size_t vl);
vfloat32m1_t __riscv_vfrdiv(vfloat32m1_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat32m2_t __riscv_vfrdiv(vfloat32m2_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat32m4_t __riscv_vfrdiv(vfloat32m4_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat32m8_t __riscv_vfrdiv(vfloat32m8_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat64m1_t __riscv_vfrdiv(vfloat64m1_t vs2, double rs1, unsigned int frm,
                            size_t vl);
vfloat64m2_t __riscv_vfrdiv(vfloat64m2_t vs2, double rs1, unsigned int frm,
                            size_t vl);
vfloat64m4_t __riscv_vfrdiv(vfloat64m4_t vs2, double rs1, unsigned int frm,
                            size_t vl);
vfloat64m8_t __riscv_vfrdiv(vfloat64m8_t vs2, double rs1, unsigned int frm,
                            size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmul(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                           unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
```

```
                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                          unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                          unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                          unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                          unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                          unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                          unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                          unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                          unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                          unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                          unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                          unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                           unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                           unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                          unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                          unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                          unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                          unsigned int frm, size_t vl);
```

```
vfloat16m8_t __riscv_vfdiv(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                           unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                           unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                           unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                           unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                           unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                           unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                           unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                           unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                           unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                           unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                           unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrdiv(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrdiv(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrdiv(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrdiv(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrdiv(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrdiv(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrdiv(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrdiv(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrdiv(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrdiv(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrdiv(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrdiv(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrdiv(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrdiv(vbool16_t vm, vfloat64m4_t vs2, double rs1,
```

```
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrdiv(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                            unsigned int frm, size_t vl);
```

C.5.4. Vector Widening Floating-Point Multiply Intrinsics

```
vfloat32mf2_t __riscv_vfwmul(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwmul(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwmul(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwmul(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwmul(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwmul(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwmul(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwmul(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwmul(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwmul(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwmul(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwmul(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwmul(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwmul(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwmul(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwmul(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwmul(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwmul(vfloat32m4_t vs2, float rs1, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                             size_t vl);
vfloat32mf2_t __riscv_vfwmul(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                             size_t vl);
vfloat32m1_t __riscv_vfwmul(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            size_t vl);
vfloat32m1_t __riscv_vfwmul(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                            size_t vl);
vfloat32m2_t __riscv_vfwmul(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                            size_t vl);
vfloat32m2_t __riscv_vfwmul(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                            size_t vl);
vfloat32m4_t __riscv_vfwmul(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                            size_t vl);
vfloat32m4_t __riscv_vfwmul(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                            size_t vl);
vfloat32m8_t __riscv_vfwmul(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                            size_t vl);
vfloat32m8_t __riscv_vfwmul(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                            size_t vl);
vfloat64m1_t __riscv_vfwmul(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            size_t vl);
vfloat64m1_t __riscv_vfwmul(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                            size_t vl);
vfloat64m2_t __riscv_vfwmul(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                            size_t vl);
vfloat64m2_t __riscv_vfwmul(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                            size_t vl);
vfloat64m4_t __riscv_vfwmul(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                            size_t vl);
vfloat64m4_t __riscv_vfwmul(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                            size_t vl);
vfloat64m8_t __riscv_vfwmul(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                            size_t vl);
vfloat64m8_t __riscv_vfwmul(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                            size_t vl);
vfloat32mf2_t __riscv_vfwmul(vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmul(vfloat16mf4_t vs2, _Float16 rs1, unsigned int frm,
                             size_t vl);
```

```
vfloat32m1_t __riscv_vfwmul(vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul(vfloat16mf2_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat32m2_t __riscv_vfwmul(vfloat16m1_t vs2, vfloat16m1_t vs1,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul(vfloat16m1_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat32m4_t __riscv_vfwmul(vfloat16m2_t vs2, vfloat16m2_t vs1,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul(vfloat16m2_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat32m8_t __riscv_vfwmul(vfloat16m4_t vs2, vfloat16m4_t vs1,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul(vfloat16m4_t vs2, _Float16 rs1, unsigned int frm,
                            size_t vl);
vfloat64m1_t __riscv_vfwmul(vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul(vfloat32mf2_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat64m2_t __riscv_vfwmul(vfloat32m1_t vs2, vfloat32m1_t vs1,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul(vfloat32m1_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat64m4_t __riscv_vfwmul(vfloat32m2_t vs2, vfloat32m2_t vs1,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul(vfloat32m2_t vs2, float rs1, unsigned int frm,
                            size_t vl);
vfloat64m8_t __riscv_vfwmul(vfloat32m4_t vs2, vfloat32m4_t vs1,
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul(vfloat32m4_t vs2, float rs1, unsigned int frm,
                            size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmul(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                            unsigned int frm, size_t vl);
```

```
vfloat64m8_t __riscv_vfwmul(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                            unsigned int frm, size_t vl);
```

C.5.5. Vector Single-Width Floating-Point Fused Multiply-Add Intrinsics

```
vfloat16mf4_t __riscv_vfmacc(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmacc(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                             size_t vl);
vfloat16mf2_t __riscv_vfmacc(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                             size_t vl);
vfloat16m1_t __riscv_vfmacc(vfloat16m1_t vd, vfloat16m1_t vs1, vfloat16m1_t vs2,
                            size_t vl);
vfloat16m1_t __riscv_vfmacc(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                            size_t vl);
vfloat16m2_t __riscv_vfmacc(vfloat16m2_t vd, vfloat16m2_t vs1, vfloat16m2_t vs2,
                            size_t vl);
vfloat16m2_t __riscv_vfmacc(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                            size_t vl);
vfloat16m4_t __riscv_vfmacc(vfloat16m4_t vd, vfloat16m4_t vs1, vfloat16m4_t vs2,
                            size_t vl);
vfloat16m4_t __riscv_vfmacc(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                            size_t vl);
vfloat16m8_t __riscv_vfmacc(vfloat16m8_t vd, vfloat16m8_t vs1, vfloat16m8_t vs2,
                            size_t vl);
vfloat16m8_t __riscv_vfmacc(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                            size_t vl);
vfloat32mf2_t __riscv_vfmacc(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                             size_t vl);
vfloat32m1_t __riscv_vfmacc(vfloat32m1_t vd, vfloat32m1_t vs1, vfloat32m1_t vs2,
                            size_t vl);
vfloat32m1_t __riscv_vfmacc(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                            size_t vl);
vfloat32m2_t __riscv_vfmacc(vfloat32m2_t vd, vfloat32m2_t vs1, vfloat32m2_t vs2,
                            size_t vl);
vfloat32m2_t __riscv_vfmacc(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                            size_t vl);
vfloat32m4_t __riscv_vfmacc(vfloat32m4_t vd, vfloat32m4_t vs1, vfloat32m4_t vs2,
                            size_t vl);
vfloat32m4_t __riscv_vfmacc(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                            size_t vl);
vfloat32m8_t __riscv_vfmacc(vfloat32m8_t vd, vfloat32m8_t vs1, vfloat32m8_t vs2,
                            size_t vl);
vfloat32m8_t __riscv_vfmacc(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                            size_t vl);
vfloat64m1_t __riscv_vfmacc(vfloat64m1_t vd, vfloat64m1_t vs1, vfloat64m1_t vs2,
                            size_t vl);
vfloat64m1_t __riscv_vfmacc(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                            size_t vl);
vfloat64m2_t __riscv_vfmacc(vfloat64m2_t vd, vfloat64m2_t vs1, vfloat64m2_t vs2,
                            size_t vl);
vfloat64m2_t __riscv_vfmacc(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                            size_t vl);
vfloat64m4_t __riscv_vfmacc(vfloat64m4_t vd, vfloat64m4_t vs1, vfloat64m4_t vs2,
                            size_t vl);
vfloat64m4_t __riscv_vfmacc(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                            size_t vl);
vfloat64m8_t __riscv_vfmacc(vfloat64m8_t vd, vfloat64m8_t vs1, vfloat64m8_t vs2,
                            size_t vl);
vfloat64m8_t __riscv_vfmacc(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                            size_t vl);
```

```
vfloat16mf4_t __riscv_vfnmacc(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                              size_t vl);
vfloat16mf2_t __riscv_vfnmacc(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                              size_t vl);
vfloat16m1_t __riscv_vfnmacc(vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                             size_t vl);
vfloat16m2_t __riscv_vfnmacc(vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                             size_t vl);
vfloat16m4_t __riscv_vfnmacc(vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                             size_t vl);
vfloat16m8_t __riscv_vfnmacc(vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                             size_t vl);
vfloat32mf2_t __riscv_vfnmacc(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                              size_t vl);
vfloat32m1_t __riscv_vfnmacc(vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                             size_t vl);
vfloat32m2_t __riscv_vfnmacc(vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                             size_t vl);
vfloat32m4_t __riscv_vfnmacc(vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                             size_t vl);
vfloat32m8_t __riscv_vfnmacc(vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                             size_t vl);
vfloat64m1_t __riscv_vfnmacc(vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                             size_t vl);
vfloat64m2_t __riscv_vfnmacc(vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                             size_t vl);
vfloat64m4_t __riscv_vfnmacc(vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                             size_t vl);
vfloat64m8_t __riscv_vfnmacc(vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                             size_t vl);
vfloat16mf4_t __riscv_vfmsac(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                             size_t vl);
vfloat16mf2_t __riscv_vfmsac(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
```

```
                              size_t vl);
vfloat16m1_t __riscv_vfmsac(vfloat16m1_t vd, vfloat16m1_t vs1, vfloat16m1_t vs2,
                            size_t vl);
vfloat16m1_t __riscv_vfmsac(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                            size_t vl);
vfloat16m2_t __riscv_vfmsac(vfloat16m2_t vd, vfloat16m2_t vs1, vfloat16m2_t vs2,
                            size_t vl);
vfloat16m2_t __riscv_vfmsac(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                            size_t vl);
vfloat16m4_t __riscv_vfmsac(vfloat16m4_t vd, vfloat16m4_t vs1, vfloat16m4_t vs2,
                            size_t vl);
vfloat16m4_t __riscv_vfmsac(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                            size_t vl);
vfloat16m8_t __riscv_vfmsac(vfloat16m8_t vd, vfloat16m8_t vs1, vfloat16m8_t vs2,
                            size_t vl);
vfloat16m8_t __riscv_vfmsac(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                            size_t vl);
vfloat32mf2_t __riscv_vfmsac(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                             size_t vl);
vfloat32m1_t __riscv_vfmsac(vfloat32m1_t vd, vfloat32m1_t vs1, vfloat32m1_t vs2,
                            size_t vl);
vfloat32m1_t __riscv_vfmsac(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                            size_t vl);
vfloat32m2_t __riscv_vfmsac(vfloat32m2_t vd, vfloat32m2_t vs1, vfloat32m2_t vs2,
                            size_t vl);
vfloat32m2_t __riscv_vfmsac(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                            size_t vl);
vfloat32m4_t __riscv_vfmsac(vfloat32m4_t vd, vfloat32m4_t vs1, vfloat32m4_t vs2,
                            size_t vl);
vfloat32m4_t __riscv_vfmsac(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                            size_t vl);
vfloat32m8_t __riscv_vfmsac(vfloat32m8_t vd, vfloat32m8_t vs1, vfloat32m8_t vs2,
                            size_t vl);
vfloat32m8_t __riscv_vfmsac(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                            size_t vl);
vfloat64m1_t __riscv_vfmsac(vfloat64m1_t vd, vfloat64m1_t vs1, vfloat64m1_t vs2,
                            size_t vl);
vfloat64m1_t __riscv_vfmsac(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                            size_t vl);
vfloat64m2_t __riscv_vfmsac(vfloat64m2_t vd, vfloat64m2_t vs1, vfloat64m2_t vs2,
                            size_t vl);
vfloat64m2_t __riscv_vfmsac(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                            size_t vl);
vfloat64m4_t __riscv_vfmsac(vfloat64m4_t vd, vfloat64m4_t vs1, vfloat64m4_t vs2,
                            size_t vl);
vfloat64m4_t __riscv_vfmsac(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                            size_t vl);
vfloat64m8_t __riscv_vfmsac(vfloat64m8_t vd, vfloat64m8_t vs1, vfloat64m8_t vs2,
                            size_t vl);
vfloat64m8_t __riscv_vfmsac(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                            size_t vl);
vfloat16mf4_t __riscv_vfnmsac(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                              size_t vl);
vfloat16mf2_t __riscv_vfnmsac(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                              size_t vl);
vfloat16m1_t __riscv_vfnmsac(vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                             size_t vl);
vfloat16m2_t __riscv_vfnmsac(vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, size_t vl);
```

```
vfloat16m2_t __riscv_vfnmsac(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                             size_t vl);
vfloat16m4_t __riscv_vfnmsac(vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                             size_t vl);
vfloat16m8_t __riscv_vfnmsac(vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                             size_t vl);
vfloat32mf2_t __riscv_vfnmsac(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                              size_t vl);
vfloat32m1_t __riscv_vfnmsac(vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                             size_t vl);
vfloat32m2_t __riscv_vfnmsac(vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                             size_t vl);
vfloat32m4_t __riscv_vfnmsac(vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                             size_t vl);
vfloat32m8_t __riscv_vfnmsac(vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                             size_t vl);
vfloat64m1_t __riscv_vfnmsac(vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                             size_t vl);
vfloat64m2_t __riscv_vfnmsac(vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                             size_t vl);
vfloat64m4_t __riscv_vfnmsac(vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                             size_t vl);
vfloat64m8_t __riscv_vfnmsac(vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                             size_t vl);
vfloat16mf4_t __riscv_vfmadd(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                             size_t vl);
vfloat16mf2_t __riscv_vfmadd(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                             size_t vl);
vfloat16m1_t __riscv_vfmadd(vfloat16m1_t vd, vfloat16m1_t vs1, vfloat16m1_t vs2,
                            size_t vl);
vfloat16m1_t __riscv_vfmadd(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                            size_t vl);
vfloat16m2_t __riscv_vfmadd(vfloat16m2_t vd, vfloat16m2_t vs1, vfloat16m2_t vs2,
                            size_t vl);
vfloat16m2_t __riscv_vfmadd(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                            size_t vl);
vfloat16m4_t __riscv_vfmadd(vfloat16m4_t vd, vfloat16m4_t vs1, vfloat16m4_t vs2,
                            size_t vl);
vfloat16m4_t __riscv_vfmadd(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                            size_t vl);
vfloat16m8_t __riscv_vfmadd(vfloat16m8_t vd, vfloat16m8_t vs1, vfloat16m8_t vs2,
```

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                              size_t vl);
vfloat16m8_t __riscv_vfmadd(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                              size_t vl);
vfloat32mf2_t __riscv_vfmadd(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                               vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                               size_t vl);
vfloat32m1_t __riscv_vfmadd(vfloat32m1_t vd, vfloat32m1_t vs1, vfloat32m1_t vs2,
                              size_t vl);
vfloat32m1_t __riscv_vfmadd(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                              size_t vl);
vfloat32m2_t __riscv_vfmadd(vfloat32m2_t vd, vfloat32m2_t vs1, vfloat32m2_t vs2,
                              size_t vl);
vfloat32m2_t __riscv_vfmadd(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                              size_t vl);
vfloat32m4_t __riscv_vfmadd(vfloat32m4_t vd, vfloat32m4_t vs1, vfloat32m4_t vs2,
                              size_t vl);
vfloat32m4_t __riscv_vfmadd(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                              size_t vl);
vfloat32m8_t __riscv_vfmadd(vfloat32m8_t vd, vfloat32m8_t vs1, vfloat32m8_t vs2,
                              size_t vl);
vfloat32m8_t __riscv_vfmadd(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                              size_t vl);
vfloat64m1_t __riscv_vfmadd(vfloat64m1_t vd, vfloat64m1_t vs1, vfloat64m1_t vs2,
                              size_t vl);
vfloat64m1_t __riscv_vfmadd(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                              size_t vl);
vfloat64m2_t __riscv_vfmadd(vfloat64m2_t vd, vfloat64m2_t vs1, vfloat64m2_t vs2,
                              size_t vl);
vfloat64m2_t __riscv_vfmadd(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                              size_t vl);
vfloat64m4_t __riscv_vfmadd(vfloat64m4_t vd, vfloat64m4_t vs1, vfloat64m4_t vs2,
                              size_t vl);
vfloat64m4_t __riscv_vfmadd(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                              size_t vl);
vfloat64m8_t __riscv_vfmadd(vfloat64m8_t vd, vfloat64m8_t vs1, vfloat64m8_t vs2,
                              size_t vl);
vfloat64m8_t __riscv_vfmadd(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                              size_t vl);
vfloat16mf4_t __riscv_vfnmadd(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                                size_t vl);
vfloat16mf2_t __riscv_vfnmadd(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                                size_t vl);
vfloat16m1_t __riscv_vfnmadd(vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                               size_t vl);
vfloat16m2_t __riscv_vfnmadd(vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                               size_t vl);
vfloat16m4_t __riscv_vfnmadd(vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                               size_t vl);
vfloat16m8_t __riscv_vfnmadd(vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmadd(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                               size_t vl);
vfloat32mf2_t __riscv_vfnmadd(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                size_t vl);
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vfloat32m1_t __riscv_vfnmadd(vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                             size_t vl);
vfloat32m2_t __riscv_vfnmadd(vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                             size_t vl);
vfloat32m4_t __riscv_vfnmadd(vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                             size_t vl);
vfloat32m8_t __riscv_vfnmadd(vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                             size_t vl);
vfloat64m1_t __riscv_vfnmadd(vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                             size_t vl);
vfloat64m2_t __riscv_vfnmadd(vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                             size_t vl);
vfloat64m4_t __riscv_vfnmadd(vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                             size_t vl);
vfloat64m8_t __riscv_vfnmadd(vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                             size_t vl);
vfloat16mf4_t __riscv_vfmsub(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                             size_t vl);
vfloat16mf2_t __riscv_vfmsub(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                             size_t vl);
vfloat16m1_t __riscv_vfmsub(vfloat16m1_t vd, vfloat16m1_t vs1, vfloat16m1_t vs2,
                            size_t vl);
vfloat16m1_t __riscv_vfmsub(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                            size_t vl);
vfloat16m2_t __riscv_vfmsub(vfloat16m2_t vd, vfloat16m2_t vs1, vfloat16m2_t vs2,
                            size_t vl);
vfloat16m2_t __riscv_vfmsub(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                            size_t vl);
vfloat16m4_t __riscv_vfmsub(vfloat16m4_t vd, vfloat16m4_t vs1, vfloat16m4_t vs2,
                            size_t vl);
vfloat16m4_t __riscv_vfmsub(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                            size_t vl);
vfloat16m8_t __riscv_vfmsub(vfloat16m8_t vd, vfloat16m8_t vs1, vfloat16m8_t vs2,
                            size_t vl);
vfloat16m8_t __riscv_vfmsub(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                            size_t vl);
vfloat32mf2_t __riscv_vfmsub(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                             size_t vl);
vfloat32m1_t __riscv_vfmsub(vfloat32m1_t vd, vfloat32m1_t vs1, vfloat32m1_t vs2,
                            size_t vl);
vfloat32m1_t __riscv_vfmsub(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                            size_t vl);
vfloat32m2_t __riscv_vfmsub(vfloat32m2_t vd, vfloat32m2_t vs1, vfloat32m2_t vs2,
                            size_t vl);
vfloat32m2_t __riscv_vfmsub(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
```

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                            size_t vl);
vfloat32m4_t __riscv_vfmsub(vfloat32m4_t vd, vfloat32m4_t vs1, vfloat32m4_t vs2,
                            size_t vl);
vfloat32m4_t __riscv_vfmsub(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                            size_t vl);
vfloat32m8_t __riscv_vfmsub(vfloat32m8_t vd, vfloat32m8_t vs1, vfloat32m8_t vs2,
                            size_t vl);
vfloat32m8_t __riscv_vfmsub(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                            size_t vl);
vfloat64m1_t __riscv_vfmsub(vfloat64m1_t vd, vfloat64m1_t vs1, vfloat64m1_t vs2,
                            size_t vl);
vfloat64m1_t __riscv_vfmsub(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                            size_t vl);
vfloat64m2_t __riscv_vfmsub(vfloat64m2_t vd, vfloat64m2_t vs1, vfloat64m2_t vs2,
                            size_t vl);
vfloat64m2_t __riscv_vfmsub(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                            size_t vl);
vfloat64m4_t __riscv_vfmsub(vfloat64m4_t vd, vfloat64m4_t vs1, vfloat64m4_t vs2,
                            size_t vl);
vfloat64m4_t __riscv_vfmsub(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                            size_t vl);
vfloat64m8_t __riscv_vfmsub(vfloat64m8_t vd, vfloat64m8_t vs1, vfloat64m8_t vs2,
                            size_t vl);
vfloat64m8_t __riscv_vfmsub(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                            size_t vl);
vfloat16mf4_t __riscv_vfnmsub(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                              size_t vl);
vfloat16mf2_t __riscv_vfnmsub(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                              size_t vl);
vfloat16m1_t __riscv_vfnmsub(vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                             size_t vl);
vfloat16m2_t __riscv_vfnmsub(vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                             size_t vl);
vfloat16m4_t __riscv_vfnmsub(vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                             size_t vl);
vfloat16m8_t __riscv_vfnmsub(vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                             size_t vl);
vfloat32mf2_t __riscv_vfnmsub(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                              size_t vl);
vfloat32m1_t __riscv_vfnmsub(vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsub(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                             size_t vl);
vfloat32m2_t __riscv_vfnmsub(vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsub(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                             size_t vl);
vfloat32m4_t __riscv_vfnmsub(vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                             size_t vl);
vfloat32m8_t __riscv_vfnmsub(vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, size_t vl);
```

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vfloat32m8_t __riscv_vfnmsub(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                             size_t vl);
vfloat64m1_t __riscv_vfnmsub(vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                             size_t vl);
vfloat64m2_t __riscv_vfnmsub(vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                             size_t vl);
vfloat64m4_t __riscv_vfnmsub(vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                             size_t vl);
vfloat64m8_t __riscv_vfnmsub(vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                             size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmacc(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                            vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                            vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                            vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                            vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                            vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                            vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                            vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                            vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                            vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc(vbool32_t vm, vfloat32m1_t vd, float rs1,
                            vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                            vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc(vbool16_t vm, vfloat32m2_t vd, float rs1,
                            vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                            vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc(vbool8_t vm, vfloat32m4_t vd, float rs1,
                            vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                            vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc(vbool4_t vm, vfloat32m8_t vd, float rs1,
                            vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                            vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc(vbool64_t vm, vfloat64m1_t vd, double rs1,
                            vfloat64m1_t vs2, size_t vl);
```

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vfloat64m2_t __riscv_vfmacc(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                            vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc(vbool32_t vm, vfloat64m2_t vd, double rs1,
                            vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                            vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc(vbool16_t vm, vfloat64m4_t vd, double rs1,
                            vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                            vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc(vbool8_t vm, vfloat64m8_t vd, double rs1,
                            vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                             vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc(vbool32_t vm, vfloat32m1_t vd, float rs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc(vbool16_t vm, vfloat32m2_t vd, float rs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc(vbool8_t vm, vfloat32m4_t vd, float rs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc(vbool4_t vm, vfloat32m8_t vd, float rs1,
                             vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc(vbool64_t vm, vfloat64m1_t vd, double rs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc(vbool32_t vm, vfloat64m2_t vd, double rs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc(vbool16_t vm, vfloat64m4_t vd, double rs1,
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                              vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc(vbool8_t vm, vfloat64m8_t vd, double rs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                            vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                            vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                            vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                            vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                            vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                            vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                            vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                            vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                            vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac(vbool32_t vm, vfloat32m1_t vd, float rs1,
                            vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                            vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac(vbool16_t vm, vfloat32m2_t vd, float rs1,
                            vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                            vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac(vbool8_t vm, vfloat32m4_t vd, float rs1,
                            vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                            vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac(vbool4_t vm, vfloat32m8_t vd, float rs1,
                            vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                            vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac(vbool64_t vm, vfloat64m1_t vd, double rs1,
                            vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                            vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac(vbool32_t vm, vfloat64m2_t vd, double rs1,
                            vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                            vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac(vbool16_t vm, vfloat64m4_t vd, double rs1,
                            vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                            vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac(vbool8_t vm, vfloat64m8_t vd, double rs1,
                            vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, size_t vl);
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vfloat16mf4_t __riscv_vfnmsac(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                             vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac(vbool32_t vm, vfloat32m1_t vd, float rs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac(vbool16_t vm, vfloat32m2_t vd, float rs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac(vbool8_t vm, vfloat32m4_t vd, float rs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac(vbool4_t vm, vfloat32m8_t vd, float rs1,
                             vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac(vbool64_t vm, vfloat64m1_t vd, double rs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac(vbool32_t vm, vfloat64m2_t vd, double rs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac(vbool16_t vm, vfloat64m4_t vd, double rs1,
                             vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac(vbool8_t vm, vfloat64m8_t vd, double rs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
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                            vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                            vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                            vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                            vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                            vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                            vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                            vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                            vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmadd(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                            vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmadd(vbool32_t vm, vfloat32m1_t vd, float rs1,
                            vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                            vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd(vbool16_t vm, vfloat32m2_t vd, float rs1,
                            vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                            vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd(vbool8_t vm, vfloat32m4_t vd, float rs1,
                            vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                            vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd(vbool4_t vm, vfloat32m8_t vd, float rs1,
                            vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                            vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd(vbool64_t vm, vfloat64m1_t vd, double rs1,
                            vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmadd(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                            vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmadd(vbool32_t vm, vfloat64m2_t vd, double rs1,
                            vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                            vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd(vbool16_t vm, vfloat64m4_t vd, double rs1,
                            vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                            vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd(vbool8_t vm, vfloat64m8_t vd, double rs1,
                            vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                             vfloat16m2_t vs2, size_t vl);
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vfloat16m4_t __riscv_vfnmadd(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmadd(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmadd(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                             vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd(vbool32_t vm, vfloat32m1_t vd, float rs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd(vbool16_t vm, vfloat32m2_t vd, float rs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd(vbool8_t vm, vfloat32m4_t vd, float rs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd(vbool4_t vm, vfloat32m8_t vd, float rs1,
                             vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd(vbool64_t vm, vfloat64m1_t vd, double rs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd(vbool32_t vm, vfloat64m2_t vd, double rs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd(vbool16_t vm, vfloat64m4_t vd, double rs1,
                             vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd(vbool8_t vm, vfloat64m8_t vd, double rs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                             vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                            vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                            vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                            vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                            vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                            vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                            vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                            vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
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                            vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                            vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub(vbool32_t vm, vfloat32m1_t vd, float rs1,
                            vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                            vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub(vbool16_t vm, vfloat32m2_t vd, float rs1,
                            vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                            vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub(vbool8_t vm, vfloat32m4_t vd, float rs1,
                            vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                            vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub(vbool4_t vm, vfloat32m8_t vd, float rs1,
                            vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                            vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub(vbool64_t vm, vfloat64m1_t vd, double rs1,
                            vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                            vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub(vbool32_t vm, vfloat64m2_t vd, double rs1,
                            vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                            vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub(vbool16_t vm, vfloat64m4_t vd, double rs1,
                            vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                            vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub(vbool8_t vm, vfloat64m8_t vd, double rs1,
                            vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                             vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsub(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
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vfloat32m1_t __riscv_vfnmsub(vbool32_t vm, vfloat32m1_t vd, float rs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsub(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsub(vbool16_t vm, vfloat32m2_t vd, float rs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub(vbool8_t vm, vfloat32m4_t vd, float rs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsub(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsub(vbool4_t vm, vfloat32m8_t vd, float rs1,
                             vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub(vbool64_t vm, vfloat64m1_t vd, double rs1,
                             vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub(vbool32_t vm, vfloat64m2_t vd, double rs1,
                             vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub(vbool16_t vm, vfloat64m4_t vd, double rs1,
                             vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub(vbool8_t vm, vfloat64m8_t vd, double rs1,
                             vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmacc(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmacc(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc(vfloat16m1_t vd, vfloat16m1_t vs1, vfloat16m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc(vfloat16m2_t vd, vfloat16m2_t vs1, vfloat16m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc(vfloat16m4_t vd, vfloat16m4_t vs1, vfloat16m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc(vfloat16m8_t vd, vfloat16m8_t vs1, vfloat16m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc(vfloat32m1_t vd, vfloat32m1_t vs1, vfloat32m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc(vfloat32m2_t vd, vfloat32m2_t vs1, vfloat32m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc(vfloat32m4_t vd, vfloat32m4_t vs1, vfloat32m4_t vs2,
```

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                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc(vfloat32m8_t vd, vfloat32m8_t vs1, vfloat32m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc(vfloat64m1_t vd, vfloat64m1_t vs1, vfloat64m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc(vfloat64m2_t vd, vfloat64m2_t vs1, vfloat64m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc(vfloat64m4_t vd, vfloat64m4_t vs1, vfloat64m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc(vfloat64m8_t vd, vfloat64m8_t vs1, vfloat64m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc(vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc(vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc(vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc(vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc(vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc(vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc(vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc(vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                             unsigned int frm, size_t vl);
```

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vfloat64m1_t __riscv_vfnmacc(vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc(vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc(vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc(vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac(vfloat16m1_t vd, vfloat16m1_t vs1, vfloat16m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac(vfloat16m2_t vd, vfloat16m2_t vs1, vfloat16m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac(vfloat16m4_t vd, vfloat16m4_t vs1, vfloat16m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac(vfloat16m8_t vd, vfloat16m8_t vs1, vfloat16m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac(vfloat32m1_t vd, vfloat32m1_t vs1, vfloat32m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac(vfloat32m2_t vd, vfloat32m2_t vs1, vfloat32m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac(vfloat32m4_t vd, vfloat32m4_t vs1, vfloat32m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac(vfloat32m8_t vd, vfloat32m8_t vs1, vfloat32m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac(vfloat64m1_t vd, vfloat64m1_t vs1, vfloat64m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac(vfloat64m2_t vd, vfloat64m2_t vs1, vfloat64m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
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                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac(vfloat64m4_t vd, vfloat64m4_t vs1, vfloat64m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac(vfloat64m8_t vd, vfloat64m8_t vs1, vfloat64m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac(vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac(vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac(vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac(vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac(vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac(vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac(vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac(vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac(vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac(vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac(vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac(vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, unsigned int frm, size_t vl);
```

```
vfloat64m8_t __riscv_vfnmsac(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd(vfloat16m1_t vd, vfloat16m1_t vs1, vfloat16m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd(vfloat16m2_t vd, vfloat16m2_t vs1, vfloat16m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd(vfloat16m4_t vd, vfloat16m4_t vs1, vfloat16m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd(vfloat16m8_t vd, vfloat16m8_t vs1, vfloat16m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd(vfloat32m1_t vd, vfloat32m1_t vs1, vfloat32m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd(vfloat32m2_t vd, vfloat32m2_t vs1, vfloat32m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd(vfloat32m4_t vd, vfloat32m4_t vs1, vfloat32m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd(vfloat32m8_t vd, vfloat32m8_t vs1, vfloat32m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd(vfloat64m1_t vd, vfloat64m1_t vs1, vfloat64m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd(vfloat64m2_t vd, vfloat64m2_t vs1, vfloat64m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd(vfloat64m4_t vd, vfloat64m4_t vs1, vfloat64m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd(vfloat64m8_t vd, vfloat64m8_t vs1, vfloat64m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd(vfloat16mf2_t vd, vfloat16mf2_t vs1,
```

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                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd(vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd(vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd(vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd(vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd(vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd(vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd(vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd(vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd(vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd(vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd(vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd(vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                             unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                             unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub(vfloat16m1_t vd, vfloat16m1_t vs1, vfloat16m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                            unsigned int frm, size_t vl);
```

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vfloat16m2_t __riscv_vfmsub(vfloat16m2_t vd, vfloat16m2_t vs1, vfloat16m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub(vfloat16m4_t vd, vfloat16m4_t vs1, vfloat16m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub(vfloat16m8_t vd, vfloat16m8_t vs1, vfloat16m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub(vfloat32m1_t vd, vfloat32m1_t vs1, vfloat32m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub(vfloat32m2_t vd, vfloat32m2_t vs1, vfloat32m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub(vfloat32m4_t vd, vfloat32m4_t vs1, vfloat32m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub(vfloat32m8_t vd, vfloat32m8_t vs1, vfloat32m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub(vfloat64m1_t vd, vfloat64m1_t vs1, vfloat64m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub(vfloat64m2_t vd, vfloat64m2_t vs1, vfloat64m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub(vfloat64m4_t vd, vfloat64m4_t vs1, vfloat64m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub(vfloat64m8_t vd, vfloat64m8_t vs1, vfloat64m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                            unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub(vfloat16mf4_t vd, _Float16 rs1, vfloat16mf4_t vs2,
                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub(vfloat16mf2_t vd, _Float16 rs1, vfloat16mf2_t vs2,
                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub(vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub(vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub(vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
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                              unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub(vfloat16m8_t vd, vfloat16m8_t vs1,
                              vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                               vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub(vfloat32m1_t vd, vfloat32m1_t vs1,
                              vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub(vfloat32m2_t vd, vfloat32m2_t vs1,
                              vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub(vfloat32m4_t vd, vfloat32m4_t vs1,
                              vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub(vfloat32m8_t vd, vfloat32m8_t vs1,
                              vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub(vfloat64m1_t vd, vfloat64m1_t vs1,
                              vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub(vfloat64m2_t vd, vfloat64m2_t vs1,
                              vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub(vfloat64m4_t vd, vfloat64m4_t vs1,
                              vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub(vfloat64m8_t vd, vfloat64m8_t vs1,
                              vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                              unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmacc(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
```

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                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                            vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc(vbool32_t vm, vfloat32m1_t vd, float rs1,
                            vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                            vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc(vbool16_t vm, vfloat32m2_t vd, float rs1,
                            vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                            vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc(vbool8_t vm, vfloat32m4_t vd, float rs1,
                            vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                            vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc(vbool4_t vm, vfloat32m8_t vd, float rs1,
                            vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                            vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc(vbool64_t vm, vfloat64m1_t vd, double rs1,
                            vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                            vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc(vbool32_t vm, vfloat64m2_t vd, double rs1,
                            vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                            vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc(vbool16_t vm, vfloat64m4_t vd, double rs1,
                            vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                            vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc(vbool8_t vm, vfloat64m8_t vd, double rs1,
                            vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc(vbool32_t vm, vfloat32m1_t vd, float rs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
```

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vfloat32m2_t __riscv_vfnmacc(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc(vbool16_t vm, vfloat32m2_t vd, float rs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc(vbool8_t vm, vfloat32m4_t vd, float rs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc(vbool4_t vm, vfloat32m8_t vd, float rs1,
                             vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc(vbool64_t vm, vfloat64m1_t vd, double rs1,
                             vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc(vbool32_t vm, vfloat64m2_t vd, double rs1,
                             vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc(vbool16_t vm, vfloat64m4_t vd, double rs1,
                             vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc(vbool8_t vm, vfloat64m8_t vd, double rs1,
                             vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                             vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                            vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                            vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                            vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                            vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                            vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                            vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                            vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                            vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                            vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac(vbool32_t vm, vfloat32m1_t vd, float rs1,
                            vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                            vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac(vbool16_t vm, vfloat32m2_t vd, float rs1,
                            vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                            vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac(vbool8_t vm, vfloat32m4_t vd, float rs1,
```

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                            vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                            vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac(vbool4_t vm, vfloat32m8_t vd, float rs1,
                            vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                            vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac(vbool64_t vm, vfloat64m1_t vd, double rs1,
                            vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                            vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac(vbool32_t vm, vfloat64m2_t vd, double rs1,
                            vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                            vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac(vbool16_t vm, vfloat64m4_t vd, double rs1,
                            vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                            vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac(vbool8_t vm, vfloat64m8_t vd, double rs1,
                            vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac(vbool32_t vm, vfloat32m1_t vd, float rs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac(vbool16_t vm, vfloat32m2_t vd, float rs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac(vbool8_t vm, vfloat32m4_t vd, float rs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac(vbool4_t vm, vfloat32m8_t vd, float rs1,
                             vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, unsigned int frm, size_t vl);
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vfloat64m1_t __riscv_vfnmsac(vbool64_t vm, vfloat64m1_t vd, double rs1,
                             vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac(vbool32_t vm, vfloat64m2_t vd, double rs1,
                             vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac(vbool16_t vm, vfloat64m4_t vd, double rs1,
                             vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac(vbool8_t vm, vfloat64m8_t vd, double rs1,
                             vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                             vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                            vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                            vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                            vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                            vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                            vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                            vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                            vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                            vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                            vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd(vbool32_t vm, vfloat32m1_t vd, float rs1,
                            vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                            vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd(vbool16_t vm, vfloat32m2_t vd, float rs1,
                            vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                            vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd(vbool8_t vm, vfloat32m4_t vd, float rs1,
                            vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                            vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd(vbool4_t vm, vfloat32m8_t vd, float rs1,
                            vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                            vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd(vbool64_t vm, vfloat64m1_t vd, double rs1,
                            vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                            vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd(vbool32_t vm, vfloat64m2_t vd, double rs1,
                            vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
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                            vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd(vbool16_t vm, vfloat64m4_t vd, double rs1,
                            vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                            vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd(vbool8_t vm, vfloat64m8_t vd, double rs1,
                            vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd(vbool32_t vm, vfloat32m1_t vd, float rs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd(vbool16_t vm, vfloat32m2_t vd, float rs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd(vbool8_t vm, vfloat32m4_t vd, float rs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd(vbool4_t vm, vfloat32m8_t vd, float rs1,
                             vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd(vbool64_t vm, vfloat64m1_t vd, double rs1,
                             vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd(vbool32_t vm, vfloat64m2_t vd, double rs1,
                             vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd(vbool16_t vm, vfloat64m4_t vd, double rs1,
                             vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd(vbool8_t vm, vfloat64m8_t vd, double rs1,
                             vfloat64m8_t vs2, unsigned int frm, size_t vl);
```

```
vfloat16mf4_t __riscv_vfmsub(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                             vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                             vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                            vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                            vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                            vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                            vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                            vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                            vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                            vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                            vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                            vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub(vbool32_t vm, vfloat32m1_t vd, float rs1,
                            vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                            vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub(vbool16_t vm, vfloat32m2_t vd, float rs1,
                            vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                            vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub(vbool8_t vm, vfloat32m4_t vd, float rs1,
                            vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                            vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub(vbool4_t vm, vfloat32m8_t vd, float rs1,
                            vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                            vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub(vbool64_t vm, vfloat64m1_t vd, double rs1,
                            vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                            vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub(vbool32_t vm, vfloat64m2_t vd, double rs1,
                            vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                            vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub(vbool16_t vm, vfloat64m4_t vd, double rs1,
                            vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                            vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub(vbool8_t vm, vfloat64m8_t vd, double rs1,
                            vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
```

```
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                             vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub(vbool32_t vm, vfloat32m1_t vd, float rs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub(vbool16_t vm, vfloat32m2_t vd, float rs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub(vbool8_t vm, vfloat32m4_t vd, float rs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                             vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub(vbool4_t vm, vfloat32m8_t vd, float rs1,
                             vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                             vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub(vbool64_t vm, vfloat64m1_t vd, double rs1,
                             vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                             vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub(vbool32_t vm, vfloat64m2_t vd, double rs1,
                             vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                             vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub(vbool16_t vm, vfloat64m4_t vd, double rs1,
                             vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                             vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub(vbool8_t vm, vfloat64m8_t vd, double rs1,
                             vfloat64m8_t vs2, unsigned int frm, size_t vl);
```

C.5.6. Vector Widening Floating-Point Fused Multiply-Add Intrinsics

```
vfloat32mf2_t __riscv_vfwmacc(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmacc(vfloat32mf2_t vd, _Float16 vs1, vfloat16mf4_t vs2,
                              size_t vl);
vfloat32m1_t __riscv_vfwmacc(vfloat32m1_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc(vfloat32m1_t vd, _Float16 vs1, vfloat16mf2_t vs2,
                             size_t vl);
vfloat32m2_t __riscv_vfwmacc(vfloat32m2_t vd, vfloat16m1_t vs1,
```

```
                              vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
                             size_t vl);
vfloat32m4_t __riscv_vfwmacc(vfloat32m4_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                             size_t vl);
vfloat32m8_t __riscv_vfwmacc(vfloat32m8_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
                             size_t vl);
vfloat64m1_t __riscv_vfwmacc(vfloat64m1_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmacc(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                             size_t vl);
vfloat64m2_t __riscv_vfwmacc(vfloat64m2_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                             size_t vl);
vfloat64m4_t __riscv_vfwmacc(vfloat64m4_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                             size_t vl);
vfloat64m8_t __riscv_vfwmacc(vfloat64m8_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                             size_t vl);
vfloat32mf2_t __riscv_vfwnmacc(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                               vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc(vfloat32mf2_t vd, _Float16 vs1,
                               vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc(vfloat32m1_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc(vfloat32m1_t vd, _Float16 vs1, vfloat16mf2_t vs2,
                              size_t vl);
vfloat32m2_t __riscv_vfwnmacc(vfloat32m2_t vd, vfloat16m1_t vs1,
                              vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
                              size_t vl);
vfloat32m4_t __riscv_vfwnmacc(vfloat32m4_t vd, vfloat16m2_t vs1,
                              vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                              size_t vl);
vfloat32m8_t __riscv_vfwnmacc(vfloat32m8_t vd, vfloat16m4_t vs1,
                              vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
                              size_t vl);
vfloat64m1_t __riscv_vfwnmacc(vfloat64m1_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                              size_t vl);
vfloat64m2_t __riscv_vfwnmacc(vfloat64m2_t vd, vfloat32m1_t vs1,
                              vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                              size_t vl);
vfloat64m4_t __riscv_vfwnmacc(vfloat64m4_t vd, vfloat32m2_t vs1,
                              vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                              size_t vl);
vfloat64m8_t __riscv_vfwnmacc(vfloat64m8_t vd, vfloat32m4_t vs1,
                              vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                              size_t vl);
vfloat32mf2_t __riscv_vfwmsac(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac(vfloat32mf2_t vd, _Float16 vs1, vfloat16mf4_t vs2,
                              size_t vl);
```

```
vfloat32m1_t __riscv_vfwmsac(vfloat32m1_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmsac(vfloat32m1_t vd, _Float16 vs1, vfloat16mf2_t vs2,
                             size_t vl);
vfloat32m2_t __riscv_vfwmsac(vfloat32m2_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
                             size_t vl);
vfloat32m4_t __riscv_vfwmsac(vfloat32m4_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                             size_t vl);
vfloat32m8_t __riscv_vfwmsac(vfloat32m8_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
                             size_t vl);
vfloat64m1_t __riscv_vfwmsac(vfloat64m1_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmsac(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                             size_t vl);
vfloat64m2_t __riscv_vfwmsac(vfloat64m2_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                             size_t vl);
vfloat64m4_t __riscv_vfwmsac(vfloat64m4_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                             size_t vl);
vfloat64m8_t __riscv_vfwmsac(vfloat64m8_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                             size_t vl);
vfloat32mf2_t __riscv_vfwnmsac(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                               vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac(vfloat32mf2_t vd, _Float16 vs1,
                               vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac(vfloat32m1_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac(vfloat32m1_t vd, _Float16 vs1, vfloat16mf2_t vs2,
                              size_t vl);
vfloat32m2_t __riscv_vfwnmsac(vfloat32m2_t vd, vfloat16m1_t vs1,
                              vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
                              size_t vl);
vfloat32m4_t __riscv_vfwnmsac(vfloat32m4_t vd, vfloat16m2_t vs1,
                              vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                              size_t vl);
vfloat32m8_t __riscv_vfwnmsac(vfloat32m8_t vd, vfloat16m4_t vs1,
                              vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
                              size_t vl);
vfloat64m1_t __riscv_vfwnmsac(vfloat64m1_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmsac(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                              size_t vl);
vfloat64m2_t __riscv_vfwnmsac(vfloat64m2_t vd, vfloat32m1_t vs1,
                              vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmsac(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                              size_t vl);
vfloat64m4_t __riscv_vfwnmsac(vfloat64m4_t vd, vfloat32m2_t vs1,
                              vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                              size_t vl);
vfloat64m8_t __riscv_vfwnmsac(vfloat64m8_t vd, vfloat32m4_t vs1,
                              vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
```

```
                              size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc(vbool64_t vm, vfloat32mf2_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmacc(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmacc(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmacc(vbool64_t vm, vfloat64m1_t vd, float vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc(vbool32_t vm, vfloat64m2_t vd, float vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc(vbool16_t vm, vfloat64m4_t vd, float vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc(vbool8_t vm, vfloat64m8_t vd, float vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat16mf4_t vs1, vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                               vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                              vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                              vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                              vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                              vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                              vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                              vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc(vbool64_t vm, vfloat64m1_t vd, float vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                              vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc(vbool32_t vm, vfloat64m2_t vd, float vs1,
                              vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
```

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                              vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc(vbool16_t vm, vfloat64m4_t vd, float vs1,
                              vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                              vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc(vbool8_t vm, vfloat64m8_t vd, float vs1,
                              vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac(vbool64_t vm, vfloat32mf2_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                              vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmsac(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmsac(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                             vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                             vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                             vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                             vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmsac(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmsac(vbool64_t vm, vfloat64m1_t vd, float vs1,
                             vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac(vbool32_t vm, vfloat64m2_t vd, float vs1,
                             vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac(vbool16_t vm, vfloat64m4_t vd, float vs1,
                             vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac(vbool8_t vm, vfloat64m8_t vd, float vs1,
                             vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat16mf4_t vs1, vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                               vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                              vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                              vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                              vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                              vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                              vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                              vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                              vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmsac(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmsac(vbool64_t vm, vfloat64m1_t vd, float vs1,
                              vfloat32mf2_t vs2, size_t vl);
```

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vfloat64m2_t __riscv_vfwnmsac(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                              vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmsac(vbool32_t vm, vfloat64m2_t vd, float vs1,
                              vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
                              vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac(vbool16_t vm, vfloat64m4_t vd, float vs1,
                              vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                              vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac(vbool8_t vm, vfloat64m8_t vd, float vs1,
                              vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmacc(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmacc(vfloat32mf2_t vd, _Float16 vs1, vfloat16mf4_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc(vfloat32m1_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc(vfloat32m1_t vd, _Float16 vs1, vfloat16mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc(vfloat32m2_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc(vfloat32m4_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc(vfloat32m8_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc(vfloat64m1_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc(vfloat64m2_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc(vfloat64m4_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc(vfloat64m8_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                               vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc(vfloat32mf2_t vd, _Float16 vs1,
                               vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc(vfloat32m1_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc(vfloat32m1_t vd, _Float16 vs1, vfloat16mf2_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc(vfloat32m2_t vd, vfloat16m1_t vs1,
                              vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc(vfloat32m4_t vd, vfloat16m2_t vs1,
                              vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc(vfloat32m8_t vd, vfloat16m4_t vs1,
                              vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
```

```
                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc(vfloat64m1_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc(vfloat64m2_t vd, vfloat32m1_t vs1,
                              vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc(vfloat64m4_t vd, vfloat32m2_t vs1,
                              vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc(vfloat64m8_t vd, vfloat32m4_t vs1,
                              vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac(vfloat32mf2_t vd, _Float16 vs1, vfloat16mf4_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac(vfloat32m1_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac(vfloat32m1_t vd, _Float16 vs1, vfloat16mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac(vfloat32m2_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac(vfloat32m4_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac(vfloat32m8_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac(vfloat64m1_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac(vfloat64m2_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac(vfloat64m4_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                             unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac(vfloat64m8_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                             unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                               vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac(vfloat32mf2_t vd, _Float16 vs1,
                               vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac(vfloat32m1_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac(vfloat32m1_t vd, _Float16 vs1, vfloat16mf2_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac(vfloat32m2_t vd, vfloat16m1_t vs1,
                              vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac(vfloat32m4_t vd, vfloat16m2_t vs1,
                              vfloat16m2_t vs2, unsigned int frm, size_t vl);
```

```
vfloat32m4_t __riscv_vfwnmsac(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac(vfloat32m8_t vd, vfloat16m4_t vs1,
                              vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac(vfloat64m1_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac(vfloat64m2_t vd, vfloat32m1_t vs1,
                              vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac(vfloat64m4_t vd, vfloat32m2_t vs1,
                              vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac(vfloat64m8_t vd, vfloat32m4_t vs1,
                              vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                              unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc(vbool64_t vm, vfloat32mf2_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmacc(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc(vbool64_t vm, vfloat64m1_t vd, float vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc(vbool32_t vm, vfloat64m2_t vd, float vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc(vbool16_t vm, vfloat64m4_t vd, float vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc(vbool8_t vm, vfloat64m8_t vd, float vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                               vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
```

```
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                              vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                              vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                              vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                              vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                              vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                              vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc(vbool64_t vm, vfloat64m1_t vd, float vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                              vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc(vbool32_t vm, vfloat64m2_t vd, float vs1,
                              vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
                              vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc(vbool16_t vm, vfloat64m4_t vd, float vs1,
                              vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                              vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc(vbool8_t vm, vfloat64m8_t vd, float vs1,
                              vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac(vbool64_t vm, vfloat32mf2_t vd, vfloat16mf4_t vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                              vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                             vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                             vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                             vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                             vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac(vbool64_t vm, vfloat64m1_t vd, float vs1,
                             vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac(vbool32_t vm, vfloat64m2_t vd, float vs1,
                             vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac(vbool16_t vm, vfloat64m4_t vd, float vs1,
                             vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac(vbool8_t vm, vfloat64m8_t vd, float vs1,
                             vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat16mf4_t vs1, vfloat16mf4_t vs2,
```

```
                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                               vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                              vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                              vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                              vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                              vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                              vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                              vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                              vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac(vbool64_t vm, vfloat64m1_t vd, float vs1,
                              vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                              vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac(vbool32_t vm, vfloat64m2_t vd, float vs1,
                              vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
                              vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac(vbool16_t vm, vfloat64m4_t vd, float vs1,
                              vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                              vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac(vbool8_t vm, vfloat64m8_t vd, float vs1,
                              vfloat32m4_t vs2, unsigned int frm, size_t vl);
```

C.5.7. Vector Floating-Point Square-Root Intrinsics

```
vfloat16mf4_t __riscv_vfsqrt(vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfsqrt(vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfsqrt(vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfsqrt(vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfsqrt(vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfsqrt(vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfsqrt(vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfsqrt(vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfsqrt(vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfsqrt(vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfsqrt(vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfsqrt(vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfsqrt(vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfsqrt(vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfsqrt(vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfsqrt(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfsqrt(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfsqrt(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfsqrt(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfsqrt(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfsqrt(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfsqrt(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfsqrt(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfsqrt(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfsqrt(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
```

```
vfloat64m1_t __riscv_vfsqrt(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfsqrt(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfsqrt(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfsqrt(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfsqrt(vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsqrt(vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsqrt(vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsqrt(vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsqrt(vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsqrt(vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsqrt(vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsqrt(vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsqrt(vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsqrt(vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsqrt(vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsqrt(vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsqrt(vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsqrt(vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsqrt(vfloat64m8_t vs2, unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt(vbool64_t vm, vfloat16mf4_t vs2, unsigned int frm,
                             size_t vl);
vfloat16mf2_t __riscv_vfsqrt(vbool32_t vm, vfloat16mf2_t vs2, unsigned int frm,
                             size_t vl);
vfloat16m1_t __riscv_vfsqrt(vbool16_t vm, vfloat16m1_t vs2, unsigned int frm,
                            size_t vl);
vfloat16m2_t __riscv_vfsqrt(vbool8_t vm, vfloat16m2_t vs2, unsigned int frm,
                            size_t vl);
vfloat16m4_t __riscv_vfsqrt(vbool4_t vm, vfloat16m4_t vs2, unsigned int frm,
                            size_t vl);
vfloat16m8_t __riscv_vfsqrt(vbool2_t vm, vfloat16m8_t vs2, unsigned int frm,
                            size_t vl);
vfloat32mf2_t __riscv_vfsqrt(vbool64_t vm, vfloat32mf2_t vs2, unsigned int frm,
                             size_t vl);
vfloat32m1_t __riscv_vfsqrt(vbool32_t vm, vfloat32m1_t vs2, unsigned int frm,
                            size_t vl);
vfloat32m2_t __riscv_vfsqrt(vbool16_t vm, vfloat32m2_t vs2, unsigned int frm,
                            size_t vl);
vfloat32m4_t __riscv_vfsqrt(vbool8_t vm, vfloat32m4_t vs2, unsigned int frm,
                            size_t vl);
vfloat32m8_t __riscv_vfsqrt(vbool4_t vm, vfloat32m8_t vs2, unsigned int frm,
                            size_t vl);
vfloat64m1_t __riscv_vfsqrt(vbool64_t vm, vfloat64m1_t vs2, unsigned int frm,
                            size_t vl);
vfloat64m2_t __riscv_vfsqrt(vbool32_t vm, vfloat64m2_t vs2, unsigned int frm,
                            size_t vl);
vfloat64m4_t __riscv_vfsqrt(vbool16_t vm, vfloat64m4_t vs2, unsigned int frm,
                            size_t vl);
vfloat64m8_t __riscv_vfsqrt(vbool8_t vm, vfloat64m8_t vs2, unsigned int frm,
                            size_t vl);
```

C.5.8. Vector Floating-Point Reciprocal Square-Root Estimate Intrinsics

```
vfloat16mf4_t __riscv_vfrsqrt7(vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7(vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrsqrt7(vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrsqrt7(vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrsqrt7(vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrsqrt7(vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7(vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrsqrt7(vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrsqrt7(vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrsqrt7(vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrsqrt7(vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrsqrt7(vfloat64m1_t vs2, size_t vl);
```

```
vfloat64m2_t __riscv_vfrsqrt7(vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrsqrt7(vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrsqrt7(vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrsqrt7(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrsqrt7(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrsqrt7(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrsqrt7(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrsqrt7(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrsqrt7(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrsqrt7(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrsqrt7(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrsqrt7(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrsqrt7(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrsqrt7(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrsqrt7(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrsqrt7(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
```

[[overloaded-#1410-vector-floating-point-reciprocal-estimate]] ==== Vector Floating-Point Reciprocal Estimate Intrinsics

```
vfloat16mf4_t __riscv_vfrec7(vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrec7(vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrec7(vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrec7(vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrec7(vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrec7(vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrec7(vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrec7(vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrec7(vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrec7(vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrec7(vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrec7(vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrec7(vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrec7(vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrec7(vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrec7(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrec7(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrec7(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrec7(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrec7(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrec7(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrec7(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrec7(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrec7(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrec7(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrec7(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrec7(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrec7(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrec7(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfrec7(vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrec7(vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrec7(vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrec7(vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrec7(vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrec7(vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrec7(vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrec7(vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrec7(vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrec7(vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrec7(vfloat32m8_t vs2, unsigned int frm, size_t vl);
```

```
vfloat64m1_t __riscv_vfrec7(vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrec7(vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrec7(vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrec7(vfloat64m8_t vs2, unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7(vbool64_t vm, vfloat16mf4_t vs2, unsigned int frm,
                             size_t vl);
vfloat16mf2_t __riscv_vfrec7(vbool32_t vm, vfloat16mf2_t vs2, unsigned int frm,
                             size_t vl);
vfloat16m1_t __riscv_vfrec7(vbool16_t vm, vfloat16m1_t vs2, unsigned int frm,
                            size_t vl);
vfloat16m2_t __riscv_vfrec7(vbool8_t vm, vfloat16m2_t vs2, unsigned int frm,
                            size_t vl);
vfloat16m4_t __riscv_vfrec7(vbool4_t vm, vfloat16m4_t vs2, unsigned int frm,
                            size_t vl);
vfloat16m8_t __riscv_vfrec7(vbool2_t vm, vfloat16m8_t vs2, unsigned int frm,
                            size_t vl);
vfloat32mf2_t __riscv_vfrec7(vbool64_t vm, vfloat32mf2_t vs2, unsigned int frm,
                             size_t vl);
vfloat32m1_t __riscv_vfrec7(vbool32_t vm, vfloat32m1_t vs2, unsigned int frm,
                            size_t vl);
vfloat32m2_t __riscv_vfrec7(vbool16_t vm, vfloat32m2_t vs2, unsigned int frm,
                            size_t vl);
vfloat32m4_t __riscv_vfrec7(vbool8_t vm, vfloat32m4_t vs2, unsigned int frm,
                            size_t vl);
vfloat32m8_t __riscv_vfrec7(vbool4_t vm, vfloat32m8_t vs2, unsigned int frm,
                            size_t vl);
vfloat64m1_t __riscv_vfrec7(vbool64_t vm, vfloat64m1_t vs2, unsigned int frm,
                            size_t vl);
vfloat64m2_t __riscv_vfrec7(vbool32_t vm, vfloat64m2_t vs2, unsigned int frm,
                            size_t vl);
vfloat64m4_t __riscv_vfrec7(vbool16_t vm, vfloat64m4_t vs2, unsigned int frm,
                            size_t vl);
vfloat64m8_t __riscv_vfrec7(vbool8_t vm, vfloat64m8_t vs2, unsigned int frm,
                            size_t vl);
```

C.5.9. Vector Floating-Point MIN/MAX Intrinsics

```
vfloat16mf4_t __riscv_vfmin(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmin(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmin(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmin(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmin(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmin(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmin(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmin(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmin(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmin(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmin(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmin(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmin(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmin(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmin(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmin(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmin(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmin(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmin(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmin(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmin(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmin(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmin(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmin(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfmin(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmin(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfmin(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
```

```
vfloat64m4_t __riscv_vfmin(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfmin(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmin(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfmax(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmax(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmax(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmax(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmax(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmax(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmax(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmax(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmax(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmax(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmax(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmax(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmax(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmax(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmax(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmax(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmax(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmax(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmax(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmax(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmax(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmax(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmax(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmax(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfmax(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmax(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfmax(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmax(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfmax(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmax(vfloat64m8_t vs2, double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmin(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                            size_t vl);
vfloat16mf4_t __riscv_vfmin(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16mf2_t __riscv_vfmin(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                            size_t vl);
vfloat16mf2_t __riscv_vfmin(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m1_t __riscv_vfmin(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                           size_t vl);
vfloat16m1_t __riscv_vfmin(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m2_t __riscv_vfmin(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                           size_t vl);
vfloat16m2_t __riscv_vfmin(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m4_t __riscv_vfmin(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                           size_t vl);
vfloat16m4_t __riscv_vfmin(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                           size_t vl);
vfloat16m8_t __riscv_vfmin(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                           size_t vl);
vfloat16m8_t __riscv_vfmin(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                           size_t vl);
vfloat32mf2_t __riscv_vfmin(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                            size_t vl);
vfloat32mf2_t __riscv_vfmin(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                            size_t vl);
vfloat32m1_t __riscv_vfmin(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                           size_t vl);
vfloat32m1_t __riscv_vfmin(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                           size_t vl);
vfloat32m2_t __riscv_vfmin(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
```

```
                            size_t vl);
vfloat32m2_t __riscv_vfmin(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                            size_t vl);
vfloat32m4_t __riscv_vfmin(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                            size_t vl);
vfloat32m4_t __riscv_vfmin(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmin(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                            size_t vl);
vfloat32m8_t __riscv_vfmin(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmin(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                            size_t vl);
vfloat64m1_t __riscv_vfmin(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                            size_t vl);
vfloat64m2_t __riscv_vfmin(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                            size_t vl);
vfloat64m2_t __riscv_vfmin(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                            size_t vl);
vfloat64m4_t __riscv_vfmin(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                            size_t vl);
vfloat64m4_t __riscv_vfmin(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                            size_t vl);
vfloat64m8_t __riscv_vfmin(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                            size_t vl);
vfloat64m8_t __riscv_vfmin(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                            size_t vl);
vfloat16mf4_t __riscv_vfmax(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                             size_t vl);
vfloat16mf4_t __riscv_vfmax(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                             size_t vl);
vfloat16mf2_t __riscv_vfmax(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                             size_t vl);
vfloat16mf2_t __riscv_vfmax(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                             size_t vl);
vfloat16m1_t __riscv_vfmax(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                            size_t vl);
vfloat16m1_t __riscv_vfmax(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m2_t __riscv_vfmax(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                            size_t vl);
vfloat16m2_t __riscv_vfmax(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m4_t __riscv_vfmax(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                            size_t vl);
vfloat16m4_t __riscv_vfmax(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m8_t __riscv_vfmax(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                            size_t vl);
vfloat16m8_t __riscv_vfmax(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                            size_t vl);
vfloat32mf2_t __riscv_vfmax(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                             size_t vl);
vfloat32mf2_t __riscv_vfmax(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                             size_t vl);
vfloat32m1_t __riscv_vfmax(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                            size_t vl);
vfloat32m1_t __riscv_vfmax(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                            size_t vl);
vfloat32m2_t __riscv_vfmax(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                            size_t vl);
vfloat32m2_t __riscv_vfmax(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                            size_t vl);
vfloat32m4_t __riscv_vfmax(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                            size_t vl);
vfloat32m4_t __riscv_vfmax(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmax(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                            size_t vl);
vfloat32m8_t __riscv_vfmax(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
```

```
vfloat64m1_t __riscv_vfmax(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                           size_t vl);
vfloat64m1_t __riscv_vfmax(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                           size_t vl);
vfloat64m2_t __riscv_vfmax(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                           size_t vl);
vfloat64m2_t __riscv_vfmax(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                           size_t vl);
vfloat64m4_t __riscv_vfmax(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                           size_t vl);
vfloat64m4_t __riscv_vfmax(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                           size_t vl);
vfloat64m8_t __riscv_vfmax(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                           size_t vl);
vfloat64m8_t __riscv_vfmax(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                           size_t vl);
```

C.5.10. Vector Floating-Point Sign-Injection Intrinsics

```
vfloat16mf4_t __riscv_vfsgnj(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnj(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn(vfloat32m1_t vs2, float rs1, size_t vl);
```

```
vfloat32m2_t __riscv_vfsgnjn(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjn(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjn(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjx(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjx(vfloat64m8_t vs2, double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsgnj(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                             size_t vl);
vfloat16mf4_t __riscv_vfsgnj(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                             size_t vl);
vfloat16mf2_t __riscv_vfsgnj(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                             size_t vl);
vfloat16mf2_t __riscv_vfsgnj(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                             size_t vl);
vfloat16m1_t __riscv_vfsgnj(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                            size_t vl);
vfloat16m1_t __riscv_vfsgnj(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m2_t __riscv_vfsgnj(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                            size_t vl);
vfloat16m2_t __riscv_vfsgnj(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m4_t __riscv_vfsgnj(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                            size_t vl);
vfloat16m4_t __riscv_vfsgnj(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                            size_t vl);
vfloat16m8_t __riscv_vfsgnj(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                            size_t vl);
```

```
vfloat16m8_t __riscv_vfsgnj(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                            size_t vl);
vfloat32mf2_t __riscv_vfsgnj(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                             size_t vl);
vfloat32mf2_t __riscv_vfsgnj(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                             size_t vl);
vfloat32m1_t __riscv_vfsgnj(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                            size_t vl);
vfloat32m1_t __riscv_vfsgnj(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                            size_t vl);
vfloat32m2_t __riscv_vfsgnj(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                            size_t vl);
vfloat32m2_t __riscv_vfsgnj(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                            size_t vl);
vfloat32m4_t __riscv_vfsgnj(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                            size_t vl);
vfloat32m4_t __riscv_vfsgnj(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                            size_t vl);
vfloat32m8_t __riscv_vfsgnj(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                            size_t vl);
vfloat32m8_t __riscv_vfsgnj(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                            size_t vl);
vfloat64m1_t __riscv_vfsgnj(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                            size_t vl);
vfloat64m1_t __riscv_vfsgnj(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                            size_t vl);
vfloat64m2_t __riscv_vfsgnj(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                            size_t vl);
vfloat64m2_t __riscv_vfsgnj(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                            size_t vl);
vfloat64m4_t __riscv_vfsgnj(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                            size_t vl);
vfloat64m4_t __riscv_vfsgnj(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                            size_t vl);
vfloat64m8_t __riscv_vfsgnj(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                            size_t vl);
vfloat64m8_t __riscv_vfsgnj(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                            size_t vl);
vfloat16mf4_t __riscv_vfsgnjn(vbool64_t vm, vfloat16mf4_t vs2,
                              vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16mf2_t __riscv_vfsgnjn(vbool32_t vm, vfloat16mf2_t vs2,
                              vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m1_t __riscv_vfsgnjn(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                             size_t vl);
vfloat16m1_t __riscv_vfsgnjn(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                             size_t vl);
vfloat16m2_t __riscv_vfsgnjn(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                             size_t vl);
vfloat16m2_t __riscv_vfsgnjn(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                             size_t vl);
vfloat16m4_t __riscv_vfsgnjn(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                             size_t vl);
vfloat16m4_t __riscv_vfsgnjn(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                             size_t vl);
vfloat16m8_t __riscv_vfsgnjn(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                             size_t vl);
vfloat16m8_t __riscv_vfsgnjn(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                             size_t vl);
vfloat32mf2_t __riscv_vfsgnjn(vbool64_t vm, vfloat32mf2_t vs2,
                              vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                              size_t vl);
vfloat32m1_t __riscv_vfsgnjn(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
```

```
                              size_t vl);
vfloat32m1_t __riscv_vfsgnjn(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                              size_t vl);
vfloat32m2_t __riscv_vfsgnjn(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                              size_t vl);
vfloat32m2_t __riscv_vfsgnjn(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                              size_t vl);
vfloat32m4_t __riscv_vfsgnjn(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                              size_t vl);
vfloat32m4_t __riscv_vfsgnjn(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                              size_t vl);
vfloat32m8_t __riscv_vfsgnjn(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                              size_t vl);
vfloat32m8_t __riscv_vfsgnjn(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                              size_t vl);
vfloat64m1_t __riscv_vfsgnjn(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                              size_t vl);
vfloat64m1_t __riscv_vfsgnjn(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                              size_t vl);
vfloat64m2_t __riscv_vfsgnjn(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                              size_t vl);
vfloat64m2_t __riscv_vfsgnjn(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                              size_t vl);
vfloat64m4_t __riscv_vfsgnjn(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                              size_t vl);
vfloat64m4_t __riscv_vfsgnjn(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                              size_t vl);
vfloat64m8_t __riscv_vfsgnjn(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                              size_t vl);
vfloat64m8_t __riscv_vfsgnjn(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                              size_t vl);
vfloat16mf4_t __riscv_vfsgnjx(vbool64_t vm, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                               size_t vl);
vfloat16mf2_t __riscv_vfsgnjx(vbool32_t vm, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                               size_t vl);
vfloat16m1_t __riscv_vfsgnjx(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfsgnjx(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m2_t __riscv_vfsgnjx(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                              size_t vl);
vfloat16m2_t __riscv_vfsgnjx(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m4_t __riscv_vfsgnjx(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                              size_t vl);
vfloat16m4_t __riscv_vfsgnjx(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m8_t __riscv_vfsgnjx(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                              size_t vl);
vfloat16m8_t __riscv_vfsgnjx(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                              size_t vl);
vfloat32mf2_t __riscv_vfsgnjx(vbool64_t vm, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                               size_t vl);
vfloat32m1_t __riscv_vfsgnjx(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                              size_t vl);
vfloat32m1_t __riscv_vfsgnjx(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                              size_t vl);
vfloat32m2_t __riscv_vfsgnjx(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                              size_t vl);
vfloat32m2_t __riscv_vfsgnjx(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                              size_t vl);
```

```
vfloat32m4_t __riscv_vfsgnjx(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                             size_t vl);
vfloat32m4_t __riscv_vfsgnjx(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                             size_t vl);
vfloat32m8_t __riscv_vfsgnjx(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                             size_t vl);
vfloat32m8_t __riscv_vfsgnjx(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                             size_t vl);
vfloat64m1_t __riscv_vfsgnjx(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                             size_t vl);
vfloat64m1_t __riscv_vfsgnjx(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                             size_t vl);
vfloat64m2_t __riscv_vfsgnjx(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                             size_t vl);
vfloat64m2_t __riscv_vfsgnjx(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                             size_t vl);
vfloat64m4_t __riscv_vfsgnjx(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                             size_t vl);
vfloat64m4_t __riscv_vfsgnjx(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                             size_t vl);
vfloat64m8_t __riscv_vfsgnjx(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                             size_t vl);
vfloat64m8_t __riscv_vfsgnjx(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                             size_t vl);
```

C.5.11. Vector Floating-Point Absolute Value Intrinsics

```
vfloat16mf4_t __riscv_vfabs(vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfabs(vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfabs(vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfabs(vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfabs(vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfabs(vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfabs(vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfabs(vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfabs(vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfabs(vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfabs(vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfabs(vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfabs(vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfabs(vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfabs(vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfabs(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfabs(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfabs(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfabs(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfabs(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfabs(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfabs(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfabs(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfabs(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfabs(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfabs(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfabs(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfabs(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfabs(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfabs(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
```

C.5.12. Vector Floating-Point Compare Intrinsics

```
vbool64_t __riscv_vmfeq(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
```

```
vbool64_t __riscv_vmfeq(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfeq(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfeq(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfeq(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfeq(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfeq(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfeq(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfeq(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfeq(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfeq(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfeq(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfeq(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfeq(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfeq(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfeq(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfeq(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfeq(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfeq(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfeq(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfeq(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfeq(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfeq(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfeq(vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfeq(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfeq(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfeq(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfeq(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfeq(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfeq(vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfne(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfne(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfne(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfne(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfne(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfne(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfne(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfne(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfne(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfne(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfne(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfne(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfne(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfne(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfne(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfne(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfne(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfne(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfne(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfne(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfne(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfne(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfne(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfne(vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfne(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfne(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfne(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfne(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfne(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfne(vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmflt(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmflt(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vbool32_t __riscv_vmflt(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmflt(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vbool16_t __riscv_vmflt(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmflt(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmflt(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmflt(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
```

```
vbool4_t __riscv_vmflt(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmflt(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmflt(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmflt(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmflt(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmflt(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmflt(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmflt(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmflt(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmflt(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmflt(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmflt(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmflt(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmflt(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmflt(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmflt(vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmflt(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmflt(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmflt(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmflt(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmflt(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmflt(vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfle(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfle(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfle(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfle(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfle(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfle(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfle(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfle(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfle(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfle(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfle(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfle(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfle(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfle(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfle(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfle(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfle(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfle(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfle(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfle(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfle(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfle(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfle(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfle(vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfle(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfle(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfle(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfle(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfle(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfle(vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfgt(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfgt(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfgt(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfgt(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfgt(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfgt(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfgt(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfgt(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfgt(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfgt(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfgt(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfgt(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfgt(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfgt(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfgt(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
```

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vbool32_t __riscv_vmfgt(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfgt(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfgt(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfgt(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfgt(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfgt(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfgt(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfgt(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfgt(vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfgt(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfgt(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfgt(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfgt(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfgt(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfgt(vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfge(vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfge(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfge(vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfge(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfge(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfge(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfge(vfloat16m2_t vs2, vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfge(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfge(vfloat16m4_t vs2, vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfge(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfge(vfloat16m8_t vs2, vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfge(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfge(vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfge(vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfge(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfge(vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfge(vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfge(vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfge(vfloat32m4_t vs2, vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfge(vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfge(vfloat32m8_t vs2, vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfge(vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfge(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfge(vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfge(vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfge(vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfge(vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfge(vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfge(vfloat64m8_t vs2, vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfge(vfloat64m8_t vs2, double rs1, size_t vl);
// masked functions
vbool64_t __riscv_vmfeq(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfeq(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                        size_t vl);
vbool32_t __riscv_vmfeq(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfeq(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                        size_t vl);
vbool16_t __riscv_vmfeq(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfeq(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                        size_t vl);
vbool8_t __riscv_vmfeq(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfeq(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfeq(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                       size_t vl);
vbool4_t __riscv_vmfeq(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfeq(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                       size_t vl);
vbool2_t __riscv_vmfeq(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1, size_t vl);
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vbool64_t __riscv_vmfeq(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfeq(vbool64_t vm, vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfeq(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfeq(vbool32_t vm, vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfeq(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfeq(vbool16_t vm, vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfeq(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfeq(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfeq(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                       size_t vl);
vbool4_t __riscv_vmfeq(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfeq(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfeq(vbool64_t vm, vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfeq(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfeq(vbool32_t vm, vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfeq(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfeq(vbool16_t vm, vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfeq(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfeq(vbool8_t vm, vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfne(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfne(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                        size_t vl);
vbool32_t __riscv_vmfne(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfne(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                        size_t vl);
vbool16_t __riscv_vmfne(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfne(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                        size_t vl);
vbool8_t __riscv_vmfne(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfne(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfne(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                       size_t vl);
vbool4_t __riscv_vmfne(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfne(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                       size_t vl);
vbool2_t __riscv_vmfne(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfne(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfne(vbool64_t vm, vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfne(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfne(vbool32_t vm, vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfne(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfne(vbool16_t vm, vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfne(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfne(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfne(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                       size_t vl);
vbool4_t __riscv_vmfne(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfne(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfne(vbool64_t vm, vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfne(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
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                        size_t vl);
vbool32_t __riscv_vmfne(vbool32_t vm, vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfne(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfne(vbool16_t vm, vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfne(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfne(vbool8_t vm, vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmflt(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmflt(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                        size_t vl);
vbool32_t __riscv_vmflt(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmflt(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                        size_t vl);
vbool16_t __riscv_vmflt(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmflt(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                        size_t vl);
vbool8_t __riscv_vmflt(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                       size_t vl);
vbool8_t __riscv_vmflt(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmflt(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                       size_t vl);
vbool4_t __riscv_vmflt(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmflt(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                       size_t vl);
vbool2_t __riscv_vmflt(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmflt(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmflt(vbool64_t vm, vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmflt(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmflt(vbool32_t vm, vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmflt(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmflt(vbool16_t vm, vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmflt(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                       size_t vl);
vbool8_t __riscv_vmflt(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmflt(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                       size_t vl);
vbool4_t __riscv_vmflt(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmflt(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmflt(vbool64_t vm, vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmflt(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmflt(vbool32_t vm, vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmflt(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmflt(vbool16_t vm, vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmflt(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                       size_t vl);
vbool8_t __riscv_vmflt(vbool8_t vm, vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfle(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfle(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                        size_t vl);
vbool32_t __riscv_vmfle(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfle(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                        size_t vl);
vbool16_t __riscv_vmfle(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfle(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
```

```
                        size_t vl);
vbool8_t __riscv_vmfle(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfle(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfle(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                       size_t vl);
vbool4_t __riscv_vmfle(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfle(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                       size_t vl);
vbool2_t __riscv_vmfle(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfle(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfle(vbool64_t vm, vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfle(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfle(vbool32_t vm, vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfle(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfle(vbool16_t vm, vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfle(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfle(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfle(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                       size_t vl);
vbool4_t __riscv_vmfle(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfle(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfle(vbool64_t vm, vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfle(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfle(vbool32_t vm, vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfle(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfle(vbool16_t vm, vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfle(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfle(vbool8_t vm, vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfgt(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfgt(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                        size_t vl);
vbool32_t __riscv_vmfgt(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfgt(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                        size_t vl);
vbool16_t __riscv_vmfgt(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfgt(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                        size_t vl);
vbool8_t __riscv_vmfgt(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfgt(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfgt(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                       size_t vl);
vbool4_t __riscv_vmfgt(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfgt(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                       size_t vl);
vbool2_t __riscv_vmfgt(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfgt(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfgt(vbool64_t vm, vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfgt(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfgt(vbool32_t vm, vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfgt(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfgt(vbool16_t vm, vfloat32m2_t vs2, float rs1, size_t vl);
```

```
vbool8_t __riscv_vmfgt(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfgt(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfgt(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                       size_t vl);
vbool4_t __riscv_vmfgt(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfgt(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfgt(vbool64_t vm, vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfgt(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfgt(vbool32_t vm, vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfgt(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfgt(vbool16_t vm, vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfgt(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfgt(vbool8_t vm, vfloat64m8_t vs2, double rs1, size_t vl);
vbool64_t __riscv_vmfge(vbool64_t vm, vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfge(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                        size_t vl);
vbool32_t __riscv_vmfge(vbool32_t vm, vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfge(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                        size_t vl);
vbool16_t __riscv_vmfge(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfge(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                        size_t vl);
vbool8_t __riscv_vmfge(vbool8_t vm, vfloat16m2_t vs2, vfloat16m2_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfge(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfge(vbool4_t vm, vfloat16m4_t vs2, vfloat16m4_t vs1,
                       size_t vl);
vbool4_t __riscv_vmfge(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfge(vbool2_t vm, vfloat16m8_t vs2, vfloat16m8_t vs1,
                       size_t vl);
vbool2_t __riscv_vmfge(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfge(vbool64_t vm, vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfge(vbool64_t vm, vfloat32mf2_t vs2, float rs1, size_t vl);
vbool32_t __riscv_vmfge(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfge(vbool32_t vm, vfloat32m1_t vs2, float rs1, size_t vl);
vbool16_t __riscv_vmfge(vbool16_t vm, vfloat32m2_t vs2, vfloat32m2_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfge(vbool16_t vm, vfloat32m2_t vs2, float rs1, size_t vl);
vbool8_t __riscv_vmfge(vbool8_t vm, vfloat32m4_t vs2, vfloat32m4_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfge(vbool8_t vm, vfloat32m4_t vs2, float rs1, size_t vl);
vbool4_t __riscv_vmfge(vbool4_t vm, vfloat32m8_t vs2, vfloat32m8_t vs1,
                       size_t vl);
vbool4_t __riscv_vmfge(vbool4_t vm, vfloat32m8_t vs2, float rs1, size_t vl);
vbool64_t __riscv_vmfge(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                        size_t vl);
vbool64_t __riscv_vmfge(vbool64_t vm, vfloat64m1_t vs2, double rs1, size_t vl);
vbool32_t __riscv_vmfge(vbool32_t vm, vfloat64m2_t vs2, vfloat64m2_t vs1,
                        size_t vl);
vbool32_t __riscv_vmfge(vbool32_t vm, vfloat64m2_t vs2, double rs1, size_t vl);
vbool16_t __riscv_vmfge(vbool16_t vm, vfloat64m4_t vs2, vfloat64m4_t vs1,
                        size_t vl);
vbool16_t __riscv_vmfge(vbool16_t vm, vfloat64m4_t vs2, double rs1, size_t vl);
vbool8_t __riscv_vmfge(vbool8_t vm, vfloat64m8_t vs2, vfloat64m8_t vs1,
                       size_t vl);
vbool8_t __riscv_vmfge(vbool8_t vm, vfloat64m8_t vs2, double rs1, size_t vl);
```

C.5.13. Vector Floating-Point Classify Intrinsics

```
vuint16mf4_t __riscv_vfclass(vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfclass(vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfclass(vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfclass(vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfclass(vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfclass(vfloat16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfclass(vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfclass(vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfclass(vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfclass(vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfclass(vfloat32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfclass(vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfclass(vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfclass(vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfclass(vfloat64m8_t vs2, size_t vl);
// masked functions
vuint16mf4_t __riscv_vfclass(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfclass(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfclass(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfclass(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfclass(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfclass(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfclass(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfclass(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfclass(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfclass(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfclass(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfclass(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfclass(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfclass(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfclass(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
```

C.5.14. Vector Floating-Point Merge Intrinsics

```
vfloat16mf4_t __riscv_vmerge(vfloat16mf4_t vs2, vfloat16mf4_t vs1, vbool64_t v0,
                             size_t vl);
vfloat16mf4_t __riscv_vfmerge(vfloat16mf4_t vs2, _Float16 rs1, vbool64_t v0,
                              size_t vl);
vfloat16mf2_t __riscv_vmerge(vfloat16mf2_t vs2, vfloat16mf2_t vs1, vbool32_t v0,
                             size_t vl);
vfloat16mf2_t __riscv_vfmerge(vfloat16mf2_t vs2, _Float16 rs1, vbool32_t v0,
                              size_t vl);
vfloat16m1_t __riscv_vmerge(vfloat16m1_t vs2, vfloat16m1_t vs1, vbool16_t v0,
                            size_t vl);
vfloat16m1_t __riscv_vfmerge(vfloat16m1_t vs2, _Float16 rs1, vbool16_t v0,
                             size_t vl);
vfloat16m2_t __riscv_vmerge(vfloat16m2_t vs2, vfloat16m2_t vs1, vbool8_t v0,
                            size_t vl);
vfloat16m2_t __riscv_vfmerge(vfloat16m2_t vs2, _Float16 rs1, vbool8_t v0,
                             size_t vl);
vfloat16m4_t __riscv_vmerge(vfloat16m4_t vs2, vfloat16m4_t vs1, vbool4_t v0,
                            size_t vl);
vfloat16m4_t __riscv_vfmerge(vfloat16m4_t vs2, _Float16 rs1, vbool4_t v0,
                             size_t vl);
vfloat16m8_t __riscv_vmerge(vfloat16m8_t vs2, vfloat16m8_t vs1, vbool2_t v0,
                            size_t vl);
vfloat16m8_t __riscv_vfmerge(vfloat16m8_t vs2, _Float16 rs1, vbool2_t v0,
                             size_t vl);
vfloat32mf2_t __riscv_vmerge(vfloat32mf2_t vs2, vfloat32mf2_t vs1, vbool64_t v0,
                             size_t vl);
vfloat32mf2_t __riscv_vfmerge(vfloat32mf2_t vs2, float rs1, vbool64_t v0,
                              size_t vl);
```

```
vfloat32m1_t __riscv_vmerge(vfloat32m1_t vs2, vfloat32m1_t vs1, vbool32_t v0,
                            size_t vl);
vfloat32m1_t __riscv_vfmerge(vfloat32m1_t vs2, float rs1, vbool32_t v0,
                             size_t vl);
vfloat32m2_t __riscv_vmerge(vfloat32m2_t vs2, vfloat32m2_t vs1, vbool16_t v0,
                            size_t vl);
vfloat32m2_t __riscv_vfmerge(vfloat32m2_t vs2, float rs1, vbool16_t v0,
                             size_t vl);
vfloat32m4_t __riscv_vmerge(vfloat32m4_t vs2, vfloat32m4_t vs1, vbool8_t v0,
                            size_t vl);
vfloat32m4_t __riscv_vfmerge(vfloat32m4_t vs2, float rs1, vbool8_t v0,
                             size_t vl);
vfloat32m8_t __riscv_vmerge(vfloat32m8_t vs2, vfloat32m8_t vs1, vbool4_t v0,
                            size_t vl);
vfloat32m8_t __riscv_vfmerge(vfloat32m8_t vs2, float rs1, vbool4_t v0,
                             size_t vl);
vfloat64m1_t __riscv_vmerge(vfloat64m1_t vs2, vfloat64m1_t vs1, vbool64_t v0,
                            size_t vl);
vfloat64m1_t __riscv_vfmerge(vfloat64m1_t vs2, double rs1, vbool64_t v0,
                             size_t vl);
vfloat64m2_t __riscv_vmerge(vfloat64m2_t vs2, vfloat64m2_t vs1, vbool32_t v0,
                            size_t vl);
vfloat64m2_t __riscv_vfmerge(vfloat64m2_t vs2, double rs1, vbool32_t v0,
                             size_t vl);
vfloat64m4_t __riscv_vmerge(vfloat64m4_t vs2, vfloat64m4_t vs1, vbool16_t v0,
                            size_t vl);
vfloat64m4_t __riscv_vfmerge(vfloat64m4_t vs2, double rs1, vbool16_t v0,
                             size_t vl);
vfloat64m8_t __riscv_vmerge(vfloat64m8_t vs2, vfloat64m8_t vs1, vbool8_t v0,
                            size_t vl);
vfloat64m8_t __riscv_vfmerge(vfloat64m8_t vs2, double rs1, vbool8_t v0,
                             size_t vl);
```

C.5.15. Vector Floating-Point Move Intrinsics

```
vfloat16mf4_t __riscv_vmv_v(vfloat16mf4_t vs1, size_t vl);
vfloat16mf2_t __riscv_vmv_v(vfloat16mf2_t vs1, size_t vl);
vfloat16m1_t __riscv_vmv_v(vfloat16m1_t vs1, size_t vl);
vfloat16m2_t __riscv_vmv_v(vfloat16m2_t vs1, size_t vl);
vfloat16m4_t __riscv_vmv_v(vfloat16m4_t vs1, size_t vl);
vfloat16m8_t __riscv_vmv_v(vfloat16m8_t vs1, size_t vl);
vfloat32mf2_t __riscv_vmv_v(vfloat32mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vmv_v(vfloat32m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vmv_v(vfloat32m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vmv_v(vfloat32m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vmv_v(vfloat32m8_t vs1, size_t vl);
vfloat64m1_t __riscv_vmv_v(vfloat64m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vmv_v(vfloat64m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vmv_v(vfloat64m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vmv_v(vfloat64m8_t vs1, size_t vl);
```

C.5.16. Single-Width Floating-Point/Integer Type-Convert Intrinsics

```
vint16mf4_t __riscv_vfcvt_x(vfloat16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x(vfloat16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_x(vfloat16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x(vfloat16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_x(vfloat16m1_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x(vfloat16m1_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_x(vfloat16m2_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_rtz_x(vfloat16m2_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_x(vfloat16m4_t vs2, size_t vl);
```

```
vint16m4_t __riscv_vfcvt_rtz_x(vfloat16m4_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_x(vfloat16m8_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x(vfloat16m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_xu(vfloat16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu(vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu(vfloat16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu(vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_xu(vfloat16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_rtz_xu(vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_xu(vfloat16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu(vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_xu(vfloat16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu(vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_xu(vfloat16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu(vfloat16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f(vint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f(vint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f(vint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f(vint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f(vint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f(vint16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f(vuint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f(vuint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f(vuint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f(vuint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f(vuint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f(vuint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_x(vfloat32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x(vfloat32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_x(vfloat32m1_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x(vfloat32m1_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_x(vfloat32m2_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x(vfloat32m2_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_x(vfloat32m4_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x(vfloat32m4_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_x(vfloat32m8_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x(vfloat32m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu(vfloat32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu(vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_xu(vfloat32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu(vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_xu(vfloat32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu(vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_xu(vfloat32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu(vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_xu(vfloat32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu(vfloat32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f(vint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f(vint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f(vint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f(vint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f(vint32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f(vuint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f(vuint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f(vuint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f(vuint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f(vuint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_x(vfloat64m1_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x(vfloat64m1_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_x(vfloat64m2_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_rtz_x(vfloat64m2_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_x(vfloat64m4_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x(vfloat64m4_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_x(vfloat64m8_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x(vfloat64m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_xu(vfloat64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu(vfloat64m1_t vs2, size_t vl);
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vuint64m2_t __riscv_vfcvt_xu(vfloat64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu(vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_xu(vfloat64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_rtz_xu(vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_xu(vfloat64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu(vfloat64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f(vint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f(vint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f(vint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f(vint64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f(vuint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f(vuint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f(vuint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f(vuint64m8_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_x(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_x(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_x(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_rtz_x(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_x(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_rtz_x(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_x(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_xu(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_xu(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_rtz_xu(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_xu(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_xu(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_xu(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f(vbool64_t vm, vint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f(vbool32_t vm, vint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f(vbool16_t vm, vint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f(vbool8_t vm, vint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f(vbool4_t vm, vint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f(vbool2_t vm, vint16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f(vbool64_t vm, vuint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f(vbool32_t vm, vuint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f(vbool16_t vm, vuint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f(vbool8_t vm, vuint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f(vbool4_t vm, vuint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f(vbool2_t vm, vuint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_x(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_x(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_x(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_x(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_x(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_xu(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_xu(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
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vuint32m4_t __riscv_vfcvt_xu(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_xu(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f(vbool64_t vm, vint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f(vbool32_t vm, vint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f(vbool16_t vm, vint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f(vbool8_t vm, vint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f(vbool4_t vm, vint32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f(vbool64_t vm, vuint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f(vbool32_t vm, vuint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f(vbool16_t vm, vuint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f(vbool8_t vm, vuint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f(vbool4_t vm, vuint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_x(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_x(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_rtz_x(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_x(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_x(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_xu(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_xu(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_xu(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_rtz_xu(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_xu(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f(vbool64_t vm, vint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f(vbool32_t vm, vint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f(vbool16_t vm, vint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f(vbool8_t vm, vint64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f(vbool64_t vm, vuint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f(vbool32_t vm, vuint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f(vbool16_t vm, vuint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f(vbool8_t vm, vuint64m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfcvt_x(vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfcvt_x(vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vint16m1_t __riscv_vfcvt_x(vfloat16m1_t vs2, unsigned int frm, size_t vl);
vint16m2_t __riscv_vfcvt_x(vfloat16m2_t vs2, unsigned int frm, size_t vl);
vint16m4_t __riscv_vfcvt_x(vfloat16m4_t vs2, unsigned int frm, size_t vl);
vint16m8_t __riscv_vfcvt_x(vfloat16m8_t vs2, unsigned int frm, size_t vl);
vuint16mf4_t __riscv_vfcvt_xu(vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu(vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfcvt_xu(vfloat16m1_t vs2, unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfcvt_xu(vfloat16m2_t vs2, unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfcvt_xu(vfloat16m4_t vs2, unsigned int frm, size_t vl);
vuint16m8_t __riscv_vfcvt_xu(vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f(vint16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f(vint16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f(vint16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f(vint16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f(vint16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f(vint16m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f(vuint16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f(vuint16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f(vuint16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f(vuint16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f(vuint16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f(vuint16m8_t vs2, unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfcvt_x(vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vint32m1_t __riscv_vfcvt_x(vfloat32m1_t vs2, unsigned int frm, size_t vl);
vint32m2_t __riscv_vfcvt_x(vfloat32m2_t vs2, unsigned int frm, size_t vl);
vint32m4_t __riscv_vfcvt_x(vfloat32m4_t vs2, unsigned int frm, size_t vl);
vint32m8_t __riscv_vfcvt_x(vfloat32m8_t vs2, unsigned int frm, size_t vl);
```

```
vuint32mf2_t __riscv_vfcvt_xu(vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfcvt_xu(vfloat32m1_t vs2, unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfcvt_xu(vfloat32m2_t vs2, unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfcvt_xu(vfloat32m4_t vs2, unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfcvt_xu(vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f(vint32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f(vint32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f(vint32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f(vint32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f(vint32m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f(vuint32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f(vuint32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f(vuint32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f(vuint32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f(vuint32m8_t vs2, unsigned int frm, size_t vl);
vint64m1_t __riscv_vfcvt_x(vfloat64m1_t vs2, unsigned int frm, size_t vl);
vint64m2_t __riscv_vfcvt_x(vfloat64m2_t vs2, unsigned int frm, size_t vl);
vint64m4_t __riscv_vfcvt_x(vfloat64m4_t vs2, unsigned int frm, size_t vl);
vint64m8_t __riscv_vfcvt_x(vfloat64m8_t vs2, unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfcvt_xu(vfloat64m1_t vs2, unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfcvt_xu(vfloat64m2_t vs2, unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfcvt_xu(vfloat64m4_t vs2, unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfcvt_xu(vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfcvt_f(vint64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f(vint64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f(vint64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f(vint64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfcvt_f(vuint64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f(vuint64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f(vuint64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f(vuint64m8_t vs2, unsigned int frm, size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x(vbool64_t vm, vfloat16mf4_t vs2, unsigned int frm,
                            size_t vl);
vint16mf2_t __riscv_vfcvt_x(vbool32_t vm, vfloat16mf2_t vs2, unsigned int frm,
                            size_t vl);
vint16m1_t __riscv_vfcvt_x(vbool16_t vm, vfloat16m1_t vs2, unsigned int frm,
                           size_t vl);
vint16m2_t __riscv_vfcvt_x(vbool8_t vm, vfloat16m2_t vs2, unsigned int frm,
                           size_t vl);
vint16m4_t __riscv_vfcvt_x(vbool4_t vm, vfloat16m4_t vs2, unsigned int frm,
                           size_t vl);
vint16m8_t __riscv_vfcvt_x(vbool2_t vm, vfloat16m8_t vs2, unsigned int frm,
                           size_t vl);
vuint16mf4_t __riscv_vfcvt_xu(vbool64_t vm, vfloat16mf4_t vs2, unsigned int frm,
                              size_t vl);
vuint16mf2_t __riscv_vfcvt_xu(vbool32_t vm, vfloat16mf2_t vs2, unsigned int frm,
                              size_t vl);
vuint16m1_t __riscv_vfcvt_xu(vbool16_t vm, vfloat16m1_t vs2, unsigned int frm,
                             size_t vl);
vuint16m2_t __riscv_vfcvt_xu(vbool8_t vm, vfloat16m2_t vs2, unsigned int frm,
                             size_t vl);
vuint16m4_t __riscv_vfcvt_xu(vbool4_t vm, vfloat16m4_t vs2, unsigned int frm,
                             size_t vl);
vuint16m8_t __riscv_vfcvt_xu(vbool2_t vm, vfloat16m8_t vs2, unsigned int frm,
                             size_t vl);
vfloat16mf4_t __riscv_vfcvt_f(vbool64_t vm, vint16mf4_t vs2, unsigned int frm,
                              size_t vl);
vfloat16mf2_t __riscv_vfcvt_f(vbool32_t vm, vint16mf2_t vs2, unsigned int frm,
                              size_t vl);
vfloat16m1_t __riscv_vfcvt_f(vbool16_t vm, vint16m1_t vs2, unsigned int frm,
                             size_t vl);
vfloat16m2_t __riscv_vfcvt_f(vbool8_t vm, vint16m2_t vs2, unsigned int frm,
                             size_t vl);
vfloat16m4_t __riscv_vfcvt_f(vbool4_t vm, vint16m4_t vs2, unsigned int frm,
                             size_t vl);
vfloat16m8_t __riscv_vfcvt_f(vbool2_t vm, vint16m8_t vs2, unsigned int frm,
```

```
                              size_t vl);
vfloat16mf4_t __riscv_vfcvt_f(vbool64_t vm, vuint16mf4_t vs2, unsigned int frm,
                               size_t vl);
vfloat16mf2_t __riscv_vfcvt_f(vbool32_t vm, vuint16mf2_t vs2, unsigned int frm,
                               size_t vl);
vfloat16m1_t __riscv_vfcvt_f(vbool16_t vm, vuint16m1_t vs2, unsigned int frm,
                              size_t vl);
vfloat16m2_t __riscv_vfcvt_f(vbool8_t vm, vuint16m2_t vs2, unsigned int frm,
                              size_t vl);
vfloat16m4_t __riscv_vfcvt_f(vbool4_t vm, vuint16m4_t vs2, unsigned int frm,
                              size_t vl);
vfloat16m8_t __riscv_vfcvt_f(vbool2_t vm, vuint16m8_t vs2, unsigned int frm,
                              size_t vl);
vint32mf2_t __riscv_vfcvt_x(vbool64_t vm, vfloat32mf2_t vs2, unsigned int frm,
                             size_t vl);
vint32m1_t __riscv_vfcvt_x(vbool32_t vm, vfloat32m1_t vs2, unsigned int frm,
                            size_t vl);
vint32m2_t __riscv_vfcvt_x(vbool16_t vm, vfloat32m2_t vs2, unsigned int frm,
                            size_t vl);
vint32m4_t __riscv_vfcvt_x(vbool8_t vm, vfloat32m4_t vs2, unsigned int frm,
                            size_t vl);
vint32m8_t __riscv_vfcvt_x(vbool4_t vm, vfloat32m8_t vs2, unsigned int frm,
                            size_t vl);
vuint32mf2_t __riscv_vfcvt_xu(vbool64_t vm, vfloat32mf2_t vs2, unsigned int frm,
                               size_t vl);
vuint32m1_t __riscv_vfcvt_xu(vbool32_t vm, vfloat32m1_t vs2, unsigned int frm,
                              size_t vl);
vuint32m2_t __riscv_vfcvt_xu(vbool16_t vm, vfloat32m2_t vs2, unsigned int frm,
                              size_t vl);
vuint32m4_t __riscv_vfcvt_xu(vbool8_t vm, vfloat32m4_t vs2, unsigned int frm,
                              size_t vl);
vuint32m8_t __riscv_vfcvt_xu(vbool4_t vm, vfloat32m8_t vs2, unsigned int frm,
                              size_t vl);
vfloat32mf2_t __riscv_vfcvt_f(vbool64_t vm, vint32mf2_t vs2, unsigned int frm,
                               size_t vl);
vfloat32m1_t __riscv_vfcvt_f(vbool32_t vm, vint32m1_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m2_t __riscv_vfcvt_f(vbool16_t vm, vint32m2_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m4_t __riscv_vfcvt_f(vbool8_t vm, vint32m4_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m8_t __riscv_vfcvt_f(vbool4_t vm, vint32m8_t vs2, unsigned int frm,
                              size_t vl);
vfloat32mf2_t __riscv_vfcvt_f(vbool64_t vm, vuint32mf2_t vs2, unsigned int frm,
                               size_t vl);
vfloat32m1_t __riscv_vfcvt_f(vbool32_t vm, vuint32m1_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m2_t __riscv_vfcvt_f(vbool16_t vm, vuint32m2_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m4_t __riscv_vfcvt_f(vbool8_t vm, vuint32m4_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m8_t __riscv_vfcvt_f(vbool4_t vm, vuint32m8_t vs2, unsigned int frm,
                              size_t vl);
vint64m1_t __riscv_vfcvt_x(vbool64_t vm, vfloat64m1_t vs2, unsigned int frm,
                            size_t vl);
vint64m2_t __riscv_vfcvt_x(vbool32_t vm, vfloat64m2_t vs2, unsigned int frm,
                            size_t vl);
vint64m4_t __riscv_vfcvt_x(vbool16_t vm, vfloat64m4_t vs2, unsigned int frm,
                            size_t vl);
vint64m8_t __riscv_vfcvt_x(vbool8_t vm, vfloat64m8_t vs2, unsigned int frm,
                            size_t vl);
vuint64m1_t __riscv_vfcvt_xu(vbool64_t vm, vfloat64m1_t vs2, unsigned int frm,
                              size_t vl);
vuint64m2_t __riscv_vfcvt_xu(vbool32_t vm, vfloat64m2_t vs2, unsigned int frm,
                              size_t vl);
vuint64m4_t __riscv_vfcvt_xu(vbool16_t vm, vfloat64m4_t vs2, unsigned int frm,
                              size_t vl);
```

```
vuint64m8_t __riscv_vfcvt_xu(vbool8_t vm, vfloat64m8_t vs2, unsigned int frm,
                             size_t vl);
vfloat64m1_t __riscv_vfcvt_f(vbool64_t vm, vint64m1_t vs2, unsigned int frm,
                             size_t vl);
vfloat64m2_t __riscv_vfcvt_f(vbool32_t vm, vint64m2_t vs2, unsigned int frm,
                             size_t vl);
vfloat64m4_t __riscv_vfcvt_f(vbool16_t vm, vint64m4_t vs2, unsigned int frm,
                             size_t vl);
vfloat64m8_t __riscv_vfcvt_f(vbool8_t vm, vint64m8_t vs2, unsigned int frm,
                             size_t vl);
vfloat64m1_t __riscv_vfcvt_f(vbool64_t vm, vuint64m1_t vs2, unsigned int frm,
                             size_t vl);
vfloat64m2_t __riscv_vfcvt_f(vbool32_t vm, vuint64m2_t vs2, unsigned int frm,
                             size_t vl);
vfloat64m4_t __riscv_vfcvt_f(vbool16_t vm, vuint64m4_t vs2, unsigned int frm,
                             size_t vl);
vfloat64m8_t __riscv_vfcvt_f(vbool8_t vm, vuint64m8_t vs2, unsigned int frm,
                             size_t vl);
```

C.5.17. Widening Floating-Point/Integer Type-Convert Intrinsics

```
vfloat16mf4_t __riscv_vfwcvt_f(vint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f(vint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f(vint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f(vint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f(vint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f(vint8m4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f(vuint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f(vuint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f(vuint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f(vuint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f(vuint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f(vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_x(vfloat16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x(vfloat16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_x(vfloat16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x(vfloat16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_x(vfloat16m1_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x(vfloat16m1_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_x(vfloat16m2_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x(vfloat16m2_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_x(vfloat16m4_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x(vfloat16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu(vfloat16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu(vfloat16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu(vfloat16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu(vfloat16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu(vfloat16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_rtz_xu(vfloat16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu(vfloat16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu(vfloat16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu(vfloat16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu(vfloat16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f(vint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f(vint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f(vint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f(vint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f(vint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f(vuint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f(vuint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f(vuint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f(vuint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f(vuint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f(vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f(vfloat16mf2_t vs2, size_t vl);
```

```
vfloat32m2_t __riscv_vfwcvt_f(vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f(vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f(vfloat16m4_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_x(vfloat32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x(vfloat32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_x(vfloat32m1_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x(vfloat32m1_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_x(vfloat32m2_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_rtz_x(vfloat32m2_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_x(vfloat32m4_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_rtz_x(vfloat32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu(vfloat32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_rtz_xu(vfloat32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu(vfloat32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_rtz_xu(vfloat32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu(vfloat32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu(vfloat32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu(vfloat32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu(vfloat32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f(vint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f(vint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f(vint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f(vint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f(vuint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f(vuint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f(vuint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f(vuint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f(vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f(vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f(vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f(vfloat32m4_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfwcvt_f(vbool64_t vm, vint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f(vbool32_t vm, vint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f(vbool16_t vm, vint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f(vbool8_t vm, vint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f(vbool4_t vm, vint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f(vbool2_t vm, vint8m4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f(vbool64_t vm, vuint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f(vbool32_t vm, vuint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f(vbool16_t vm, vuint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f(vbool8_t vm, vuint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f(vbool4_t vm, vuint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f(vbool2_t vm, vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_x(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_x(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_x(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_x(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_x(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_rtz_xu(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f(vbool64_t vm, vint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f(vbool32_t vm, vint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f(vbool16_t vm, vint16m1_t vs2, size_t vl);
```

```
vfloat32m4_t __riscv_vfwcvt_f(vbool8_t vm, vint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f(vbool4_t vm, vint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f(vbool64_t vm, vuint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f(vbool32_t vm, vuint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f(vbool16_t vm, vuint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f(vbool8_t vm, vuint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f(vbool4_t vm, vuint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_x(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_x(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_x(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_rtz_x(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_x(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_rtz_x(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_rtz_xu(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_rtz_xu(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f(vbool64_t vm, vint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f(vbool32_t vm, vint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f(vbool16_t vm, vint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f(vbool8_t vm, vint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f(vbool64_t vm, vuint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f(vbool32_t vm, vuint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f(vbool16_t vm, vuint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f(vbool8_t vm, vuint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_x(vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vint32m1_t __riscv_vfwcvt_x(vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vint32m2_t __riscv_vfwcvt_x(vfloat16m1_t vs2, unsigned int frm, size_t vl);
vint32m4_t __riscv_vfwcvt_x(vfloat16m2_t vs2, unsigned int frm, size_t vl);
vint32m8_t __riscv_vfwcvt_x(vfloat16m4_t vs2, unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu(vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu(vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu(vfloat16m1_t vs2, unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu(vfloat16m2_t vs2, unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu(vfloat16m4_t vs2, unsigned int frm, size_t vl);
vint64m1_t __riscv_vfwcvt_x(vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vint64m2_t __riscv_vfwcvt_x(vfloat32m1_t vs2, unsigned int frm, size_t vl);
vint64m4_t __riscv_vfwcvt_x(vfloat32m2_t vs2, unsigned int frm, size_t vl);
vint64m8_t __riscv_vfwcvt_x(vfloat32m4_t vs2, unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu(vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu(vfloat32m1_t vs2, unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu(vfloat32m2_t vs2, unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu(vfloat32m4_t vs2, unsigned int frm, size_t vl);
// masked functions
vint32mf2_t __riscv_vfwcvt_x(vbool64_t vm, vfloat16mf4_t vs2, unsigned int frm,
                             size_t vl);
vint32m1_t __riscv_vfwcvt_x(vbool32_t vm, vfloat16mf2_t vs2, unsigned int frm,
                            size_t vl);
vint32m2_t __riscv_vfwcvt_x(vbool16_t vm, vfloat16m1_t vs2, unsigned int frm,
                            size_t vl);
vint32m4_t __riscv_vfwcvt_x(vbool8_t vm, vfloat16m2_t vs2, unsigned int frm,
                            size_t vl);
```

```
vint32m8_t __riscv_vfwcvt_x(vbool4_t vm, vfloat16m4_t vs2, unsigned int frm,
                            size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu(vbool64_t vm, vfloat16mf4_t vs2,
                               unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu(vbool32_t vm, vfloat16mf2_t vs2, unsigned int frm,
                              size_t vl);
vuint32m2_t __riscv_vfwcvt_xu(vbool16_t vm, vfloat16m1_t vs2, unsigned int frm,
                              size_t vl);
vuint32m4_t __riscv_vfwcvt_xu(vbool8_t vm, vfloat16m2_t vs2, unsigned int frm,
                              size_t vl);
vuint32m8_t __riscv_vfwcvt_xu(vbool4_t vm, vfloat16m4_t vs2, unsigned int frm,
                              size_t vl);
vint64m1_t __riscv_vfwcvt_x(vbool64_t vm, vfloat32mf2_t vs2, unsigned int frm,
                            size_t vl);
vint64m2_t __riscv_vfwcvt_x(vbool32_t vm, vfloat32m1_t vs2, unsigned int frm,
                            size_t vl);
vint64m4_t __riscv_vfwcvt_x(vbool16_t vm, vfloat32m2_t vs2, unsigned int frm,
                            size_t vl);
vint64m8_t __riscv_vfwcvt_x(vbool8_t vm, vfloat32m4_t vs2, unsigned int frm,
                            size_t vl);
vuint64m1_t __riscv_vfwcvt_xu(vbool64_t vm, vfloat32mf2_t vs2, unsigned int frm,
                              size_t vl);
vuint64m2_t __riscv_vfwcvt_xu(vbool32_t vm, vfloat32m1_t vs2, unsigned int frm,
                              size_t vl);
vuint64m4_t __riscv_vfwcvt_xu(vbool16_t vm, vfloat32m2_t vs2, unsigned int frm,
                              size_t vl);
vuint64m8_t __riscv_vfwcvt_xu(vbool8_t vm, vfloat32m4_t vs2, unsigned int frm,
                              size_t vl);
```

C.5.18. Narrowing Floating-Point/Integer Type-Convert Intrinsics

```
vint8mf8_t __riscv_vfncvt_x(vfloat16mf4_t vs2, size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x(vfloat16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_x(vfloat16mf2_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x(vfloat16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_x(vfloat16m1_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x(vfloat16m1_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_x(vfloat16m2_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x(vfloat16m2_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_x(vfloat16m4_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x(vfloat16m4_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_x(vfloat16m8_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x(vfloat16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu(vfloat16mf4_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu(vfloat16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu(vfloat16mf2_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu(vfloat16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu(vfloat16m1_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu(vfloat16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_xu(vfloat16m2_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu(vfloat16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_xu(vfloat16m4_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu(vfloat16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_xu(vfloat16m8_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu(vfloat16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_x(vfloat32mf2_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x(vfloat32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_x(vfloat32m1_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x(vfloat32m1_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_x(vfloat32m2_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_rtz_x(vfloat32m2_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_x(vfloat32m4_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x(vfloat32m4_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_x(vfloat32m8_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x(vfloat32m8_t vs2, size_t vl);
```

```
vuint16mf4_t __riscv_vfncvt_xu(vfloat32mf2_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu(vfloat32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu(vfloat32m1_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_rtz_xu(vfloat32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_xu(vfloat32m2_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_rtz_xu(vfloat32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_xu(vfloat32m4_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_rtz_xu(vfloat32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_xu(vfloat32m8_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_rtz_xu(vfloat32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vuint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vuint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vuint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vuint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vuint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vfloat32mf2_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_rod_f(vfloat32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vfloat32m1_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_rod_f(vfloat32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vfloat32m2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_rod_f(vfloat32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vfloat32m4_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_rod_f(vfloat32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vfloat32m8_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_rod_f(vfloat32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_x(vfloat64m1_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_rtz_x(vfloat64m1_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_x(vfloat64m2_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_rtz_x(vfloat64m2_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_x(vfloat64m4_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_rtz_x(vfloat64m4_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_x(vfloat64m8_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_rtz_x(vfloat64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu(vfloat64m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_rtz_xu(vfloat64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_xu(vfloat64m2_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_rtz_xu(vfloat64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_xu(vfloat64m4_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_rtz_xu(vfloat64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_xu(vfloat64m8_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_rtz_xu(vfloat64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vuint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vuint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vuint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vuint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vfloat64m1_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_rod_f(vfloat64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vfloat64m2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_rod_f(vfloat64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vfloat64m4_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_rod_f(vfloat64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vfloat64m8_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_rod_f(vfloat64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_x(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
```

```
vint8mf2_t __riscv_vfncvt_x(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_x(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_x(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_x(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu(vbool64_t vm, vfloat16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu(vbool32_t vm, vfloat16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu(vbool16_t vm, vfloat16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_xu(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu(vbool8_t vm, vfloat16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_xu(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu(vbool4_t vm, vfloat16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_xu(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu(vbool2_t vm, vfloat16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_x(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_x(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_x(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_rtz_x(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_x(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_x(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_rtz_xu(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_xu(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_rtz_xu(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_xu(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_rtz_xu(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_xu(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_rtz_xu(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vbool64_t vm, vint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vbool32_t vm, vint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vbool16_t vm, vint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vbool8_t vm, vint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vbool4_t vm, vint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vbool64_t vm, vuint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vbool32_t vm, vuint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vbool16_t vm, vuint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vbool8_t vm, vuint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vbool4_t vm, vuint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_rod_f(vbool64_t vm, vfloat32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_rod_f(vbool32_t vm, vfloat32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_rod_f(vbool16_t vm, vfloat32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_rod_f(vbool8_t vm, vfloat32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_rod_f(vbool4_t vm, vfloat32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_x(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_rtz_x(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_x(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_rtz_x(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_x(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_rtz_x(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_x(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
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```
vint32m4_t __riscv_vfncvt_rtz_x(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_rtz_xu(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_xu(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_rtz_xu(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_xu(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_rtz_xu(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_xu(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_rtz_xu(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vbool64_t vm, vint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vbool32_t vm, vint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vbool16_t vm, vint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vbool8_t vm, vint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vbool64_t vm, vuint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vbool32_t vm, vuint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vbool16_t vm, vuint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vbool8_t vm, vuint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_rod_f(vbool64_t vm, vfloat64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_rod_f(vbool32_t vm, vfloat64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_rod_f(vbool16_t vm, vfloat64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_rod_f(vbool8_t vm, vfloat64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vfncvt_x(vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vint8mf4_t __riscv_vfncvt_x(vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vint8mf2_t __riscv_vfncvt_x(vfloat16m1_t vs2, unsigned int frm, size_t vl);
vint8m1_t __riscv_vfncvt_x(vfloat16m2_t vs2, unsigned int frm, size_t vl);
vint8m2_t __riscv_vfncvt_x(vfloat16m4_t vs2, unsigned int frm, size_t vl);
vint8m4_t __riscv_vfncvt_x(vfloat16m8_t vs2, unsigned int frm, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu(vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu(vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu(vfloat16m1_t vs2, unsigned int frm, size_t vl);
vuint8m1_t __riscv_vfncvt_xu(vfloat16m2_t vs2, unsigned int frm, size_t vl);
vuint8m2_t __riscv_vfncvt_xu(vfloat16m4_t vs2, unsigned int frm, size_t vl);
vuint8m4_t __riscv_vfncvt_xu(vfloat16m8_t vs2, unsigned int frm, size_t vl);
vint16mf4_t __riscv_vfncvt_x(vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfncvt_x(vfloat32m1_t vs2, unsigned int frm, size_t vl);
vint16m1_t __riscv_vfncvt_x(vfloat32m2_t vs2, unsigned int frm, size_t vl);
vint16m2_t __riscv_vfncvt_x(vfloat32m4_t vs2, unsigned int frm, size_t vl);
vint16m4_t __riscv_vfncvt_x(vfloat32m8_t vs2, unsigned int frm, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu(vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu(vfloat32m1_t vs2, unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfncvt_xu(vfloat32m2_t vs2, unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfncvt_xu(vfloat32m4_t vs2, unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfncvt_xu(vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vint32mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vint32m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vint32m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vint32m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vint32m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vuint32mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vuint32m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vuint32m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vuint32m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vuint32m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vfloat32m8_t vs2, unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfncvt_x(vfloat64m1_t vs2, unsigned int frm, size_t vl);
vint32m1_t __riscv_vfncvt_x(vfloat64m2_t vs2, unsigned int frm, size_t vl);
vint32m2_t __riscv_vfncvt_x(vfloat64m4_t vs2, unsigned int frm, size_t vl);
vint32m4_t __riscv_vfncvt_x(vfloat64m8_t vs2, unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu(vfloat64m1_t vs2, unsigned int frm, size_t vl);
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vuint32m1_t __riscv_vfncvt_xu(vfloat64m2_t vs2, unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfncvt_xu(vfloat64m4_t vs2, unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfncvt_xu(vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vint64m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vint64m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vint64m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vint64m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vuint64m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vuint64m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vuint64m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vuint64m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vfloat64m8_t vs2, unsigned int frm, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x(vbool64_t vm, vfloat16mf4_t vs2, unsigned int frm,
                            size_t vl);
vint8mf4_t __riscv_vfncvt_x(vbool32_t vm, vfloat16mf2_t vs2, unsigned int frm,
                            size_t vl);
vint8mf2_t __riscv_vfncvt_x(vbool16_t vm, vfloat16m1_t vs2, unsigned int frm,
                            size_t vl);
vint8m1_t __riscv_vfncvt_x(vbool8_t vm, vfloat16m2_t vs2, unsigned int frm,
                           size_t vl);
vint8m2_t __riscv_vfncvt_x(vbool4_t vm, vfloat16m4_t vs2, unsigned int frm,
                           size_t vl);
vint8m4_t __riscv_vfncvt_x(vbool2_t vm, vfloat16m8_t vs2, unsigned int frm,
                           size_t vl);
vuint8mf8_t __riscv_vfncvt_xu(vbool64_t vm, vfloat16mf4_t vs2, unsigned int frm,
                              size_t vl);
vuint8mf4_t __riscv_vfncvt_xu(vbool32_t vm, vfloat16mf2_t vs2, unsigned int frm,
                              size_t vl);
vuint8mf2_t __riscv_vfncvt_xu(vbool16_t vm, vfloat16m1_t vs2, unsigned int frm,
                              size_t vl);
vuint8m1_t __riscv_vfncvt_xu(vbool8_t vm, vfloat16m2_t vs2, unsigned int frm,
                             size_t vl);
vuint8m2_t __riscv_vfncvt_xu(vbool4_t vm, vfloat16m4_t vs2, unsigned int frm,
                             size_t vl);
vuint8m4_t __riscv_vfncvt_xu(vbool2_t vm, vfloat16m8_t vs2, unsigned int frm,
                             size_t vl);
vint16mf4_t __riscv_vfncvt_x(vbool64_t vm, vfloat32mf2_t vs2, unsigned int frm,
                             size_t vl);
vint16mf2_t __riscv_vfncvt_x(vbool32_t vm, vfloat32m1_t vs2, unsigned int frm,
                             size_t vl);
vint16m1_t __riscv_vfncvt_x(vbool16_t vm, vfloat32m2_t vs2, unsigned int frm,
                            size_t vl);
vint16m2_t __riscv_vfncvt_x(vbool8_t vm, vfloat32m4_t vs2, unsigned int frm,
                            size_t vl);
vint16m4_t __riscv_vfncvt_x(vbool4_t vm, vfloat32m8_t vs2, unsigned int frm,
                            size_t vl);
vuint16mf4_t __riscv_vfncvt_xu(vbool64_t vm, vfloat32mf2_t vs2,
                               unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu(vbool32_t vm, vfloat32m1_t vs2, unsigned int frm,
                               size_t vl);
vuint16m1_t __riscv_vfncvt_xu(vbool16_t vm, vfloat32m2_t vs2, unsigned int frm,
                              size_t vl);
vuint16m2_t __riscv_vfncvt_xu(vbool8_t vm, vfloat32m4_t vs2, unsigned int frm,
                              size_t vl);
vuint16m4_t __riscv_vfncvt_xu(vbool4_t vm, vfloat32m8_t vs2, unsigned int frm,
                              size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vbool64_t vm, vint32mf2_t vs2, unsigned int frm,
                               size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vbool32_t vm, vint32m1_t vs2, unsigned int frm,
                               size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vbool16_t vm, vint32m2_t vs2, unsigned int frm,
                              size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vbool8_t vm, vint32m4_t vs2, unsigned int frm,
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                              size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vbool4_t vm, vint32m8_t vs2, unsigned int frm,
                              size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vbool64_t vm, vuint32mf2_t vs2, unsigned int frm,
                               size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vbool32_t vm, vuint32m1_t vs2, unsigned int frm,
                               size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vbool16_t vm, vuint32m2_t vs2, unsigned int frm,
                              size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vbool8_t vm, vuint32m4_t vs2, unsigned int frm,
                              size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vbool4_t vm, vuint32m8_t vs2, unsigned int frm,
                              size_t vl);
vfloat16mf4_t __riscv_vfncvt_f(vbool64_t vm, vfloat32mf2_t vs2,
                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f(vbool32_t vm, vfloat32m1_t vs2, unsigned int frm,
                               size_t vl);
vfloat16m1_t __riscv_vfncvt_f(vbool16_t vm, vfloat32m2_t vs2, unsigned int frm,
                              size_t vl);
vfloat16m2_t __riscv_vfncvt_f(vbool8_t vm, vfloat32m4_t vs2, unsigned int frm,
                              size_t vl);
vfloat16m4_t __riscv_vfncvt_f(vbool4_t vm, vfloat32m8_t vs2, unsigned int frm,
                              size_t vl);
vint32mf2_t __riscv_vfncvt_x(vbool64_t vm, vfloat64m1_t vs2, unsigned int frm,
                             size_t vl);
vint32m1_t __riscv_vfncvt_x(vbool32_t vm, vfloat64m2_t vs2, unsigned int frm,
                            size_t vl);
vint32m2_t __riscv_vfncvt_x(vbool16_t vm, vfloat64m4_t vs2, unsigned int frm,
                            size_t vl);
vint32m4_t __riscv_vfncvt_x(vbool8_t vm, vfloat64m8_t vs2, unsigned int frm,
                            size_t vl);
vuint32mf2_t __riscv_vfncvt_xu(vbool64_t vm, vfloat64m1_t vs2, unsigned int frm,
                               size_t vl);
vuint32m1_t __riscv_vfncvt_xu(vbool32_t vm, vfloat64m2_t vs2, unsigned int frm,
                              size_t vl);
vuint32m2_t __riscv_vfncvt_xu(vbool16_t vm, vfloat64m4_t vs2, unsigned int frm,
                              size_t vl);
vuint32m4_t __riscv_vfncvt_xu(vbool8_t vm, vfloat64m8_t vs2, unsigned int frm,
                              size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vbool64_t vm, vint64m1_t vs2, unsigned int frm,
                               size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vbool32_t vm, vint64m2_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vbool16_t vm, vint64m4_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vbool8_t vm, vint64m8_t vs2, unsigned int frm,
                              size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vbool64_t vm, vuint64m1_t vs2, unsigned int frm,
                               size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vbool32_t vm, vuint64m2_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vbool16_t vm, vuint64m4_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vbool8_t vm, vuint64m8_t vs2, unsigned int frm,
                              size_t vl);
vfloat32mf2_t __riscv_vfncvt_f(vbool64_t vm, vfloat64m1_t vs2, unsigned int frm,
                               size_t vl);
vfloat32m1_t __riscv_vfncvt_f(vbool32_t vm, vfloat64m2_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m2_t __riscv_vfncvt_f(vbool16_t vm, vfloat64m4_t vs2, unsigned int frm,
                              size_t vl);
vfloat32m4_t __riscv_vfncvt_f(vbool8_t vm, vfloat64m8_t vs2, unsigned int frm,
                              size_t vl);
```

C.6. Vector Reduction Operations

C.6.1. Vector Single-Width Integer Reduction Intrinsics

```
vint8m1_t __riscv_vredsum(vint8mf8_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum(vint8mf4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum(vint8mf2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum(vint16mf4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum(vint16mf2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum(vint16m2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum(vint16m4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum(vint16m8_t vs2, vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum(vint32mf2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum(vint32m2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum(vint32m4_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum(vint32m8_t vs2, vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum(vint64m2_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum(vint64m4_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum(vint64m8_t vs2, vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax(vint8mf8_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax(vint8mf4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax(vint8mf2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax(vint16mf4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax(vint16mf2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax(vint16m2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax(vint16m4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax(vint16m8_t vs2, vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax(vint32mf2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax(vint32m2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax(vint32m4_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax(vint32m8_t vs2, vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax(vint64m2_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax(vint64m4_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax(vint64m8_t vs2, vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin(vint8mf8_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin(vint8mf4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin(vint8mf2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin(vint16mf4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin(vint16mf2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin(vint16m2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin(vint16m4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin(vint16m8_t vs2, vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin(vint32mf2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin(vint32m2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin(vint32m4_t vs2, vint32m1_t vs1, size_t vl);
```

```
vint32m1_t __riscv_vredmin(vint32m8_t vs2, vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin(vint64m2_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin(vint64m4_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin(vint64m8_t vs2, vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand(vint8mf8_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand(vint8mf4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand(vint8mf2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand(vint16mf4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand(vint16mf2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand(vint16m2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand(vint16m4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand(vint16m8_t vs2, vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand(vint32mf2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand(vint32m2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand(vint32m4_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand(vint32m8_t vs2, vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand(vint64m2_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand(vint64m4_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand(vint64m8_t vs2, vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor(vint8mf8_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor(vint8mf4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor(vint8mf2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor(vint16mf4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor(vint16mf2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor(vint16m2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor(vint16m4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor(vint16m8_t vs2, vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor(vint32mf2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor(vint32m2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor(vint32m4_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor(vint32m8_t vs2, vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor(vint64m2_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor(vint64m4_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor(vint64m8_t vs2, vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor(vint8mf8_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor(vint8mf4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor(vint8mf2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor(vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor(vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor(vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor(vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor(vint16mf4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor(vint16mf2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor(vint16m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor(vint16m2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor(vint16m4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor(vint16m8_t vs2, vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor(vint32mf2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor(vint32m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor(vint32m2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor(vint32m4_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor(vint32m8_t vs2, vint32m1_t vs1, size_t vl);
```

```
vint64m1_t __riscv_vredxor(vint64m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor(vint64m2_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor(vint64m4_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor(vint64m8_t vs2, vint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum(vuint8mf8_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum(vuint8mf4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum(vuint8mf2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum(vuint8m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum(vuint8m4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum(vuint8m8_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum(vuint16mf4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum(vuint16mf2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum(vuint16m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum(vuint16m4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum(vuint16m8_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum(vuint32mf2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum(vuint32m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum(vuint32m4_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum(vuint32m8_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum(vuint64m2_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum(vuint64m4_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum(vuint64m8_t vs2, vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu(vuint8mf8_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu(vuint8mf4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu(vuint8mf2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu(vuint8m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu(vuint8m4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu(vuint8m8_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu(vuint16mf4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu(vuint16mf2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu(vuint16m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu(vuint16m4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu(vuint16m8_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu(vuint32mf2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu(vuint32m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu(vuint32m4_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu(vuint32m8_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu(vuint64m2_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu(vuint64m4_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu(vuint64m8_t vs2, vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu(vuint8mf8_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu(vuint8mf4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu(vuint8mf2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu(vuint8m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu(vuint8m4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu(vuint8m8_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu(vuint16mf4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu(vuint16mf2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu(vuint16m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu(vuint16m4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu(vuint16m8_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu(vuint32mf2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu(vuint32m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu(vuint32m4_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu(vuint32m8_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
```

```
vuint64m1_t __riscv_vredminu(vuint64m2_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu(vuint64m4_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu(vuint64m8_t vs2, vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand(vuint8mf8_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand(vuint8mf4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand(vuint8mf2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand(vuint8m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand(vuint8m4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand(vuint8m8_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand(vuint16mf4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand(vuint16mf2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand(vuint16m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand(vuint16m4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand(vuint16m8_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand(vuint32mf2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand(vuint32m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand(vuint32m4_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand(vuint32m8_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand(vuint64m2_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand(vuint64m4_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand(vuint64m8_t vs2, vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor(vuint8mf8_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor(vuint8mf4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor(vuint8mf2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor(vuint8m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor(vuint8m4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor(vuint8m8_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor(vuint16mf4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor(vuint16mf2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor(vuint16m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor(vuint16m4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor(vuint16m8_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor(vuint32mf2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor(vuint32m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor(vuint32m4_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor(vuint32m8_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor(vuint64m2_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor(vuint64m4_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor(vuint64m8_t vs2, vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor(vuint8mf8_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor(vuint8mf4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor(vuint8mf2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor(vuint8m2_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor(vuint8m4_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor(vuint8m8_t vs2, vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor(vuint16mf4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor(vuint16mf2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor(vuint16m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor(vuint16m4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor(vuint16m8_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor(vuint32mf2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor(vuint32m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor(vuint32m4_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor(vuint32m8_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor(vuint64m2_t vs2, vuint64m1_t vs1, size_t vl);
```

```
vuint64m1_t __riscv_vredxor(vuint64m4_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor(vuint64m8_t vs2, vuint64m1_t vs1, size_t vl);
// masked functions
vint8m1_t __riscv_vredsum(vbool64_t vm, vint8mf8_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredsum(vbool32_t vm, vint8mf4_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredsum(vbool16_t vm, vint8mf2_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredsum(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum(vbool4_t vm, vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum(vbool2_t vm, vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum(vbool1_t vm, vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum(vbool64_t vm, vint16mf4_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredsum(vbool32_t vm, vint16mf2_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredsum(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredsum(vbool8_t vm, vint16m2_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredsum(vbool4_t vm, vint16m4_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredsum(vbool2_t vm, vint16m8_t vs2, vint16m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredsum(vbool64_t vm, vint32mf2_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredsum(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredsum(vbool16_t vm, vint32m2_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredsum(vbool8_t vm, vint32m4_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredsum(vbool4_t vm, vint32m8_t vs2, vint32m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredsum(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredsum(vbool32_t vm, vint64m2_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredsum(vbool16_t vm, vint64m4_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredsum(vbool8_t vm, vint64m8_t vs2, vint64m1_t vs1,
                           size_t vl);
vint8m1_t __riscv_vredmax(vbool64_t vm, vint8mf8_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredmax(vbool32_t vm, vint8mf4_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredmax(vbool16_t vm, vint8mf2_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredmax(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax(vbool4_t vm, vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax(vbool2_t vm, vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax(vbool1_t vm, vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax(vbool64_t vm, vint16mf4_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredmax(vbool32_t vm, vint16mf2_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredmax(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredmax(vbool8_t vm, vint16m2_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredmax(vbool4_t vm, vint16m4_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredmax(vbool2_t vm, vint16m8_t vs2, vint16m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredmax(vbool64_t vm, vint32mf2_t vs2, vint32m1_t vs1,
                           size_t vl);
```

```
vint32m1_t __riscv_vredmax(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredmax(vbool16_t vm, vint32m2_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredmax(vbool8_t vm, vint32m4_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredmax(vbool4_t vm, vint32m8_t vs2, vint32m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredmax(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredmax(vbool32_t vm, vint64m2_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredmax(vbool16_t vm, vint64m4_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredmax(vbool8_t vm, vint64m8_t vs2, vint64m1_t vs1,
                           size_t vl);
vint8m1_t __riscv_vredmin(vbool64_t vm, vint8mf8_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredmin(vbool32_t vm, vint8mf4_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredmin(vbool16_t vm, vint8mf2_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredmin(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin(vbool4_t vm, vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin(vbool2_t vm, vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin(vbool1_t vm, vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin(vbool64_t vm, vint16mf4_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredmin(vbool32_t vm, vint16mf2_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredmin(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredmin(vbool8_t vm, vint16m2_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredmin(vbool4_t vm, vint16m4_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredmin(vbool2_t vm, vint16m8_t vs2, vint16m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredmin(vbool64_t vm, vint32mf2_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredmin(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredmin(vbool16_t vm, vint32m2_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredmin(vbool8_t vm, vint32m4_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredmin(vbool4_t vm, vint32m8_t vs2, vint32m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredmin(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredmin(vbool32_t vm, vint64m2_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredmin(vbool16_t vm, vint64m4_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredmin(vbool8_t vm, vint64m8_t vs2, vint64m1_t vs1,
                           size_t vl);
vint8m1_t __riscv_vredand(vbool64_t vm, vint8mf8_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredand(vbool32_t vm, vint8mf4_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredand(vbool16_t vm, vint8mf2_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredand(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand(vbool4_t vm, vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand(vbool2_t vm, vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand(vbool1_t vm, vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand(vbool64_t vm, vint16mf4_t vs2, vint16m1_t vs1,
```

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                           size_t vl);
vint16m1_t __riscv_vredand(vbool32_t vm, vint16mf2_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredand(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredand(vbool8_t vm, vint16m2_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredand(vbool4_t vm, vint16m4_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredand(vbool2_t vm, vint16m8_t vs2, vint16m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredand(vbool64_t vm, vint32mf2_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredand(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredand(vbool16_t vm, vint32m2_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredand(vbool8_t vm, vint32m4_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredand(vbool4_t vm, vint32m8_t vs2, vint32m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredand(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredand(vbool32_t vm, vint64m2_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredand(vbool16_t vm, vint64m4_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredand(vbool8_t vm, vint64m8_t vs2, vint64m1_t vs1,
                           size_t vl);
vint8m1_t __riscv_vredor(vbool64_t vm, vint8mf8_t vs2, vint8m1_t vs1,
                         size_t vl);
vint8m1_t __riscv_vredor(vbool32_t vm, vint8mf4_t vs2, vint8m1_t vs1,
                         size_t vl);
vint8m1_t __riscv_vredor(vbool16_t vm, vint8mf2_t vs2, vint8m1_t vs1,
                         size_t vl);
vint8m1_t __riscv_vredor(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor(vbool4_t vm, vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor(vbool2_t vm, vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor(vbool1_t vm, vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor(vbool64_t vm, vint16mf4_t vs2, vint16m1_t vs1,
                          size_t vl);
vint16m1_t __riscv_vredor(vbool32_t vm, vint16mf2_t vs2, vint16m1_t vs1,
                          size_t vl);
vint16m1_t __riscv_vredor(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                          size_t vl);
vint16m1_t __riscv_vredor(vbool8_t vm, vint16m2_t vs2, vint16m1_t vs1,
                          size_t vl);
vint16m1_t __riscv_vredor(vbool4_t vm, vint16m4_t vs2, vint16m1_t vs1,
                          size_t vl);
vint16m1_t __riscv_vredor(vbool2_t vm, vint16m8_t vs2, vint16m1_t vs1,
                          size_t vl);
vint32m1_t __riscv_vredor(vbool64_t vm, vint32mf2_t vs2, vint32m1_t vs1,
                          size_t vl);
vint32m1_t __riscv_vredor(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                          size_t vl);
vint32m1_t __riscv_vredor(vbool16_t vm, vint32m2_t vs2, vint32m1_t vs1,
                          size_t vl);
vint32m1_t __riscv_vredor(vbool8_t vm, vint32m4_t vs2, vint32m1_t vs1,
                          size_t vl);
vint32m1_t __riscv_vredor(vbool4_t vm, vint32m8_t vs2, vint32m1_t vs1,
                          size_t vl);
vint64m1_t __riscv_vredor(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                          size_t vl);
vint64m1_t __riscv_vredor(vbool32_t vm, vint64m2_t vs2, vint64m1_t vs1,
                          size_t vl);
vint64m1_t __riscv_vredor(vbool16_t vm, vint64m4_t vs2, vint64m1_t vs1,
                          size_t vl);
```

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vint64m1_t __riscv_vredor(vbool8_t vm, vint64m8_t vs2, vint64m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredxor(vbool64_t vm, vint8mf8_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredxor(vbool32_t vm, vint8mf4_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredxor(vbool16_t vm, vint8mf2_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vredxor(vbool8_t vm, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor(vbool4_t vm, vint8m2_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor(vbool2_t vm, vint8m4_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor(vbool1_t vm, vint8m8_t vs2, vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor(vbool64_t vm, vint16mf4_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredxor(vbool32_t vm, vint16mf2_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredxor(vbool16_t vm, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredxor(vbool8_t vm, vint16m2_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredxor(vbool4_t vm, vint16m4_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vredxor(vbool2_t vm, vint16m8_t vs2, vint16m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredxor(vbool64_t vm, vint32mf2_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredxor(vbool32_t vm, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredxor(vbool16_t vm, vint32m2_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredxor(vbool8_t vm, vint32m4_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vredxor(vbool4_t vm, vint32m8_t vs2, vint32m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredxor(vbool64_t vm, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredxor(vbool32_t vm, vint64m2_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredxor(vbool16_t vm, vint64m4_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vredxor(vbool8_t vm, vint64m8_t vs2, vint64m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredsum(vbool64_t vm, vuint8mf8_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredsum(vbool32_t vm, vuint8mf4_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredsum(vbool16_t vm, vuint8mf2_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredsum(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredsum(vbool4_t vm, vuint8m2_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredsum(vbool2_t vm, vuint8m4_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredsum(vbool1_t vm, vuint8m8_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint16m1_t __riscv_vredsum(vbool64_t vm, vuint16mf4_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredsum(vbool32_t vm, vuint16mf2_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredsum(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredsum(vbool8_t vm, vuint16m2_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredsum(vbool4_t vm, vuint16m4_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredsum(vbool2_t vm, vuint16m8_t vs2, vuint16m1_t vs1,
```

```
                            size_t vl);
vuint32m1_t __riscv_vredsum(vbool64_t vm, vuint32mf2_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredsum(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredsum(vbool16_t vm, vuint32m2_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredsum(vbool8_t vm, vuint32m4_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredsum(vbool4_t vm, vuint32m8_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredsum(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredsum(vbool32_t vm, vuint64m2_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredsum(vbool16_t vm, vuint64m4_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredsum(vbool8_t vm, vuint64m8_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredmaxu(vbool64_t vm, vuint8mf8_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredmaxu(vbool32_t vm, vuint8mf4_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredmaxu(vbool16_t vm, vuint8mf2_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredmaxu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredmaxu(vbool4_t vm, vuint8m2_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredmaxu(vbool2_t vm, vuint8m4_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredmaxu(vbool1_t vm, vuint8m8_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredmaxu(vbool64_t vm, vuint16mf4_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vredmaxu(vbool32_t vm, vuint16mf2_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vredmaxu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vredmaxu(vbool8_t vm, vuint16m2_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vredmaxu(vbool4_t vm, vuint16m4_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vredmaxu(vbool2_t vm, vuint16m8_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vredmaxu(vbool64_t vm, vuint32mf2_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vredmaxu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vredmaxu(vbool16_t vm, vuint32m2_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vredmaxu(vbool8_t vm, vuint32m4_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vredmaxu(vbool4_t vm, vuint32m8_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vredmaxu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vredmaxu(vbool32_t vm, vuint64m2_t vs2, vuint64m1_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vredmaxu(vbool16_t vm, vuint64m4_t vs2, vuint64m1_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vredmaxu(vbool8_t vm, vuint64m8_t vs2, vuint64m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vredminu(vbool64_t vm, vuint8mf8_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredminu(vbool32_t vm, vuint8mf4_t vs2, vuint8m1_t vs1,
                            size_t vl);
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vuint8m1_t __riscv_vredminu(vbool16_t vm, vuint8mf2_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredminu(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredminu(vbool4_t vm, vuint8m2_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredminu(vbool2_t vm, vuint8m4_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredminu(vbool1_t vm, vuint8m8_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredminu(vbool64_t vm, vuint16mf4_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vredminu(vbool32_t vm, vuint16mf2_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vredminu(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vredminu(vbool8_t vm, vuint16m2_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vredminu(vbool4_t vm, vuint16m4_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vredminu(vbool2_t vm, vuint16m8_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vredminu(vbool64_t vm, vuint32mf2_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vredminu(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vredminu(vbool16_t vm, vuint32m2_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vredminu(vbool8_t vm, vuint32m4_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vredminu(vbool4_t vm, vuint32m8_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vredminu(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vredminu(vbool32_t vm, vuint64m2_t vs2, vuint64m1_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vredminu(vbool16_t vm, vuint64m4_t vs2, vuint64m1_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vredminu(vbool8_t vm, vuint64m8_t vs2, vuint64m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vredand(vbool64_t vm, vuint8mf8_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredand(vbool32_t vm, vuint8mf4_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredand(vbool16_t vm, vuint8mf2_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredand(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredand(vbool4_t vm, vuint8m2_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredand(vbool2_t vm, vuint8m4_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredand(vbool1_t vm, vuint8m8_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint16m1_t __riscv_vredand(vbool64_t vm, vuint16mf4_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredand(vbool32_t vm, vuint16mf2_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredand(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredand(vbool8_t vm, vuint16m2_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredand(vbool4_t vm, vuint16m4_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredand(vbool2_t vm, vuint16m8_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredand(vbool64_t vm, vuint32mf2_t vs2, vuint32m1_t vs1,
```

```
                            size_t vl);
vuint32m1_t __riscv_vredand(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredand(vbool16_t vm, vuint32m2_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredand(vbool8_t vm, vuint32m4_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredand(vbool4_t vm, vuint32m8_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredand(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredand(vbool32_t vm, vuint64m2_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredand(vbool16_t vm, vuint64m4_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredand(vbool8_t vm, vuint64m8_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vredor(vbool64_t vm, vuint8mf8_t vs2, vuint8m1_t vs1,
                          size_t vl);
vuint8m1_t __riscv_vredor(vbool32_t vm, vuint8mf4_t vs2, vuint8m1_t vs1,
                          size_t vl);
vuint8m1_t __riscv_vredor(vbool16_t vm, vuint8mf2_t vs2, vuint8m1_t vs1,
                          size_t vl);
vuint8m1_t __riscv_vredor(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                          size_t vl);
vuint8m1_t __riscv_vredor(vbool4_t vm, vuint8m2_t vs2, vuint8m1_t vs1,
                          size_t vl);
vuint8m1_t __riscv_vredor(vbool2_t vm, vuint8m4_t vs2, vuint8m1_t vs1,
                          size_t vl);
vuint8m1_t __riscv_vredor(vbool1_t vm, vuint8m8_t vs2, vuint8m1_t vs1,
                          size_t vl);
vuint16m1_t __riscv_vredor(vbool64_t vm, vuint16mf4_t vs2, vuint16m1_t vs1,
                           size_t vl);
vuint16m1_t __riscv_vredor(vbool32_t vm, vuint16mf2_t vs2, vuint16m1_t vs1,
                           size_t vl);
vuint16m1_t __riscv_vredor(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                           size_t vl);
vuint16m1_t __riscv_vredor(vbool8_t vm, vuint16m2_t vs2, vuint16m1_t vs1,
                           size_t vl);
vuint16m1_t __riscv_vredor(vbool4_t vm, vuint16m4_t vs2, vuint16m1_t vs1,
                           size_t vl);
vuint16m1_t __riscv_vredor(vbool2_t vm, vuint16m8_t vs2, vuint16m1_t vs1,
                           size_t vl);
vuint32m1_t __riscv_vredor(vbool64_t vm, vuint32mf2_t vs2, vuint32m1_t vs1,
                           size_t vl);
vuint32m1_t __riscv_vredor(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                           size_t vl);
vuint32m1_t __riscv_vredor(vbool16_t vm, vuint32m2_t vs2, vuint32m1_t vs1,
                           size_t vl);
vuint32m1_t __riscv_vredor(vbool8_t vm, vuint32m4_t vs2, vuint32m1_t vs1,
                           size_t vl);
vuint32m1_t __riscv_vredor(vbool4_t vm, vuint32m8_t vs2, vuint32m1_t vs1,
                           size_t vl);
vuint64m1_t __riscv_vredor(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                           size_t vl);
vuint64m1_t __riscv_vredor(vbool32_t vm, vuint64m2_t vs2, vuint64m1_t vs1,
                           size_t vl);
vuint64m1_t __riscv_vredor(vbool16_t vm, vuint64m4_t vs2, vuint64m1_t vs1,
                           size_t vl);
vuint64m1_t __riscv_vredor(vbool8_t vm, vuint64m8_t vs2, vuint64m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredxor(vbool64_t vm, vuint8mf8_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredxor(vbool32_t vm, vuint8mf4_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredxor(vbool16_t vm, vuint8mf2_t vs2, vuint8m1_t vs1,
                           size_t vl);
```

```
vuint8m1_t __riscv_vredxor(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredxor(vbool4_t vm, vuint8m2_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredxor(vbool2_t vm, vuint8m4_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vredxor(vbool1_t vm, vuint8m8_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint16m1_t __riscv_vredxor(vbool64_t vm, vuint16mf4_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredxor(vbool32_t vm, vuint16mf2_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredxor(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredxor(vbool8_t vm, vuint16m2_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredxor(vbool4_t vm, vuint16m4_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vredxor(vbool2_t vm, vuint16m8_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredxor(vbool64_t vm, vuint32mf2_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredxor(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredxor(vbool16_t vm, vuint32m2_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredxor(vbool8_t vm, vuint32m4_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vredxor(vbool4_t vm, vuint32m8_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredxor(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredxor(vbool32_t vm, vuint64m2_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredxor(vbool16_t vm, vuint64m4_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vredxor(vbool8_t vm, vuint64m8_t vs2, vuint64m1_t vs1,
                            size_t vl);
```

C.6.2. Vector Widening Integer Reduction Intrinsics

```
vint16m1_t __riscv_vwredsum(vint8mf8_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum(vint8mf4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum(vint8mf2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum(vint8m1_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum(vint8m2_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum(vint8m4_t vs2, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum(vint8m8_t vs2, vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum(vint16mf4_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum(vint16mf2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum(vint16m1_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum(vint16m2_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum(vint16m4_t vs2, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum(vint16m8_t vs2, vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum(vint32mf2_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum(vint32m1_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum(vint32m2_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum(vint32m4_t vs2, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum(vint32m8_t vs2, vint64m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu(vuint8mf8_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu(vuint8mf4_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu(vuint8mf2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu(vuint8m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu(vuint8m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu(vuint8m4_t vs2, vuint16m1_t vs1, size_t vl);
```

```
vuint16m1_t __riscv_vwredsumu(vuint8m8_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu(vuint16mf4_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu(vuint16mf2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu(vuint16m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu(vuint16m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu(vuint16m4_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu(vuint16m8_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu(vuint32mf2_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu(vuint32m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu(vuint32m2_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu(vuint32m4_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu(vuint32m8_t vs2, vuint64m1_t vs1, size_t vl);
// masked functions
vint16m1_t __riscv_vwredsum(vbool64_t vm, vint8mf8_t vs2, vint16m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vwredsum(vbool32_t vm, vint8mf4_t vs2, vint16m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vwredsum(vbool16_t vm, vint8mf2_t vs2, vint16m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vwredsum(vbool8_t vm, vint8m1_t vs2, vint16m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vwredsum(vbool4_t vm, vint8m2_t vs2, vint16m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vwredsum(vbool2_t vm, vint8m4_t vs2, vint16m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vwredsum(vbool1_t vm, vint8m8_t vs2, vint16m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vwredsum(vbool64_t vm, vint16mf4_t vs2, vint32m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vwredsum(vbool32_t vm, vint16mf2_t vs2, vint32m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vwredsum(vbool16_t vm, vint16m1_t vs2, vint32m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vwredsum(vbool8_t vm, vint16m2_t vs2, vint32m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vwredsum(vbool4_t vm, vint16m4_t vs2, vint32m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vwredsum(vbool2_t vm, vint16m8_t vs2, vint32m1_t vs1,
                            size_t vl);
vint64m1_t __riscv_vwredsum(vbool64_t vm, vint32mf2_t vs2, vint64m1_t vs1,
                            size_t vl);
vint64m1_t __riscv_vwredsum(vbool32_t vm, vint32m1_t vs2, vint64m1_t vs1,
                            size_t vl);
vint64m1_t __riscv_vwredsum(vbool16_t vm, vint32m2_t vs2, vint64m1_t vs1,
                            size_t vl);
vint64m1_t __riscv_vwredsum(vbool8_t vm, vint32m4_t vs2, vint64m1_t vs1,
                            size_t vl);
vint64m1_t __riscv_vwredsum(vbool4_t vm, vint32m8_t vs2, vint64m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vwredsumu(vbool64_t vm, vuint8mf8_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vwredsumu(vbool32_t vm, vuint8mf4_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vwredsumu(vbool16_t vm, vuint8mf2_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vwredsumu(vbool8_t vm, vuint8m1_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vwredsumu(vbool4_t vm, vuint8m2_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vwredsumu(vbool2_t vm, vuint8m4_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vwredsumu(vbool1_t vm, vuint8m8_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vwredsumu(vbool64_t vm, vuint16mf4_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vwredsumu(vbool32_t vm, vuint16mf2_t vs2, vuint32m1_t vs1,
                              size_t vl);
```

```
vuint32m1_t __riscv_vwredsumu(vbool16_t vm, vuint16m1_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vwredsumu(vbool8_t vm, vuint16m2_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vwredsumu(vbool4_t vm, vuint16m4_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vwredsumu(vbool2_t vm, vuint16m8_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vwredsumu(vbool64_t vm, vuint32mf2_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vwredsumu(vbool32_t vm, vuint32m1_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vwredsumu(vbool16_t vm, vuint32m2_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vwredsumu(vbool8_t vm, vuint32m4_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vwredsumu(vbool4_t vm, vuint32m8_t vs2, vuint64m1_t vs1,
                              size_t vl);
```

C.6.3. Vector Single-Width Floating-Point Reduction Intrinsics

```
vfloat16m1_t __riscv_vfredosum(vfloat16mf4_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum(vfloat16mf2_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum(vfloat16m2_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum(vfloat16m4_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum(vfloat16m8_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum(vfloat32mf2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum(vfloat32m2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum(vfloat32m4_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum(vfloat32m8_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum(vfloat64m2_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum(vfloat64m4_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum(vfloat64m8_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16mf4_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16mf2_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16m2_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16m4_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16m8_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum(vfloat32mf2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum(vfloat32m2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum(vfloat32m4_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum(vfloat32m8_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum(vfloat64m2_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum(vfloat64m4_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum(vfloat64m8_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax(vfloat16mf4_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax(vfloat16mf2_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax(vfloat16m2_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax(vfloat16m4_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax(vfloat16m8_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax(vfloat32mf2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax(vfloat32m2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax(vfloat32m4_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax(vfloat32m8_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax(vfloat64m2_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax(vfloat64m4_t vs2, vfloat64m1_t vs1, size_t vl);
```

```
vfloat64m1_t __riscv_vfredmax(vfloat64m8_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin(vfloat16mf4_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin(vfloat16mf2_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin(vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin(vfloat16m2_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin(vfloat16m4_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin(vfloat16m8_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin(vfloat32mf2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin(vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin(vfloat32m2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin(vfloat32m4_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin(vfloat32m8_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin(vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin(vfloat64m2_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin(vfloat64m4_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin(vfloat64m8_t vs2, vfloat64m1_t vs1, size_t vl);
// masked functions
vfloat16m1_t __riscv_vfredosum(vbool64_t vm, vfloat16mf4_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum(vbool32_t vm, vfloat16mf2_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                               size_t vl);
vfloat16m1_t __riscv_vfredosum(vbool8_t vm, vfloat16m2_t vs2, vfloat16m1_t vs1,
                               size_t vl);
vfloat16m1_t __riscv_vfredosum(vbool4_t vm, vfloat16m4_t vs2, vfloat16m1_t vs1,
                               size_t vl);
vfloat16m1_t __riscv_vfredosum(vbool2_t vm, vfloat16m8_t vs2, vfloat16m1_t vs1,
                               size_t vl);
vfloat32m1_t __riscv_vfredosum(vbool64_t vm, vfloat32mf2_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                               size_t vl);
vfloat32m1_t __riscv_vfredosum(vbool16_t vm, vfloat32m2_t vs2, vfloat32m1_t vs1,
                               size_t vl);
vfloat32m1_t __riscv_vfredosum(vbool8_t vm, vfloat32m4_t vs2, vfloat32m1_t vs1,
                               size_t vl);
vfloat32m1_t __riscv_vfredosum(vbool4_t vm, vfloat32m8_t vs2, vfloat32m1_t vs1,
                               size_t vl);
vfloat64m1_t __riscv_vfredosum(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                               size_t vl);
vfloat64m1_t __riscv_vfredosum(vbool32_t vm, vfloat64m2_t vs2, vfloat64m1_t vs1,
                               size_t vl);
vfloat64m1_t __riscv_vfredosum(vbool16_t vm, vfloat64m4_t vs2, vfloat64m1_t vs1,
                               size_t vl);
vfloat64m1_t __riscv_vfredosum(vbool8_t vm, vfloat64m8_t vs2, vfloat64m1_t vs1,
                               size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool64_t vm, vfloat16mf4_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool32_t vm, vfloat16mf2_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                               size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool8_t vm, vfloat16m2_t vs2, vfloat16m1_t vs1,
                               size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool4_t vm, vfloat16m4_t vs2, vfloat16m1_t vs1,
                               size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool2_t vm, vfloat16m8_t vs2, vfloat16m1_t vs1,
                               size_t vl);
vfloat32m1_t __riscv_vfredusum(vbool64_t vm, vfloat32mf2_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                               size_t vl);
vfloat32m1_t __riscv_vfredusum(vbool16_t vm, vfloat32m2_t vs2, vfloat32m1_t vs1,
                               size_t vl);
vfloat32m1_t __riscv_vfredusum(vbool8_t vm, vfloat32m4_t vs2, vfloat32m1_t vs1,
                               size_t vl);
```

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vfloat32m1_t __riscv_vfredusum(vbool4_t vm, vfloat32m8_t vs2, vfloat32m1_t vs1,
                               size_t vl);
vfloat64m1_t __riscv_vfredusum(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                               size_t vl);
vfloat64m1_t __riscv_vfredusum(vbool32_t vm, vfloat64m2_t vs2, vfloat64m1_t vs1,
                               size_t vl);
vfloat64m1_t __riscv_vfredusum(vbool16_t vm, vfloat64m4_t vs2, vfloat64m1_t vs1,
                               size_t vl);
vfloat64m1_t __riscv_vfredusum(vbool8_t vm, vfloat64m8_t vs2, vfloat64m1_t vs1,
                               size_t vl);
vfloat16m1_t __riscv_vfredmax(vbool64_t vm, vfloat16mf4_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredmax(vbool32_t vm, vfloat16mf2_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredmax(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredmax(vbool8_t vm, vfloat16m2_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredmax(vbool4_t vm, vfloat16m4_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredmax(vbool2_t vm, vfloat16m8_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat32m1_t __riscv_vfredmax(vbool64_t vm, vfloat32mf2_t vs2, vfloat32m1_t vs1,
                              size_t vl);
vfloat32m1_t __riscv_vfredmax(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                              size_t vl);
vfloat32m1_t __riscv_vfredmax(vbool16_t vm, vfloat32m2_t vs2, vfloat32m1_t vs1,
                              size_t vl);
vfloat32m1_t __riscv_vfredmax(vbool8_t vm, vfloat32m4_t vs2, vfloat32m1_t vs1,
                              size_t vl);
vfloat32m1_t __riscv_vfredmax(vbool4_t vm, vfloat32m8_t vs2, vfloat32m1_t vs1,
                              size_t vl);
vfloat64m1_t __riscv_vfredmax(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                              size_t vl);
vfloat64m1_t __riscv_vfredmax(vbool32_t vm, vfloat64m2_t vs2, vfloat64m1_t vs1,
                              size_t vl);
vfloat64m1_t __riscv_vfredmax(vbool16_t vm, vfloat64m4_t vs2, vfloat64m1_t vs1,
                              size_t vl);
vfloat64m1_t __riscv_vfredmax(vbool8_t vm, vfloat64m8_t vs2, vfloat64m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredmin(vbool64_t vm, vfloat16mf4_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredmin(vbool32_t vm, vfloat16mf2_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredmin(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredmin(vbool8_t vm, vfloat16m2_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredmin(vbool4_t vm, vfloat16m4_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredmin(vbool2_t vm, vfloat16m8_t vs2, vfloat16m1_t vs1,
                              size_t vl);
vfloat32m1_t __riscv_vfredmin(vbool64_t vm, vfloat32mf2_t vs2, vfloat32m1_t vs1,
                              size_t vl);
vfloat32m1_t __riscv_vfredmin(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                              size_t vl);
vfloat32m1_t __riscv_vfredmin(vbool16_t vm, vfloat32m2_t vs2, vfloat32m1_t vs1,
                              size_t vl);
vfloat32m1_t __riscv_vfredmin(vbool8_t vm, vfloat32m4_t vs2, vfloat32m1_t vs1,
                              size_t vl);
vfloat32m1_t __riscv_vfredmin(vbool4_t vm, vfloat32m8_t vs2, vfloat32m1_t vs1,
                              size_t vl);
vfloat64m1_t __riscv_vfredmin(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                              size_t vl);
vfloat64m1_t __riscv_vfredmin(vbool32_t vm, vfloat64m2_t vs2, vfloat64m1_t vs1,
                              size_t vl);
vfloat64m1_t __riscv_vfredmin(vbool16_t vm, vfloat64m4_t vs2, vfloat64m1_t vs1,
```

```
                              size_t vl);
vfloat64m1_t __riscv_vfredmin(vbool8_t vm, vfloat64m8_t vs2, vfloat64m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vfredosum(vfloat16mf4_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum(vfloat16mf2_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum(vfloat16m1_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum(vfloat16m2_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum(vfloat16m4_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum(vfloat16m8_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum(vfloat32mf2_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum(vfloat32m1_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum(vfloat32m2_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum(vfloat32m4_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum(vfloat32m8_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum(vfloat64m1_t vs2, vfloat64m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum(vfloat64m2_t vs2, vfloat64m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum(vfloat64m4_t vs2, vfloat64m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum(vfloat64m8_t vs2, vfloat64m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16mf4_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16mf2_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16m1_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16m2_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16m4_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vfloat16m8_t vs2, vfloat16m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum(vfloat32mf2_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum(vfloat32m1_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum(vfloat32m2_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum(vfloat32m4_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum(vfloat32m8_t vs2, vfloat32m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum(vfloat64m1_t vs2, vfloat64m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum(vfloat64m2_t vs2, vfloat64m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum(vfloat64m4_t vs2, vfloat64m1_t vs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum(vfloat64m8_t vs2, vfloat64m1_t vs1,
                               unsigned int frm, size_t vl);
// masked functions
vfloat16m1_t __riscv_vfredosum(vbool64_t vm, vfloat16mf4_t vs2,
                               vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum(vbool32_t vm, vfloat16mf2_t vs2,
```

```
                                vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum(vbool8_t vm, vfloat16m2_t vs2, vfloat16m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum(vbool4_t vm, vfloat16m4_t vs2, vfloat16m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum(vbool2_t vm, vfloat16m8_t vs2, vfloat16m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum(vbool64_t vm, vfloat32mf2_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum(vbool16_t vm, vfloat32m2_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum(vbool8_t vm, vfloat32m4_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum(vbool4_t vm, vfloat32m8_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum(vbool32_t vm, vfloat64m2_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum(vbool16_t vm, vfloat64m4_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum(vbool8_t vm, vfloat64m8_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool64_t vm, vfloat16mf4_t vs2,
                                vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool32_t vm, vfloat16mf2_t vs2,
                                vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool16_t vm, vfloat16m1_t vs2, vfloat16m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool8_t vm, vfloat16m2_t vs2, vfloat16m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool4_t vm, vfloat16m4_t vs2, vfloat16m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum(vbool2_t vm, vfloat16m8_t vs2, vfloat16m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum(vbool64_t vm, vfloat32mf2_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum(vbool32_t vm, vfloat32m1_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum(vbool16_t vm, vfloat32m2_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum(vbool8_t vm, vfloat32m4_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum(vbool4_t vm, vfloat32m8_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum(vbool64_t vm, vfloat64m1_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum(vbool32_t vm, vfloat64m2_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum(vbool16_t vm, vfloat64m4_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum(vbool8_t vm, vfloat64m8_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
```

C.6.4. Vector Widening Floating-Point Reduction Intrinsics

```
vfloat32m1_t __riscv_vfwredosum(vfloat16mf4_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vfloat16mf2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vfloat16m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vfloat16m2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vfloat16m4_t vs2, vfloat32m1_t vs1, size_t vl);
```

```
vfloat32m1_t __riscv_vfwredosum(vfloat16m8_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vfloat32mf2_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vfloat32m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vfloat32m2_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vfloat32m4_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vfloat32m8_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16mf4_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16mf2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16m2_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16m4_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16m8_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vfloat32mf2_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vfloat32m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vfloat32m2_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vfloat32m4_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vfloat32m8_t vs2, vfloat64m1_t vs1, size_t vl);
// masked functions
vfloat32m1_t __riscv_vfwredosum(vbool64_t vm, vfloat16mf4_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vbool32_t vm, vfloat16mf2_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vbool16_t vm, vfloat16m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vbool8_t vm, vfloat16m2_t vs2, vfloat32m1_t vs1,
                                size_t vl);
vfloat32m1_t __riscv_vfwredosum(vbool4_t vm, vfloat16m4_t vs2, vfloat32m1_t vs1,
                                size_t vl);
vfloat32m1_t __riscv_vfwredosum(vbool2_t vm, vfloat16m8_t vs2, vfloat32m1_t vs1,
                                size_t vl);
vfloat64m1_t __riscv_vfwredosum(vbool64_t vm, vfloat32mf2_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vbool32_t vm, vfloat32m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vbool16_t vm, vfloat32m2_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vbool8_t vm, vfloat32m4_t vs2, vfloat64m1_t vs1,
                                size_t vl);
vfloat64m1_t __riscv_vfwredosum(vbool4_t vm, vfloat32m8_t vs2, vfloat64m1_t vs1,
                                size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool64_t vm, vfloat16mf4_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool32_t vm, vfloat16mf2_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool16_t vm, vfloat16m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool8_t vm, vfloat16m2_t vs2, vfloat32m1_t vs1,
                                size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool4_t vm, vfloat16m4_t vs2, vfloat32m1_t vs1,
                                size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool2_t vm, vfloat16m8_t vs2, vfloat32m1_t vs1,
                                size_t vl);
vfloat64m1_t __riscv_vfwredusum(vbool64_t vm, vfloat32mf2_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vbool32_t vm, vfloat32m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vbool16_t vm, vfloat32m2_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vbool8_t vm, vfloat32m4_t vs2, vfloat64m1_t vs1,
                                size_t vl);
vfloat64m1_t __riscv_vfwredusum(vbool4_t vm, vfloat32m8_t vs2, vfloat64m1_t vs1,
                                size_t vl);
vfloat32m1_t __riscv_vfwredosum(vfloat16mf4_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vfloat16mf2_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vfloat16m1_t vs2, vfloat32m1_t vs1,
```

```
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vfloat16m2_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vfloat16m4_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vfloat16m8_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vfloat32mf2_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vfloat32m1_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vfloat32m2_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vfloat32m4_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vfloat32m8_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16mf4_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16mf2_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16m1_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16m2_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16m4_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vfloat16m8_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vfloat32mf2_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vfloat32m1_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vfloat32m2_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vfloat32m4_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vfloat32m8_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
// masked functions
vfloat32m1_t __riscv_vfwredosum(vbool64_t vm, vfloat16mf4_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vbool32_t vm, vfloat16mf2_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vbool16_t vm, vfloat16m1_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vbool8_t vm, vfloat16m2_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vbool4_t vm, vfloat16m4_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum(vbool2_t vm, vfloat16m8_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vbool64_t vm, vfloat32mf2_t vs2,
                                vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vbool32_t vm, vfloat32m1_t vs2,
                                vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vbool16_t vm, vfloat32m2_t vs2,
                                vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vbool8_t vm, vfloat32m4_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum(vbool4_t vm, vfloat32m8_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool64_t vm, vfloat16mf4_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool32_t vm, vfloat16mf2_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool16_t vm, vfloat16m1_t vs2,
```

```
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool8_t vm, vfloat16m2_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool4_t vm, vfloat16m4_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum(vbool2_t vm, vfloat16m8_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vbool64_t vm, vfloat32mf2_t vs2,
                                vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vbool32_t vm, vfloat32m1_t vs2,
                                vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vbool16_t vm, vfloat32m2_t vs2,
                                vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vbool8_t vm, vfloat32m4_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum(vbool4_t vm, vfloat32m8_t vs2, vfloat64m1_t vs1,
                                unsigned int frm, size_t vl);
```

C.7. Vector Mask Intrinsics

C.7.1. Vector Mask-Register Logical

```
vbool1_t __riscv_vmand(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmand(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmand(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmand(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmand(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmand(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmand(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmnand(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmnand(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmnand(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmnand(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmnand(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmnand(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmnand(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmandn(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmandn(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmandn(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmandn(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmandn(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmandn(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmandn(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmxor(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmxor(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmxor(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmxor(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmxor(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmxor(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmxor(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmor(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmor(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmor(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmor(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmor(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmor(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmor(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmnor(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmnor(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmnor(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmnor(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmnor(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmnor(vbool32_t vs2, vbool32_t vs1, size_t vl);
```

```
vbool64_t __riscv_vmnor(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmorn(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmorn(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmorn(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmorn(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmorn(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmorn(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmorn(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmxnor(vbool1_t vs2, vbool1_t vs1, size_t vl);
vbool2_t __riscv_vmxnor(vbool2_t vs2, vbool2_t vs1, size_t vl);
vbool4_t __riscv_vmxnor(vbool4_t vs2, vbool4_t vs1, size_t vl);
vbool8_t __riscv_vmxnor(vbool8_t vs2, vbool8_t vs1, size_t vl);
vbool16_t __riscv_vmxnor(vbool16_t vs2, vbool16_t vs1, size_t vl);
vbool32_t __riscv_vmxnor(vbool32_t vs2, vbool32_t vs1, size_t vl);
vbool64_t __riscv_vmxnor(vbool64_t vs2, vbool64_t vs1, size_t vl);
vbool1_t __riscv_vmmv(vbool1_t vs, size_t vl);
vbool2_t __riscv_vmmv(vbool2_t vs, size_t vl);
vbool4_t __riscv_vmmv(vbool4_t vs, size_t vl);
vbool8_t __riscv_vmmv(vbool8_t vs, size_t vl);
vbool16_t __riscv_vmmv(vbool16_t vs, size_t vl);
vbool32_t __riscv_vmmv(vbool32_t vs, size_t vl);
vbool64_t __riscv_vmmv(vbool64_t vs, size_t vl);
vbool1_t __riscv_vmnot(vbool1_t vs, size_t vl);
vbool2_t __riscv_vmnot(vbool2_t vs, size_t vl);
vbool4_t __riscv_vmnot(vbool4_t vs, size_t vl);
vbool8_t __riscv_vmnot(vbool8_t vs, size_t vl);
vbool16_t __riscv_vmnot(vbool16_t vs, size_t vl);
vbool32_t __riscv_vmnot(vbool32_t vs, size_t vl);
vbool64_t __riscv_vmnot(vbool64_t vs, size_t vl);
```

C.7.2. Vector count population in mask `vcpop.m`

```
unsigned long __riscv_vcpop(vbool1_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool2_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool4_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool8_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool16_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool32_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool64_t vs2, size_t vl);
// masked functions
unsigned long __riscv_vcpop(vbool1_t vm, vbool1_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool2_t vm, vbool2_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool4_t vm, vbool4_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool8_t vm, vbool8_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool16_t vm, vbool16_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool32_t vm, vbool32_t vs2, size_t vl);
unsigned long __riscv_vcpop(vbool64_t vm, vbool64_t vs2, size_t vl);
```

C.7.3. `vfirst` find-first-set mask bit

```
long __riscv_vfirst(vbool1_t vs2, size_t vl);
long __riscv_vfirst(vbool2_t vs2, size_t vl);
long __riscv_vfirst(vbool4_t vs2, size_t vl);
long __riscv_vfirst(vbool8_t vs2, size_t vl);
long __riscv_vfirst(vbool16_t vs2, size_t vl);
long __riscv_vfirst(vbool32_t vs2, size_t vl);
long __riscv_vfirst(vbool64_t vs2, size_t vl);
// masked functions
long __riscv_vfirst(vbool1_t vm, vbool1_t vs2, size_t vl);
long __riscv_vfirst(vbool2_t vm, vbool2_t vs2, size_t vl);
long __riscv_vfirst(vbool4_t vm, vbool4_t vs2, size_t vl);
long __riscv_vfirst(vbool8_t vm, vbool8_t vs2, size_t vl);
```

```
long __riscv_vfirst(vbool16_t vm, vbool16_t vs2, size_t vl);
long __riscv_vfirst(vbool32_t vm, vbool32_t vs2, size_t vl);
long __riscv_vfirst(vbool64_t vm, vbool64_t vs2, size_t vl);
```

C.7.4. `vmsbf.m` set-before-first mask bit

```
vbool1_t __riscv_vmsbf(vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsbf(vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsbf(vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsbf(vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsbf(vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsbf(vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsbf(vbool64_t vs2, size_t vl);
// masked functions
vbool1_t __riscv_vmsbf(vbool1_t vm, vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsbf(vbool2_t vm, vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsbf(vbool4_t vm, vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsbf(vbool8_t vm, vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsbf(vbool16_t vm, vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsbf(vbool32_t vm, vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsbf(vbool64_t vm, vbool64_t vs2, size_t vl);
```

C.7.5. `vmsif.m` set-including-first mask bit

```
vbool1_t __riscv_vmsif(vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsif(vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsif(vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsif(vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsif(vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsif(vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsif(vbool64_t vs2, size_t vl);
// masked functions
vbool1_t __riscv_vmsif(vbool1_t vm, vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsif(vbool2_t vm, vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsif(vbool4_t vm, vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsif(vbool8_t vm, vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsif(vbool16_t vm, vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsif(vbool32_t vm, vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsif(vbool64_t vm, vbool64_t vs2, size_t vl);
```

C.7.6. `vmsof.m` set-only-first mask bit

```
vbool1_t __riscv_vmsof(vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsof(vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsof(vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsof(vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsof(vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsof(vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsof(vbool64_t vs2, size_t vl);
// masked functions
vbool1_t __riscv_vmsof(vbool1_t vm, vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsof(vbool2_t vm, vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsof(vbool4_t vm, vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsof(vbool8_t vm, vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsof(vbool16_t vm, vbool16_t vs2, size_t vl);
vbool32_t __riscv_vmsof(vbool32_t vm, vbool32_t vs2, size_t vl);
vbool64_t __riscv_vmsof(vbool64_t vm, vbool64_t vs2, size_t vl);
```

C.7.7. Vector Iota Intrinsics

```
// masked functions
```

C.7.8. Vector Element Index Intrinsics

```
// masked functions
```

C.8. Vector Permutation Intrinsics

C.8.1. Integer and Floating-Point Scalar Move Intrinsics

```
_Float16 __riscv_vfmv_f(vfloat16mf4_t vs1);
_Float16 __riscv_vfmv_f(vfloat16mf2_t vs1);
_Float16 __riscv_vfmv_f(vfloat16m1_t vs1);
_Float16 __riscv_vfmv_f(vfloat16m2_t vs1);
_Float16 __riscv_vfmv_f(vfloat16m4_t vs1);
_Float16 __riscv_vfmv_f(vfloat16m8_t vs1);
float __riscv_vfmv_f(vfloat32mf2_t vs1);
float __riscv_vfmv_f(vfloat32m1_t vs1);
float __riscv_vfmv_f(vfloat32m2_t vs1);
float __riscv_vfmv_f(vfloat32m4_t vs1);
float __riscv_vfmv_f(vfloat32m8_t vs1);
double __riscv_vfmv_f(vfloat64m1_t vs1);
double __riscv_vfmv_f(vfloat64m2_t vs1);
double __riscv_vfmv_f(vfloat64m4_t vs1);
double __riscv_vfmv_f(vfloat64m8_t vs1);
int8_t __riscv_vmv_x(vint8mf8_t vs1);
int8_t __riscv_vmv_x(vint8mf4_t vs1);
int8_t __riscv_vmv_x(vint8mf2_t vs1);
int8_t __riscv_vmv_x(vint8m1_t vs1);
int8_t __riscv_vmv_x(vint8m2_t vs1);
int8_t __riscv_vmv_x(vint8m4_t vs1);
int8_t __riscv_vmv_x(vint8m8_t vs1);
int16_t __riscv_vmv_x(vint16mf4_t vs1);
int16_t __riscv_vmv_x(vint16mf2_t vs1);
int16_t __riscv_vmv_x(vint16m1_t vs1);
int16_t __riscv_vmv_x(vint16m2_t vs1);
int16_t __riscv_vmv_x(vint16m4_t vs1);
int16_t __riscv_vmv_x(vint16m8_t vs1);
int32_t __riscv_vmv_x(vint32mf2_t vs1);
int32_t __riscv_vmv_x(vint32m1_t vs1);
int32_t __riscv_vmv_x(vint32m2_t vs1);
int32_t __riscv_vmv_x(vint32m4_t vs1);
int32_t __riscv_vmv_x(vint32m8_t vs1);
int64_t __riscv_vmv_x(vint64m1_t vs1);
int64_t __riscv_vmv_x(vint64m2_t vs1);
int64_t __riscv_vmv_x(vint64m4_t vs1);
int64_t __riscv_vmv_x(vint64m8_t vs1);
uint8_t __riscv_vmv_x(vuint8mf8_t vs1);
uint8_t __riscv_vmv_x(vuint8mf4_t vs1);
uint8_t __riscv_vmv_x(vuint8mf2_t vs1);
uint8_t __riscv_vmv_x(vuint8m1_t vs1);
uint8_t __riscv_vmv_x(vuint8m2_t vs1);
uint8_t __riscv_vmv_x(vuint8m4_t vs1);
uint8_t __riscv_vmv_x(vuint8m8_t vs1);
uint16_t __riscv_vmv_x(vuint16mf4_t vs1);
uint16_t __riscv_vmv_x(vuint16mf2_t vs1);
uint16_t __riscv_vmv_x(vuint16m1_t vs1);
```

```
uint16_t __riscv_vmv_x(vuint16m2_t vs1);
uint16_t __riscv_vmv_x(vuint16m4_t vs1);
uint16_t __riscv_vmv_x(vuint16m8_t vs1);
uint32_t __riscv_vmv_x(vuint32mf2_t vs1);
uint32_t __riscv_vmv_x(vuint32m1_t vs1);
uint32_t __riscv_vmv_x(vuint32m2_t vs1);
uint32_t __riscv_vmv_x(vuint32m4_t vs1);
uint32_t __riscv_vmv_x(vuint32m8_t vs1);
uint64_t __riscv_vmv_x(vuint64m1_t vs1);
uint64_t __riscv_vmv_x(vuint64m2_t vs1);
uint64_t __riscv_vmv_x(vuint64m4_t vs1);
uint64_t __riscv_vmv_x(vuint64m8_t vs1);
```

C.8.2. Vector Slideup Intrinsics

```
vfloat16mf4_t __riscv_vslideup(vfloat16mf4_t vd, vfloat16mf4_t vs2, size_t rs1,
                               size_t vl);
vfloat16mf2_t __riscv_vslideup(vfloat16mf2_t vd, vfloat16mf2_t vs2, size_t rs1,
                               size_t vl);
vfloat16m1_t __riscv_vslideup(vfloat16m1_t vd, vfloat16m1_t vs2, size_t rs1,
                              size_t vl);
vfloat16m2_t __riscv_vslideup(vfloat16m2_t vd, vfloat16m2_t vs2, size_t rs1,
                              size_t vl);
vfloat16m4_t __riscv_vslideup(vfloat16m4_t vd, vfloat16m4_t vs2, size_t rs1,
                              size_t vl);
vfloat16m8_t __riscv_vslideup(vfloat16m8_t vd, vfloat16m8_t vs2, size_t rs1,
                              size_t vl);
vfloat32mf2_t __riscv_vslideup(vfloat32mf2_t vd, vfloat32mf2_t vs2, size_t rs1,
                               size_t vl);
vfloat32m1_t __riscv_vslideup(vfloat32m1_t vd, vfloat32m1_t vs2, size_t rs1,
                              size_t vl);
vfloat32m2_t __riscv_vslideup(vfloat32m2_t vd, vfloat32m2_t vs2, size_t rs1,
                              size_t vl);
vfloat32m4_t __riscv_vslideup(vfloat32m4_t vd, vfloat32m4_t vs2, size_t rs1,
                              size_t vl);
vfloat32m8_t __riscv_vslideup(vfloat32m8_t vd, vfloat32m8_t vs2, size_t rs1,
                              size_t vl);
vfloat64m1_t __riscv_vslideup(vfloat64m1_t vd, vfloat64m1_t vs2, size_t rs1,
                              size_t vl);
vfloat64m2_t __riscv_vslideup(vfloat64m2_t vd, vfloat64m2_t vs2, size_t rs1,
                              size_t vl);
vfloat64m4_t __riscv_vslideup(vfloat64m4_t vd, vfloat64m4_t vs2, size_t rs1,
                              size_t vl);
vfloat64m8_t __riscv_vslideup(vfloat64m8_t vd, vfloat64m8_t vs2, size_t rs1,
                              size_t vl);
vint8mf8_t __riscv_vslideup(vint8mf8_t vd, vint8mf8_t vs2, size_t rs1,
                            size_t vl);
vint8mf4_t __riscv_vslideup(vint8mf4_t vd, vint8mf4_t vs2, size_t rs1,
                            size_t vl);
vint8mf2_t __riscv_vslideup(vint8mf2_t vd, vint8mf2_t vs2, size_t rs1,
                            size_t vl);
vint8m1_t __riscv_vslideup(vint8m1_t vd, vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vslideup(vint8m2_t vd, vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vslideup(vint8m4_t vd, vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vslideup(vint8m8_t vd, vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vslideup(vint16mf4_t vd, vint16mf4_t vs2, size_t rs1,
                             size_t vl);
vint16mf2_t __riscv_vslideup(vint16mf2_t vd, vint16mf2_t vs2, size_t rs1,
                             size_t vl);
vint16m1_t __riscv_vslideup(vint16m1_t vd, vint16m1_t vs2, size_t rs1,
                            size_t vl);
vint16m2_t __riscv_vslideup(vint16m2_t vd, vint16m2_t vs2, size_t rs1,
                            size_t vl);
vint16m4_t __riscv_vslideup(vint16m4_t vd, vint16m4_t vs2, size_t rs1,
                            size_t vl);
```

```
vint16m8_t __riscv_vslideup(vint16m8_t vd, vint16m8_t vs2, size_t rs1,
                            size_t vl);
vint32mf2_t __riscv_vslideup(vint32mf2_t vd, vint32mf2_t vs2, size_t rs1,
                             size_t vl);
vint32m1_t __riscv_vslideup(vint32m1_t vd, vint32m1_t vs2, size_t rs1,
                            size_t vl);
vint32m2_t __riscv_vslideup(vint32m2_t vd, vint32m2_t vs2, size_t rs1,
                            size_t vl);
vint32m4_t __riscv_vslideup(vint32m4_t vd, vint32m4_t vs2, size_t rs1,
                            size_t vl);
vint32m8_t __riscv_vslideup(vint32m8_t vd, vint32m8_t vs2, size_t rs1,
                            size_t vl);
vint64m1_t __riscv_vslideup(vint64m1_t vd, vint64m1_t vs2, size_t rs1,
                            size_t vl);
vint64m2_t __riscv_vslideup(vint64m2_t vd, vint64m2_t vs2, size_t rs1,
                            size_t vl);
vint64m4_t __riscv_vslideup(vint64m4_t vd, vint64m4_t vs2, size_t rs1,
                            size_t vl);
vint64m8_t __riscv_vslideup(vint64m8_t vd, vint64m8_t vs2, size_t rs1,
                            size_t vl);
vuint8mf8_t __riscv_vslideup(vuint8mf8_t vd, vuint8mf8_t vs2, size_t rs1,
                             size_t vl);
vuint8mf4_t __riscv_vslideup(vuint8mf4_t vd, vuint8mf4_t vs2, size_t rs1,
                             size_t vl);
vuint8mf2_t __riscv_vslideup(vuint8mf2_t vd, vuint8mf2_t vs2, size_t rs1,
                             size_t vl);
vuint8m1_t __riscv_vslideup(vuint8m1_t vd, vuint8m1_t vs2, size_t rs1,
                            size_t vl);
vuint8m2_t __riscv_vslideup(vuint8m2_t vd, vuint8m2_t vs2, size_t rs1,
                            size_t vl);
vuint8m4_t __riscv_vslideup(vuint8m4_t vd, vuint8m4_t vs2, size_t rs1,
                            size_t vl);
vuint8m8_t __riscv_vslideup(vuint8m8_t vd, vuint8m8_t vs2, size_t rs1,
                            size_t vl);
vuint16mf4_t __riscv_vslideup(vuint16mf4_t vd, vuint16mf4_t vs2, size_t rs1,
                              size_t vl);
vuint16mf2_t __riscv_vslideup(vuint16mf2_t vd, vuint16mf2_t vs2, size_t rs1,
                              size_t vl);
vuint16m1_t __riscv_vslideup(vuint16m1_t vd, vuint16m1_t vs2, size_t rs1,
                             size_t vl);
vuint16m2_t __riscv_vslideup(vuint16m2_t vd, vuint16m2_t vs2, size_t rs1,
                             size_t vl);
vuint16m4_t __riscv_vslideup(vuint16m4_t vd, vuint16m4_t vs2, size_t rs1,
                             size_t vl);
vuint16m8_t __riscv_vslideup(vuint16m8_t vd, vuint16m8_t vs2, size_t rs1,
                             size_t vl);
vuint32mf2_t __riscv_vslideup(vuint32mf2_t vd, vuint32mf2_t vs2, size_t rs1,
                              size_t vl);
vuint32m1_t __riscv_vslideup(vuint32m1_t vd, vuint32m1_t vs2, size_t rs1,
                             size_t vl);
vuint32m2_t __riscv_vslideup(vuint32m2_t vd, vuint32m2_t vs2, size_t rs1,
                             size_t vl);
vuint32m4_t __riscv_vslideup(vuint32m4_t vd, vuint32m4_t vs2, size_t rs1,
                             size_t vl);
vuint32m8_t __riscv_vslideup(vuint32m8_t vd, vuint32m8_t vs2, size_t rs1,
                             size_t vl);
vuint64m1_t __riscv_vslideup(vuint64m1_t vd, vuint64m1_t vs2, size_t rs1,
                             size_t vl);
vuint64m2_t __riscv_vslideup(vuint64m2_t vd, vuint64m2_t vs2, size_t rs1,
                             size_t vl);
vuint64m4_t __riscv_vslideup(vuint64m4_t vd, vuint64m4_t vs2, size_t rs1,
                             size_t vl);
vuint64m8_t __riscv_vslideup(vuint64m8_t vd, vuint64m8_t vs2, size_t rs1,
                             size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslideup(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, size_t rs1, size_t vl);
```

```
vfloat16mf2_t __riscv_vslideup(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslideup(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslideup(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslideup(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslideup(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslideup(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslideup(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslideup(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslideup(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslideup(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslideup(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslideup(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslideup(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslideup(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              size_t rs1, size_t vl);
vint8mf8_t __riscv_vslideup(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            size_t rs1, size_t vl);
vint8mf4_t __riscv_vslideup(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            size_t rs1, size_t vl);
vint8mf2_t __riscv_vslideup(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            size_t rs1, size_t vl);
vint8m1_t __riscv_vslideup(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                           size_t vl);
vint8m2_t __riscv_vslideup(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                           size_t vl);
vint8m4_t __riscv_vslideup(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                           size_t vl);
vint8m8_t __riscv_vslideup(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vslideup(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             size_t rs1, size_t vl);
vint16mf2_t __riscv_vslideup(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             size_t rs1, size_t vl);
vint16m1_t __riscv_vslideup(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            size_t rs1, size_t vl);
vint16m2_t __riscv_vslideup(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            size_t rs1, size_t vl);
vint16m4_t __riscv_vslideup(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            size_t rs1, size_t vl);
vint16m8_t __riscv_vslideup(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            size_t rs1, size_t vl);
vint32mf2_t __riscv_vslideup(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             size_t rs1, size_t vl);
vint32m1_t __riscv_vslideup(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            size_t rs1, size_t vl);
vint32m2_t __riscv_vslideup(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            size_t rs1, size_t vl);
vint32m4_t __riscv_vslideup(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            size_t rs1, size_t vl);
vint32m8_t __riscv_vslideup(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            size_t rs1, size_t vl);
vint64m1_t __riscv_vslideup(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            size_t rs1, size_t vl);
vint64m2_t __riscv_vslideup(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
```

```
                            size_t rs1, size_t vl);
vint64m4_t __riscv_vslideup(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            size_t rs1, size_t vl);
vint64m8_t __riscv_vslideup(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslideup(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslideup(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslideup(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             size_t rs1, size_t vl);
vuint8m1_t __riscv_vslideup(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            size_t rs1, size_t vl);
vuint8m2_t __riscv_vslideup(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            size_t rs1, size_t vl);
vuint8m4_t __riscv_vslideup(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            size_t rs1, size_t vl);
vuint8m8_t __riscv_vslideup(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslideup(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslideup(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              size_t rs1, size_t vl);
vuint16m1_t __riscv_vslideup(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             size_t rs1, size_t vl);
vuint16m2_t __riscv_vslideup(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             size_t rs1, size_t vl);
vuint16m4_t __riscv_vslideup(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             size_t rs1, size_t vl);
vuint16m8_t __riscv_vslideup(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslideup(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              size_t rs1, size_t vl);
vuint32m1_t __riscv_vslideup(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             size_t rs1, size_t vl);
vuint32m2_t __riscv_vslideup(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             size_t rs1, size_t vl);
vuint32m4_t __riscv_vslideup(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             size_t rs1, size_t vl);
vuint32m8_t __riscv_vslideup(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             size_t rs1, size_t vl);
vuint64m1_t __riscv_vslideup(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             size_t rs1, size_t vl);
vuint64m2_t __riscv_vslideup(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             size_t rs1, size_t vl);
vuint64m4_t __riscv_vslideup(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             size_t rs1, size_t vl);
vuint64m8_t __riscv_vslideup(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             size_t rs1, size_t vl);
```

C.8.3. Vector Slidedown Intrinsics

```
vfloat16mf4_t __riscv_vslidedown(vfloat16mf4_t vs2, size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslidedown(vfloat16mf2_t vs2, size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslidedown(vfloat16m1_t vs2, size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslidedown(vfloat16m2_t vs2, size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslidedown(vfloat16m4_t vs2, size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslidedown(vfloat16m8_t vs2, size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslidedown(vfloat32mf2_t vs2, size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslidedown(vfloat32m1_t vs2, size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslidedown(vfloat32m2_t vs2, size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslidedown(vfloat32m4_t vs2, size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslidedown(vfloat32m8_t vs2, size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslidedown(vfloat64m1_t vs2, size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslidedown(vfloat64m2_t vs2, size_t rs1, size_t vl);
```

```
vfloat64m4_t __riscv_vslidedown(vfloat64m4_t vs2, size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslidedown(vfloat64m8_t vs2, size_t rs1, size_t vl);
vint8mf8_t __riscv_vslidedown(vint8mf8_t vs2, size_t rs1, size_t vl);
vint8mf4_t __riscv_vslidedown(vint8mf4_t vs2, size_t rs1, size_t vl);
vint8mf2_t __riscv_vslidedown(vint8mf2_t vs2, size_t rs1, size_t vl);
vint8m1_t __riscv_vslidedown(vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vslidedown(vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vslidedown(vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vslidedown(vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vslidedown(vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vslidedown(vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vslidedown(vint16m1_t vs2, size_t rs1, size_t vl);
vint16m2_t __riscv_vslidedown(vint16m2_t vs2, size_t rs1, size_t vl);
vint16m4_t __riscv_vslidedown(vint16m4_t vs2, size_t rs1, size_t vl);
vint16m8_t __riscv_vslidedown(vint16m8_t vs2, size_t rs1, size_t vl);
vint32mf2_t __riscv_vslidedown(vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vslidedown(vint32m1_t vs2, size_t rs1, size_t vl);
vint32m2_t __riscv_vslidedown(vint32m2_t vs2, size_t rs1, size_t vl);
vint32m4_t __riscv_vslidedown(vint32m4_t vs2, size_t rs1, size_t vl);
vint32m8_t __riscv_vslidedown(vint32m8_t vs2, size_t rs1, size_t vl);
vint64m1_t __riscv_vslidedown(vint64m1_t vs2, size_t rs1, size_t vl);
vint64m2_t __riscv_vslidedown(vint64m2_t vs2, size_t rs1, size_t vl);
vint64m4_t __riscv_vslidedown(vint64m4_t vs2, size_t rs1, size_t vl);
vint64m8_t __riscv_vslidedown(vint64m8_t vs2, size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslidedown(vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslidedown(vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslidedown(vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vslidedown(vuint8m1_t vs2, size_t rs1, size_t vl);
vuint8m2_t __riscv_vslidedown(vuint8m2_t vs2, size_t rs1, size_t vl);
vuint8m4_t __riscv_vslidedown(vuint8m4_t vs2, size_t rs1, size_t vl);
vuint8m8_t __riscv_vslidedown(vuint8m8_t vs2, size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslidedown(vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslidedown(vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vslidedown(vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vslidedown(vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vslidedown(vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vslidedown(vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslidedown(vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vslidedown(vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vslidedown(vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vslidedown(vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vslidedown(vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vslidedown(vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vslidedown(vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vslidedown(vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vslidedown(vuint64m8_t vs2, size_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslidedown(vbool64_t vm, vfloat16mf4_t vs2, size_t rs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vslidedown(vbool32_t vm, vfloat16mf2_t vs2, size_t rs1,
                                 size_t vl);
vfloat16m1_t __riscv_vslidedown(vbool16_t vm, vfloat16m1_t vs2, size_t rs1,
                                size_t vl);
vfloat16m2_t __riscv_vslidedown(vbool8_t vm, vfloat16m2_t vs2, size_t rs1,
                                size_t vl);
vfloat16m4_t __riscv_vslidedown(vbool4_t vm, vfloat16m4_t vs2, size_t rs1,
                                size_t vl);
vfloat16m8_t __riscv_vslidedown(vbool2_t vm, vfloat16m8_t vs2, size_t rs1,
                                size_t vl);
vfloat32mf2_t __riscv_vslidedown(vbool64_t vm, vfloat32mf2_t vs2, size_t rs1,
                                 size_t vl);
vfloat32m1_t __riscv_vslidedown(vbool32_t vm, vfloat32m1_t vs2, size_t rs1,
                                size_t vl);
vfloat32m2_t __riscv_vslidedown(vbool16_t vm, vfloat32m2_t vs2, size_t rs1,
                                size_t vl);
vfloat32m4_t __riscv_vslidedown(vbool8_t vm, vfloat32m4_t vs2, size_t rs1,
                                size_t vl);
```

```
vfloat32m8_t __riscv_vslidedown(vbool4_t vm, vfloat32m8_t vs2, size_t rs1,
                                size_t vl);
vfloat64m1_t __riscv_vslidedown(vbool64_t vm, vfloat64m1_t vs2, size_t rs1,
                                size_t vl);
vfloat64m2_t __riscv_vslidedown(vbool32_t vm, vfloat64m2_t vs2, size_t rs1,
                                size_t vl);
vfloat64m4_t __riscv_vslidedown(vbool16_t vm, vfloat64m4_t vs2, size_t rs1,
                                size_t vl);
vfloat64m8_t __riscv_vslidedown(vbool8_t vm, vfloat64m8_t vs2, size_t rs1,
                                size_t vl);
vint8mf8_t __riscv_vslidedown(vbool64_t vm, vint8mf8_t vs2, size_t rs1,
                              size_t vl);
vint8mf4_t __riscv_vslidedown(vbool32_t vm, vint8mf4_t vs2, size_t rs1,
                              size_t vl);
vint8mf2_t __riscv_vslidedown(vbool16_t vm, vint8mf2_t vs2, size_t rs1,
                              size_t vl);
vint8m1_t __riscv_vslidedown(vbool8_t vm, vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vslidedown(vbool4_t vm, vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vslidedown(vbool2_t vm, vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vslidedown(vbool1_t vm, vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vslidedown(vbool64_t vm, vint16mf4_t vs2, size_t rs1,
                               size_t vl);
vint16mf2_t __riscv_vslidedown(vbool32_t vm, vint16mf2_t vs2, size_t rs1,
                               size_t vl);
vint16m1_t __riscv_vslidedown(vbool16_t vm, vint16m1_t vs2, size_t rs1,
                              size_t vl);
vint16m2_t __riscv_vslidedown(vbool8_t vm, vint16m2_t vs2, size_t rs1,
                              size_t vl);
vint16m4_t __riscv_vslidedown(vbool4_t vm, vint16m4_t vs2, size_t rs1,
                              size_t vl);
vint16m8_t __riscv_vslidedown(vbool2_t vm, vint16m8_t vs2, size_t rs1,
                              size_t vl);
vint32mf2_t __riscv_vslidedown(vbool64_t vm, vint32mf2_t vs2, size_t rs1,
                               size_t vl);
vint32m1_t __riscv_vslidedown(vbool32_t vm, vint32m1_t vs2, size_t rs1,
                              size_t vl);
vint32m2_t __riscv_vslidedown(vbool16_t vm, vint32m2_t vs2, size_t rs1,
                              size_t vl);
vint32m4_t __riscv_vslidedown(vbool8_t vm, vint32m4_t vs2, size_t rs1,
                              size_t vl);
vint32m8_t __riscv_vslidedown(vbool4_t vm, vint32m8_t vs2, size_t rs1,
                              size_t vl);
vint64m1_t __riscv_vslidedown(vbool64_t vm, vint64m1_t vs2, size_t rs1,
                              size_t vl);
vint64m2_t __riscv_vslidedown(vbool32_t vm, vint64m2_t vs2, size_t rs1,
                              size_t vl);
vint64m4_t __riscv_vslidedown(vbool16_t vm, vint64m4_t vs2, size_t rs1,
                              size_t vl);
vint64m8_t __riscv_vslidedown(vbool8_t vm, vint64m8_t vs2, size_t rs1,
                              size_t vl);
vuint8mf8_t __riscv_vslidedown(vbool64_t vm, vuint8mf8_t vs2, size_t rs1,
                               size_t vl);
vuint8mf4_t __riscv_vslidedown(vbool32_t vm, vuint8mf4_t vs2, size_t rs1,
                               size_t vl);
vuint8mf2_t __riscv_vslidedown(vbool16_t vm, vuint8mf2_t vs2, size_t rs1,
                               size_t vl);
vuint8m1_t __riscv_vslidedown(vbool8_t vm, vuint8m1_t vs2, size_t rs1,
                              size_t vl);
vuint8m2_t __riscv_vslidedown(vbool4_t vm, vuint8m2_t vs2, size_t rs1,
                              size_t vl);
vuint8m4_t __riscv_vslidedown(vbool2_t vm, vuint8m4_t vs2, size_t rs1,
                              size_t vl);
vuint8m8_t __riscv_vslidedown(vbool1_t vm, vuint8m8_t vs2, size_t rs1,
                              size_t vl);
vuint16mf4_t __riscv_vslidedown(vbool64_t vm, vuint16mf4_t vs2, size_t rs1,
                                size_t vl);
vuint16mf2_t __riscv_vslidedown(vbool32_t vm, vuint16mf2_t vs2, size_t rs1,
```

```
                                size_t vl);
vuint16m1_t __riscv_vslidedown(vbool16_t vm, vuint16m1_t vs2, size_t rs1,
                               size_t vl);
vuint16m2_t __riscv_vslidedown(vbool8_t vm, vuint16m2_t vs2, size_t rs1,
                               size_t vl);
vuint16m4_t __riscv_vslidedown(vbool4_t vm, vuint16m4_t vs2, size_t rs1,
                               size_t vl);
vuint16m8_t __riscv_vslidedown(vbool2_t vm, vuint16m8_t vs2, size_t rs1,
                               size_t vl);
vuint32mf2_t __riscv_vslidedown(vbool64_t vm, vuint32mf2_t vs2, size_t rs1,
                                size_t vl);
vuint32m1_t __riscv_vslidedown(vbool32_t vm, vuint32m1_t vs2, size_t rs1,
                               size_t vl);
vuint32m2_t __riscv_vslidedown(vbool16_t vm, vuint32m2_t vs2, size_t rs1,
                               size_t vl);
vuint32m4_t __riscv_vslidedown(vbool8_t vm, vuint32m4_t vs2, size_t rs1,
                               size_t vl);
vuint32m8_t __riscv_vslidedown(vbool4_t vm, vuint32m8_t vs2, size_t rs1,
                               size_t vl);
vuint64m1_t __riscv_vslidedown(vbool64_t vm, vuint64m1_t vs2, size_t rs1,
                               size_t vl);
vuint64m2_t __riscv_vslidedown(vbool32_t vm, vuint64m2_t vs2, size_t rs1,
                               size_t vl);
vuint64m4_t __riscv_vslidedown(vbool16_t vm, vuint64m4_t vs2, size_t rs1,
                               size_t vl);
vuint64m8_t __riscv_vslidedown(vbool8_t vm, vuint64m8_t vs2, size_t rs1,
                               size_t vl);
```

C.8.4. Vector Slide1up and Slide1down Intrinsics

```
vfloat16mf4_t __riscv_vfslide1up(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfslide1up(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfslide1up(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1up(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1up(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1up(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfslide1up(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfslide1up(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1up(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1up(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1up(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1up(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1up(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1up(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1up(vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfslide1down(vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfslide1down(vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfslide1down(vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1down(vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1down(vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1down(vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfslide1down(vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfslide1down(vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1down(vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1down(vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1down(vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1down(vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1down(vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1down(vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1down(vfloat64m8_t vs2, double rs1, size_t vl);
vint8mf8_t __riscv_vslide1up(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1up(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1up(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1up(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1up(vint8m2_t vs2, int8_t rs1, size_t vl);
```

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vint8m4_t __riscv_vslide1up(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1up(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1up(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1up(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1up(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1up(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1up(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1up(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1up(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vslide1up(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1up(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1up(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1up(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1up(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1up(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1up(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1up(vint64m8_t vs2, int64_t rs1, size_t vl);
vint8mf8_t __riscv_vslide1down(vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1down(vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1down(vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1down(vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1down(vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1down(vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1down(vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1down(vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1down(vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1down(vint16m1_t vs2, int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1down(vint16m2_t vs2, int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1down(vint16m4_t vs2, int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1down(vint16m8_t vs2, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1down(vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vslide1down(vint32m1_t vs2, int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1down(vint32m2_t vs2, int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1down(vint32m4_t vs2, int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1down(vint32m8_t vs2, int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1down(vint64m1_t vs2, int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1down(vint64m2_t vs2, int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1down(vint64m4_t vs2, int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1down(vint64m8_t vs2, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1up(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1up(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1up(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1up(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1up(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1up(vuint8m4_t vs2, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1up(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1up(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1up(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1up(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1up(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1up(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1up(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1up(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1up(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1up(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1up(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1up(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1up(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1up(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1up(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1up(vuint64m8_t vs2, uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1down(vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1down(vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1down(vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1down(vuint8m1_t vs2, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1down(vuint8m2_t vs2, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1down(vuint8m4_t vs2, uint8_t rs1, size_t vl);
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vuint8m8_t __riscv_vslide1down(vuint8m8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1down(vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1down(vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1down(vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1down(vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1down(vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1down(vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1down(vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1down(vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1down(vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1down(vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1down(vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1down(vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1down(vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1down(vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1down(vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfslide1up(vbool64_t vm, vfloat16mf4_t vs2, _Float16 rs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vfslide1up(vbool32_t vm, vfloat16mf2_t vs2, _Float16 rs1,
                                 size_t vl);
vfloat16m1_t __riscv_vfslide1up(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                                size_t vl);
vfloat16m2_t __riscv_vfslide1up(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                                size_t vl);
vfloat16m4_t __riscv_vfslide1up(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                                size_t vl);
vfloat16m8_t __riscv_vfslide1up(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfslide1up(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                                 size_t vl);
vfloat32m1_t __riscv_vfslide1up(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                                size_t vl);
vfloat32m2_t __riscv_vfslide1up(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                                size_t vl);
vfloat32m4_t __riscv_vfslide1up(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                size_t vl);
vfloat32m8_t __riscv_vfslide1up(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                size_t vl);
vfloat64m1_t __riscv_vfslide1up(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                                size_t vl);
vfloat64m2_t __riscv_vfslide1up(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                                size_t vl);
vfloat64m4_t __riscv_vfslide1up(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                                size_t vl);
vfloat64m8_t __riscv_vfslide1up(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                size_t vl);
vfloat16mf4_t __riscv_vfslide1down(vbool64_t vm, vfloat16mf4_t vs2,
                                   _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfslide1down(vbool32_t vm, vfloat16mf2_t vs2,
                                   _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfslide1down(vbool16_t vm, vfloat16m1_t vs2, _Float16 rs1,
                                  size_t vl);
vfloat16m2_t __riscv_vfslide1down(vbool8_t vm, vfloat16m2_t vs2, _Float16 rs1,
                                  size_t vl);
vfloat16m4_t __riscv_vfslide1down(vbool4_t vm, vfloat16m4_t vs2, _Float16 rs1,
                                  size_t vl);
vfloat16m8_t __riscv_vfslide1down(vbool2_t vm, vfloat16m8_t vs2, _Float16 rs1,
                                  size_t vl);
vfloat32mf2_t __riscv_vfslide1down(vbool64_t vm, vfloat32mf2_t vs2, float rs1,
                                   size_t vl);
vfloat32m1_t __riscv_vfslide1down(vbool32_t vm, vfloat32m1_t vs2, float rs1,
                                  size_t vl);
vfloat32m2_t __riscv_vfslide1down(vbool16_t vm, vfloat32m2_t vs2, float rs1,
                                  size_t vl);
vfloat32m4_t __riscv_vfslide1down(vbool8_t vm, vfloat32m4_t vs2, float rs1,
                                  size_t vl);
```

```
vfloat32m8_t __riscv_vfslide1down(vbool4_t vm, vfloat32m8_t vs2, float rs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfslide1down(vbool64_t vm, vfloat64m1_t vs2, double rs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfslide1down(vbool32_t vm, vfloat64m2_t vs2, double rs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfslide1down(vbool16_t vm, vfloat64m4_t vs2, double rs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfslide1down(vbool8_t vm, vfloat64m8_t vs2, double rs1,
                                  size_t vl);
vint8mf8_t __riscv_vslide1up(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                             size_t vl);
vint8mf4_t __riscv_vslide1up(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                             size_t vl);
vint8mf2_t __riscv_vslide1up(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                             size_t vl);
vint8m1_t __riscv_vslide1up(vbool8_t vm, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1up(vbool4_t vm, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1up(vbool2_t vm, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1up(vbool1_t vm, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1up(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                              size_t vl);
vint16mf2_t __riscv_vslide1up(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
                              size_t vl);
vint16m1_t __riscv_vslide1up(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                             size_t vl);
vint16m2_t __riscv_vslide1up(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                             size_t vl);
vint16m4_t __riscv_vslide1up(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                             size_t vl);
vint16m8_t __riscv_vslide1up(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                             size_t vl);
vint32mf2_t __riscv_vslide1up(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                              size_t vl);
vint32m1_t __riscv_vslide1up(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                             size_t vl);
vint32m2_t __riscv_vslide1up(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                             size_t vl);
vint32m4_t __riscv_vslide1up(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                             size_t vl);
vint32m8_t __riscv_vslide1up(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                             size_t vl);
vint64m1_t __riscv_vslide1up(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                             size_t vl);
vint64m2_t __riscv_vslide1up(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                             size_t vl);
vint64m4_t __riscv_vslide1up(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                             size_t vl);
vint64m8_t __riscv_vslide1up(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                             size_t vl);
vint8mf8_t __riscv_vslide1down(vbool64_t vm, vint8mf8_t vs2, int8_t rs1,
                               size_t vl);
vint8mf4_t __riscv_vslide1down(vbool32_t vm, vint8mf4_t vs2, int8_t rs1,
                               size_t vl);
vint8mf2_t __riscv_vslide1down(vbool16_t vm, vint8mf2_t vs2, int8_t rs1,
                               size_t vl);
vint8m1_t __riscv_vslide1down(vbool8_t vm, vint8m1_t vs2, int8_t rs1,
                              size_t vl);
vint8m2_t __riscv_vslide1down(vbool4_t vm, vint8m2_t vs2, int8_t rs1,
                              size_t vl);
vint8m4_t __riscv_vslide1down(vbool2_t vm, vint8m4_t vs2, int8_t rs1,
                              size_t vl);
vint8m8_t __riscv_vslide1down(vbool1_t vm, vint8m8_t vs2, int8_t rs1,
                              size_t vl);
vint16mf4_t __riscv_vslide1down(vbool64_t vm, vint16mf4_t vs2, int16_t rs1,
                                size_t vl);
vint16mf2_t __riscv_vslide1down(vbool32_t vm, vint16mf2_t vs2, int16_t rs1,
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                                size_t vl);
vint16m1_t __riscv_vslide1down(vbool16_t vm, vint16m1_t vs2, int16_t rs1,
                               size_t vl);
vint16m2_t __riscv_vslide1down(vbool8_t vm, vint16m2_t vs2, int16_t rs1,
                               size_t vl);
vint16m4_t __riscv_vslide1down(vbool4_t vm, vint16m4_t vs2, int16_t rs1,
                               size_t vl);
vint16m8_t __riscv_vslide1down(vbool2_t vm, vint16m8_t vs2, int16_t rs1,
                               size_t vl);
vint32mf2_t __riscv_vslide1down(vbool64_t vm, vint32mf2_t vs2, int32_t rs1,
                                size_t vl);
vint32m1_t __riscv_vslide1down(vbool32_t vm, vint32m1_t vs2, int32_t rs1,
                               size_t vl);
vint32m2_t __riscv_vslide1down(vbool16_t vm, vint32m2_t vs2, int32_t rs1,
                               size_t vl);
vint32m4_t __riscv_vslide1down(vbool8_t vm, vint32m4_t vs2, int32_t rs1,
                               size_t vl);
vint32m8_t __riscv_vslide1down(vbool4_t vm, vint32m8_t vs2, int32_t rs1,
                               size_t vl);
vint64m1_t __riscv_vslide1down(vbool64_t vm, vint64m1_t vs2, int64_t rs1,
                               size_t vl);
vint64m2_t __riscv_vslide1down(vbool32_t vm, vint64m2_t vs2, int64_t rs1,
                               size_t vl);
vint64m4_t __riscv_vslide1down(vbool16_t vm, vint64m4_t vs2, int64_t rs1,
                               size_t vl);
vint64m8_t __riscv_vslide1down(vbool8_t vm, vint64m8_t vs2, int64_t rs1,
                               size_t vl);
vuint8mf8_t __riscv_vslide1up(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                              size_t vl);
vuint8mf4_t __riscv_vslide1up(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                              size_t vl);
vuint8mf2_t __riscv_vslide1up(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                              size_t vl);
vuint8m1_t __riscv_vslide1up(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m2_t __riscv_vslide1up(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m4_t __riscv_vslide1up(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m8_t __riscv_vslide1up(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                             size_t vl);
vuint16mf4_t __riscv_vslide1up(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                               size_t vl);
vuint16mf2_t __riscv_vslide1up(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                               size_t vl);
vuint16m1_t __riscv_vslide1up(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m2_t __riscv_vslide1up(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m4_t __riscv_vslide1up(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m8_t __riscv_vslide1up(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                              size_t vl);
vuint32mf2_t __riscv_vslide1up(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                               size_t vl);
vuint32m1_t __riscv_vslide1up(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m2_t __riscv_vslide1up(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m4_t __riscv_vslide1up(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m8_t __riscv_vslide1up(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m1_t __riscv_vslide1up(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m2_t __riscv_vslide1up(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                              size_t vl);
```

```
vuint64m4_t __riscv_vslide1up(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m8_t __riscv_vslide1up(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                              size_t vl);
vuint8mf8_t __riscv_vslide1down(vbool64_t vm, vuint8mf8_t vs2, uint8_t rs1,
                                size_t vl);
vuint8mf4_t __riscv_vslide1down(vbool32_t vm, vuint8mf4_t vs2, uint8_t rs1,
                                size_t vl);
vuint8mf2_t __riscv_vslide1down(vbool16_t vm, vuint8mf2_t vs2, uint8_t rs1,
                                size_t vl);
vuint8m1_t __riscv_vslide1down(vbool8_t vm, vuint8m1_t vs2, uint8_t rs1,
                               size_t vl);
vuint8m2_t __riscv_vslide1down(vbool4_t vm, vuint8m2_t vs2, uint8_t rs1,
                               size_t vl);
vuint8m4_t __riscv_vslide1down(vbool2_t vm, vuint8m4_t vs2, uint8_t rs1,
                               size_t vl);
vuint8m8_t __riscv_vslide1down(vbool1_t vm, vuint8m8_t vs2, uint8_t rs1,
                               size_t vl);
vuint16mf4_t __riscv_vslide1down(vbool64_t vm, vuint16mf4_t vs2, uint16_t rs1,
                                 size_t vl);
vuint16mf2_t __riscv_vslide1down(vbool32_t vm, vuint16mf2_t vs2, uint16_t rs1,
                                 size_t vl);
vuint16m1_t __riscv_vslide1down(vbool16_t vm, vuint16m1_t vs2, uint16_t rs1,
                                size_t vl);
vuint16m2_t __riscv_vslide1down(vbool8_t vm, vuint16m2_t vs2, uint16_t rs1,
                                size_t vl);
vuint16m4_t __riscv_vslide1down(vbool4_t vm, vuint16m4_t vs2, uint16_t rs1,
                                size_t vl);
vuint16m8_t __riscv_vslide1down(vbool2_t vm, vuint16m8_t vs2, uint16_t rs1,
                                size_t vl);
vuint32mf2_t __riscv_vslide1down(vbool64_t vm, vuint32mf2_t vs2, uint32_t rs1,
                                 size_t vl);
vuint32m1_t __riscv_vslide1down(vbool32_t vm, vuint32m1_t vs2, uint32_t rs1,
                                size_t vl);
vuint32m2_t __riscv_vslide1down(vbool16_t vm, vuint32m2_t vs2, uint32_t rs1,
                                size_t vl);
vuint32m4_t __riscv_vslide1down(vbool8_t vm, vuint32m4_t vs2, uint32_t rs1,
                                size_t vl);
vuint32m8_t __riscv_vslide1down(vbool4_t vm, vuint32m8_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m1_t __riscv_vslide1down(vbool64_t vm, vuint64m1_t vs2, uint64_t rs1,
                                size_t vl);
vuint64m2_t __riscv_vslide1down(vbool32_t vm, vuint64m2_t vs2, uint64_t rs1,
                                size_t vl);
vuint64m4_t __riscv_vslide1down(vbool16_t vm, vuint64m4_t vs2, uint64_t rs1,
                                size_t vl);
vuint64m8_t __riscv_vslide1down(vbool8_t vm, vuint64m8_t vs2, uint64_t rs1,
                                size_t vl);
```

C.8.5. Vector Register Gather Intrinsics

```
vfloat16mf4_t __riscv_vrgather(vfloat16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgather(vfloat16mf4_t vs2, size_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather(vfloat16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather(vfloat16mf2_t vs2, size_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather(vfloat16m1_t vs2, vuint16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather(vfloat16m1_t vs2, size_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather(vfloat16m2_t vs2, vuint16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather(vfloat16m2_t vs2, size_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather(vfloat16m4_t vs2, vuint16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather(vfloat16m4_t vs2, size_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather(vfloat16m8_t vs2, vuint16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather(vfloat16m8_t vs2, size_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather(vfloat32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather(vfloat32mf2_t vs2, size_t vs1, size_t vl);
```

```
vfloat32m1_t __riscv_vrgather(vfloat32m1_t vs2, vuint32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather(vfloat32m1_t vs2, size_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather(vfloat32m2_t vs2, vuint32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather(vfloat32m2_t vs2, size_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather(vfloat32m4_t vs2, vuint32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather(vfloat32m4_t vs2, size_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather(vfloat32m8_t vs2, vuint32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather(vfloat32m8_t vs2, size_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather(vfloat64m1_t vs2, vuint64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather(vfloat64m1_t vs2, size_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather(vfloat64m2_t vs2, vuint64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather(vfloat64m2_t vs2, size_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather(vfloat64m4_t vs2, vuint64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather(vfloat64m4_t vs2, size_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather(vfloat64m8_t vs2, vuint64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather(vfloat64m8_t vs2, size_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgatherei16(vfloat16mf4_t vs2, vuint16mf4_t vs1,
                                   size_t vl);
vfloat16mf2_t __riscv_vrgatherei16(vfloat16mf2_t vs2, vuint16mf2_t vs1,
                                   size_t vl);
vfloat16m1_t __riscv_vrgatherei16(vfloat16m1_t vs2, vuint16m1_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgatherei16(vfloat16m2_t vs2, vuint16m2_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgatherei16(vfloat16m4_t vs2, vuint16m4_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgatherei16(vfloat16m8_t vs2, vuint16m8_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgatherei16(vfloat32mf2_t vs2, vuint16mf4_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vrgatherei16(vfloat32m1_t vs2, vuint16mf2_t vs1,
                                  size_t vl);
vfloat32m2_t __riscv_vrgatherei16(vfloat32m2_t vs2, vuint16m1_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgatherei16(vfloat32m4_t vs2, vuint16m2_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgatherei16(vfloat32m8_t vs2, vuint16m4_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgatherei16(vfloat64m1_t vs2, vuint16mf4_t vs1,
                                  size_t vl);
vfloat64m2_t __riscv_vrgatherei16(vfloat64m2_t vs2, vuint16mf2_t vs1,
                                  size_t vl);
vfloat64m4_t __riscv_vrgatherei16(vfloat64m4_t vs2, vuint16m1_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgatherei16(vfloat64m8_t vs2, vuint16m2_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather(vint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather(vint8mf8_t vs2, size_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather(vint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather(vint8mf4_t vs2, size_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather(vint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather(vint8mf2_t vs2, size_t vs1, size_t vl);
vint8m1_t __riscv_vrgather(vint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgather(vint8m1_t vs2, size_t vs1, size_t vl);
vint8m2_t __riscv_vrgather(vint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgather(vint8m2_t vs2, size_t vs1, size_t vl);
vint8m4_t __riscv_vrgather(vint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgather(vint8m4_t vs2, size_t vs1, size_t vl);
vint8m8_t __riscv_vrgather(vint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrgather(vint8m8_t vs2, size_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather(vint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather(vint16mf4_t vs2, size_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather(vint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather(vint16mf2_t vs2, size_t vs1, size_t vl);
vint16m1_t __riscv_vrgather(vint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrgather(vint16m1_t vs2, size_t vs1, size_t vl);
vint16m2_t __riscv_vrgather(vint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrgather(vint16m2_t vs2, size_t vs1, size_t vl);
vint16m4_t __riscv_vrgather(vint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrgather(vint16m4_t vs2, size_t vs1, size_t vl);
vint16m8_t __riscv_vrgather(vint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrgather(vint16m8_t vs2, size_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather(vint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather(vint32mf2_t vs2, size_t vs1, size_t vl);
vint32m1_t __riscv_vrgather(vint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrgather(vint32m1_t vs2, size_t vs1, size_t vl);
```

```
vint32m2_t __riscv_vrgather(vint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrgather(vint32m2_t vs2, size_t vs1, size_t vl);
vint32m4_t __riscv_vrgather(vint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrgather(vint32m4_t vs2, size_t vs1, size_t vl);
vint32m8_t __riscv_vrgather(vint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrgather(vint32m8_t vs2, size_t vs1, size_t vl);
vint64m1_t __riscv_vrgather(vint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrgather(vint64m1_t vs2, size_t vs1, size_t vl);
vint64m2_t __riscv_vrgather(vint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrgather(vint64m2_t vs2, size_t vs1, size_t vl);
vint64m4_t __riscv_vrgather(vint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrgather(vint64m4_t vs2, size_t vs1, size_t vl);
vint64m8_t __riscv_vrgather(vint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrgather(vint64m8_t vs2, size_t vs1, size_t vl);
vint8mf8_t __riscv_vrgatherei16(vint8mf8_t vs2, vuint16mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgatherei16(vint8mf4_t vs2, vuint16mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgatherei16(vint8mf2_t vs2, vuint16m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgatherei16(vint8m1_t vs2, vuint16m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgatherei16(vint8m2_t vs2, vuint16m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgatherei16(vint8m4_t vs2, vuint16m8_t vs1, size_t vl);
vint16mf4_t __riscv_vrgatherei16(vint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vrgatherei16(vint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vint16m1_t __riscv_vrgatherei16(vint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vint16m2_t __riscv_vrgatherei16(vint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vint16m4_t __riscv_vrgatherei16(vint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vint16m8_t __riscv_vrgatherei16(vint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vint32mf2_t __riscv_vrgatherei16(vint32mf2_t vs2, vuint16mf4_t vs1, size_t vl);
vint32m1_t __riscv_vrgatherei16(vint32m1_t vs2, vuint16mf2_t vs1, size_t vl);
vint32m2_t __riscv_vrgatherei16(vint32m2_t vs2, vuint16m1_t vs1, size_t vl);
vint32m4_t __riscv_vrgatherei16(vint32m4_t vs2, vuint16m2_t vs1, size_t vl);
vint32m8_t __riscv_vrgatherei16(vint32m8_t vs2, vuint16m4_t vs1, size_t vl);
vint64m1_t __riscv_vrgatherei16(vint64m1_t vs2, vuint16mf4_t vs1, size_t vl);
vint64m2_t __riscv_vrgatherei16(vint64m2_t vs2, vuint16mf2_t vs1, size_t vl);
vint64m4_t __riscv_vrgatherei16(vint64m4_t vs2, vuint16m1_t vs1, size_t vl);
vint64m8_t __riscv_vrgatherei16(vint64m8_t vs2, vuint16m2_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather(vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather(vuint8mf8_t vs2, size_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather(vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather(vuint8mf4_t vs2, size_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather(vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather(vuint8mf2_t vs2, size_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather(vuint8m1_t vs2, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather(vuint8m1_t vs2, size_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather(vuint8m2_t vs2, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather(vuint8m2_t vs2, size_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather(vuint8m4_t vs2, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather(vuint8m4_t vs2, size_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather(vuint8m8_t vs2, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather(vuint8m8_t vs2, size_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather(vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather(vuint16mf4_t vs2, size_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgather(vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgather(vuint16mf2_t vs2, size_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather(vuint16m1_t vs2, size_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather(vuint16m2_t vs2, size_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather(vuint16m4_t vs2, size_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather(vuint16m8_t vs2, size_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgather(vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgather(vuint32mf2_t vs2, size_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather(vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather(vuint32m1_t vs2, size_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather(vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather(vuint32m2_t vs2, size_t vs1, size_t vl);
```

```
vuint32m4_t __riscv_vrgather(vuint32m4_t vs2, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather(vuint32m4_t vs2, size_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather(vuint32m8_t vs2, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather(vuint32m8_t vs2, size_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather(vuint64m1_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather(vuint64m1_t vs2, size_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather(vuint64m2_t vs2, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather(vuint64m2_t vs2, size_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather(vuint64m4_t vs2, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather(vuint64m4_t vs2, size_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather(vuint64m8_t vs2, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather(vuint64m8_t vs2, size_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgatherei16(vuint8mf8_t vs2, vuint16mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgatherei16(vuint8mf4_t vs2, vuint16mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgatherei16(vuint8mf2_t vs2, vuint16m1_t vs1, size_t vl);
vuint8m1_t __riscv_vrgatherei16(vuint8m1_t vs2, vuint16m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgatherei16(vuint8m2_t vs2, vuint16m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgatherei16(vuint8m4_t vs2, vuint16m8_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgatherei16(vuint16mf4_t vs2, vuint16mf4_t vs1,
                                  size_t vl);
vuint16mf2_t __riscv_vrgatherei16(vuint16mf2_t vs2, vuint16mf2_t vs1,
                                  size_t vl);
vuint16m1_t __riscv_vrgatherei16(vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint16m2_t __riscv_vrgatherei16(vuint16m2_t vs2, vuint16m2_t vs1, size_t vl);
vuint16m4_t __riscv_vrgatherei16(vuint16m4_t vs2, vuint16m4_t vs1, size_t vl);
vuint16m8_t __riscv_vrgatherei16(vuint16m8_t vs2, vuint16m8_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgatherei16(vuint32mf2_t vs2, vuint16mf4_t vs1,
                                  size_t vl);
vuint32m1_t __riscv_vrgatherei16(vuint32m1_t vs2, vuint16mf2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgatherei16(vuint32m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m4_t __riscv_vrgatherei16(vuint32m4_t vs2, vuint16m2_t vs1, size_t vl);
vuint32m8_t __riscv_vrgatherei16(vuint32m8_t vs2, vuint16m4_t vs1, size_t vl);
vuint64m1_t __riscv_vrgatherei16(vuint64m1_t vs2, vuint16mf4_t vs1, size_t vl);
vuint64m2_t __riscv_vrgatherei16(vuint64m2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint64m4_t __riscv_vrgatherei16(vuint64m4_t vs2, vuint16m1_t vs1, size_t vl);
vuint64m8_t __riscv_vrgatherei16(vuint64m8_t vs2, vuint16m2_t vs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vrgather(vbool64_t vm, vfloat16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgather(vbool64_t vm, vfloat16mf4_t vs2, size_t vs1,
                               size_t vl);
vfloat16mf2_t __riscv_vrgather(vbool32_t vm, vfloat16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather(vbool32_t vm, vfloat16mf2_t vs2, size_t vs1,
                               size_t vl);
vfloat16m1_t __riscv_vrgather(vbool16_t vm, vfloat16m1_t vs2, vuint16m1_t vs1,
                              size_t vl);
vfloat16m1_t __riscv_vrgather(vbool16_t vm, vfloat16m1_t vs2, size_t vs1,
                              size_t vl);
vfloat16m2_t __riscv_vrgather(vbool8_t vm, vfloat16m2_t vs2, vuint16m2_t vs1,
                              size_t vl);
vfloat16m2_t __riscv_vrgather(vbool8_t vm, vfloat16m2_t vs2, size_t vs1,
                              size_t vl);
vfloat16m4_t __riscv_vrgather(vbool4_t vm, vfloat16m4_t vs2, vuint16m4_t vs1,
                              size_t vl);
vfloat16m4_t __riscv_vrgather(vbool4_t vm, vfloat16m4_t vs2, size_t vs1,
                              size_t vl);
vfloat16m8_t __riscv_vrgather(vbool2_t vm, vfloat16m8_t vs2, vuint16m8_t vs1,
                              size_t vl);
vfloat16m8_t __riscv_vrgather(vbool2_t vm, vfloat16m8_t vs2, size_t vs1,
                              size_t vl);
vfloat32mf2_t __riscv_vrgather(vbool64_t vm, vfloat32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather(vbool64_t vm, vfloat32mf2_t vs2, size_t vs1,
                               size_t vl);
vfloat32m1_t __riscv_vrgather(vbool32_t vm, vfloat32m1_t vs2, vuint32m1_t vs1,
                              size_t vl);
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vfloat32m1_t __riscv_vrgather(vbool32_t vm, vfloat32m1_t vs2, size_t vs1,
                              size_t vl);
vfloat32m2_t __riscv_vrgather(vbool16_t vm, vfloat32m2_t vs2, vuint32m2_t vs1,
                              size_t vl);
vfloat32m2_t __riscv_vrgather(vbool16_t vm, vfloat32m2_t vs2, size_t vs1,
                              size_t vl);
vfloat32m4_t __riscv_vrgather(vbool8_t vm, vfloat32m4_t vs2, vuint32m4_t vs1,
                              size_t vl);
vfloat32m4_t __riscv_vrgather(vbool8_t vm, vfloat32m4_t vs2, size_t vs1,
                              size_t vl);
vfloat32m8_t __riscv_vrgather(vbool4_t vm, vfloat32m8_t vs2, vuint32m8_t vs1,
                              size_t vl);
vfloat32m8_t __riscv_vrgather(vbool4_t vm, vfloat32m8_t vs2, size_t vs1,
                              size_t vl);
vfloat64m1_t __riscv_vrgather(vbool64_t vm, vfloat64m1_t vs2, vuint64m1_t vs1,
                              size_t vl);
vfloat64m1_t __riscv_vrgather(vbool64_t vm, vfloat64m1_t vs2, size_t vs1,
                              size_t vl);
vfloat64m2_t __riscv_vrgather(vbool32_t vm, vfloat64m2_t vs2, vuint64m2_t vs1,
                              size_t vl);
vfloat64m2_t __riscv_vrgather(vbool32_t vm, vfloat64m2_t vs2, size_t vs1,
                              size_t vl);
vfloat64m4_t __riscv_vrgather(vbool16_t vm, vfloat64m4_t vs2, vuint64m4_t vs1,
                              size_t vl);
vfloat64m4_t __riscv_vrgather(vbool16_t vm, vfloat64m4_t vs2, size_t vs1,
                              size_t vl);
vfloat64m8_t __riscv_vrgather(vbool8_t vm, vfloat64m8_t vs2, vuint64m8_t vs1,
                              size_t vl);
vfloat64m8_t __riscv_vrgather(vbool8_t vm, vfloat64m8_t vs2, size_t vs1,
                              size_t vl);
vfloat16mf4_t __riscv_vrgatherei16(vbool64_t vm, vfloat16mf4_t vs2,
                                   vuint16mf4_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgatherei16(vbool32_t vm, vfloat16mf2_t vs2,
                                   vuint16mf2_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgatherei16(vbool16_t vm, vfloat16m1_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgatherei16(vbool8_t vm, vfloat16m2_t vs2,
                                  vuint16m2_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgatherei16(vbool4_t vm, vfloat16m4_t vs2,
                                  vuint16m4_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgatherei16(vbool2_t vm, vfloat16m8_t vs2,
                                  vuint16m8_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgatherei16(vbool64_t vm, vfloat32mf2_t vs2,
                                   vuint16mf4_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgatherei16(vbool32_t vm, vfloat32m1_t vs2,
                                  vuint16mf2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgatherei16(vbool16_t vm, vfloat32m2_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgatherei16(vbool8_t vm, vfloat32m4_t vs2,
                                  vuint16m2_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgatherei16(vbool4_t vm, vfloat32m8_t vs2,
                                  vuint16m4_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgatherei16(vbool64_t vm, vfloat64m1_t vs2,
                                  vuint16mf4_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgatherei16(vbool32_t vm, vfloat64m2_t vs2,
                                  vuint16mf2_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgatherei16(vbool16_t vm, vfloat64m4_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgatherei16(vbool8_t vm, vfloat64m8_t vs2,
                                  vuint16m2_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather(vbool64_t vm, vint8mf8_t vs2, vuint8mf8_t vs1,
                            size_t vl);
vint8mf8_t __riscv_vrgather(vbool64_t vm, vint8mf8_t vs2, size_t vs1,
                            size_t vl);
vint8mf4_t __riscv_vrgather(vbool32_t vm, vint8mf4_t vs2, vuint8mf4_t vs1,
                            size_t vl);
vint8mf4_t __riscv_vrgather(vbool32_t vm, vint8mf4_t vs2, size_t vs1,
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                            size_t vl);
vint8mf2_t __riscv_vrgather(vbool16_t vm, vint8mf2_t vs2, vuint8mf2_t vs1,
                            size_t vl);
vint8mf2_t __riscv_vrgather(vbool16_t vm, vint8mf2_t vs2, size_t vs1,
                            size_t vl);
vint8m1_t __riscv_vrgather(vbool8_t vm, vint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vint8m1_t __riscv_vrgather(vbool8_t vm, vint8m1_t vs2, size_t vs1, size_t vl);
vint8m2_t __riscv_vrgather(vbool4_t vm, vint8m2_t vs2, vuint8m2_t vs1,
                           size_t vl);
vint8m2_t __riscv_vrgather(vbool4_t vm, vint8m2_t vs2, size_t vs1, size_t vl);
vint8m4_t __riscv_vrgather(vbool2_t vm, vint8m4_t vs2, vuint8m4_t vs1,
                           size_t vl);
vint8m4_t __riscv_vrgather(vbool2_t vm, vint8m4_t vs2, size_t vs1, size_t vl);
vint8m8_t __riscv_vrgather(vbool1_t vm, vint8m8_t vs2, vuint8m8_t vs1,
                           size_t vl);
vint8m8_t __riscv_vrgather(vbool1_t vm, vint8m8_t vs2, size_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather(vbool64_t vm, vint16mf4_t vs2, vuint16mf4_t vs1,
                             size_t vl);
vint16mf4_t __riscv_vrgather(vbool64_t vm, vint16mf4_t vs2, size_t vs1,
                             size_t vl);
vint16mf2_t __riscv_vrgather(vbool32_t vm, vint16mf2_t vs2, vuint16mf2_t vs1,
                             size_t vl);
vint16mf2_t __riscv_vrgather(vbool32_t vm, vint16mf2_t vs2, size_t vs1,
                             size_t vl);
vint16m1_t __riscv_vrgather(vbool16_t vm, vint16m1_t vs2, vuint16m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vrgather(vbool16_t vm, vint16m1_t vs2, size_t vs1,
                            size_t vl);
vint16m2_t __riscv_vrgather(vbool8_t vm, vint16m2_t vs2, vuint16m2_t vs1,
                            size_t vl);
vint16m2_t __riscv_vrgather(vbool8_t vm, vint16m2_t vs2, size_t vs1, size_t vl);
vint16m4_t __riscv_vrgather(vbool4_t vm, vint16m4_t vs2, vuint16m4_t vs1,
                            size_t vl);
vint16m4_t __riscv_vrgather(vbool4_t vm, vint16m4_t vs2, size_t vs1, size_t vl);
vint16m8_t __riscv_vrgather(vbool2_t vm, vint16m8_t vs2, vuint16m8_t vs1,
                            size_t vl);
vint16m8_t __riscv_vrgather(vbool2_t vm, vint16m8_t vs2, size_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather(vbool64_t vm, vint32mf2_t vs2, vuint32mf2_t vs1,
                             size_t vl);
vint32mf2_t __riscv_vrgather(vbool64_t vm, vint32mf2_t vs2, size_t vs1,
                             size_t vl);
vint32m1_t __riscv_vrgather(vbool32_t vm, vint32m1_t vs2, vuint32m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vrgather(vbool32_t vm, vint32m1_t vs2, size_t vs1,
                            size_t vl);
vint32m2_t __riscv_vrgather(vbool16_t vm, vint32m2_t vs2, vuint32m2_t vs1,
                            size_t vl);
vint32m2_t __riscv_vrgather(vbool16_t vm, vint32m2_t vs2, size_t vs1,
                            size_t vl);
vint32m4_t __riscv_vrgather(vbool8_t vm, vint32m4_t vs2, vuint32m4_t vs1,
                            size_t vl);
vint32m4_t __riscv_vrgather(vbool8_t vm, vint32m4_t vs2, size_t vs1, size_t vl);
vint32m8_t __riscv_vrgather(vbool4_t vm, vint32m8_t vs2, vuint32m8_t vs1,
                            size_t vl);
vint32m8_t __riscv_vrgather(vbool4_t vm, vint32m8_t vs2, size_t vs1, size_t vl);
vint64m1_t __riscv_vrgather(vbool64_t vm, vint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vint64m1_t __riscv_vrgather(vbool64_t vm, vint64m1_t vs2, size_t vs1,
                            size_t vl);
vint64m2_t __riscv_vrgather(vbool32_t vm, vint64m2_t vs2, vuint64m2_t vs1,
                            size_t vl);
vint64m2_t __riscv_vrgather(vbool32_t vm, vint64m2_t vs2, size_t vs1,
                            size_t vl);
vint64m4_t __riscv_vrgather(vbool16_t vm, vint64m4_t vs2, vuint64m4_t vs1,
                            size_t vl);
vint64m4_t __riscv_vrgather(vbool16_t vm, vint64m4_t vs2, size_t vs1,
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                            size_t vl);
vint64m8_t __riscv_vrgather(vbool8_t vm, vint64m8_t vs2, vuint64m8_t vs1,
                            size_t vl);
vint64m8_t __riscv_vrgather(vbool8_t vm, vint64m8_t vs2, size_t vs1, size_t vl);
vint8mf8_t __riscv_vrgatherei16(vbool64_t vm, vint8mf8_t vs2, vuint16mf4_t vs1,
                                size_t vl);
vint8mf4_t __riscv_vrgatherei16(vbool32_t vm, vint8mf4_t vs2, vuint16mf2_t vs1,
                                size_t vl);
vint8mf2_t __riscv_vrgatherei16(vbool16_t vm, vint8mf2_t vs2, vuint16m1_t vs1,
                                size_t vl);
vint8m1_t __riscv_vrgatherei16(vbool8_t vm, vint8m1_t vs2, vuint16m2_t vs1,
                               size_t vl);
vint8m2_t __riscv_vrgatherei16(vbool4_t vm, vint8m2_t vs2, vuint16m4_t vs1,
                               size_t vl);
vint8m4_t __riscv_vrgatherei16(vbool2_t vm, vint8m4_t vs2, vuint16m8_t vs1,
                               size_t vl);
vint16mf4_t __riscv_vrgatherei16(vbool64_t vm, vint16mf4_t vs2,
                                 vuint16mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vrgatherei16(vbool32_t vm, vint16mf2_t vs2,
                                 vuint16mf2_t vs1, size_t vl);
vint16m1_t __riscv_vrgatherei16(vbool16_t vm, vint16m1_t vs2, vuint16m1_t vs1,
                                size_t vl);
vint16m2_t __riscv_vrgatherei16(vbool8_t vm, vint16m2_t vs2, vuint16m2_t vs1,
                                size_t vl);
vint16m4_t __riscv_vrgatherei16(vbool4_t vm, vint16m4_t vs2, vuint16m4_t vs1,
                                size_t vl);
vint16m8_t __riscv_vrgatherei16(vbool2_t vm, vint16m8_t vs2, vuint16m8_t vs1,
                                size_t vl);
vint32mf2_t __riscv_vrgatherei16(vbool64_t vm, vint32mf2_t vs2,
                                 vuint16mf4_t vs1, size_t vl);
vint32m1_t __riscv_vrgatherei16(vbool32_t vm, vint32m1_t vs2, vuint16mf2_t vs1,
                                size_t vl);
vint32m2_t __riscv_vrgatherei16(vbool16_t vm, vint32m2_t vs2, vuint16m1_t vs1,
                                size_t vl);
vint32m4_t __riscv_vrgatherei16(vbool8_t vm, vint32m4_t vs2, vuint16m2_t vs1,
                                size_t vl);
vint32m8_t __riscv_vrgatherei16(vbool4_t vm, vint32m8_t vs2, vuint16m4_t vs1,
                                size_t vl);
vint64m1_t __riscv_vrgatherei16(vbool64_t vm, vint64m1_t vs2, vuint16mf4_t vs1,
                                size_t vl);
vint64m2_t __riscv_vrgatherei16(vbool32_t vm, vint64m2_t vs2, vuint16mf2_t vs1,
                                size_t vl);
vint64m4_t __riscv_vrgatherei16(vbool16_t vm, vint64m4_t vs2, vuint16m1_t vs1,
                                size_t vl);
vint64m8_t __riscv_vrgatherei16(vbool8_t vm, vint64m8_t vs2, vuint16m2_t vs1,
                                size_t vl);
vuint8mf8_t __riscv_vrgather(vbool64_t vm, vuint8mf8_t vs2, vuint8mf8_t vs1,
                             size_t vl);
vuint8mf8_t __riscv_vrgather(vbool64_t vm, vuint8mf8_t vs2, size_t vs1,
                             size_t vl);
vuint8mf4_t __riscv_vrgather(vbool32_t vm, vuint8mf4_t vs2, vuint8mf4_t vs1,
                             size_t vl);
vuint8mf4_t __riscv_vrgather(vbool32_t vm, vuint8mf4_t vs2, size_t vs1,
                             size_t vl);
vuint8mf2_t __riscv_vrgather(vbool16_t vm, vuint8mf2_t vs2, vuint8mf2_t vs1,
                             size_t vl);
vuint8mf2_t __riscv_vrgather(vbool16_t vm, vuint8mf2_t vs2, size_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vrgather(vbool8_t vm, vuint8m1_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vrgather(vbool8_t vm, vuint8m1_t vs2, size_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather(vbool4_t vm, vuint8m2_t vs2, vuint8m2_t vs1,
                            size_t vl);
vuint8m2_t __riscv_vrgather(vbool4_t vm, vuint8m2_t vs2, size_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather(vbool2_t vm, vuint8m4_t vs2, vuint8m4_t vs1,
                            size_t vl);
vuint8m4_t __riscv_vrgather(vbool2_t vm, vuint8m4_t vs2, size_t vs1, size_t vl);
```

```
vuint8m8_t __riscv_vrgather(vbool1_t vm, vuint8m8_t vs2, vuint8m8_t vs1,
                            size_t vl);
vuint8m8_t __riscv_vrgather(vbool1_t vm, vuint8m8_t vs2, size_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather(vbool64_t vm, vuint16mf4_t vs2, vuint16mf4_t vs1,
                              size_t vl);
vuint16mf4_t __riscv_vrgather(vbool64_t vm, vuint16mf4_t vs2, size_t vs1,
                              size_t vl);
vuint16mf2_t __riscv_vrgather(vbool32_t vm, vuint16mf2_t vs2, vuint16mf2_t vs1,
                              size_t vl);
vuint16mf2_t __riscv_vrgather(vbool32_t vm, vuint16mf2_t vs2, size_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vrgather(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vrgather(vbool16_t vm, vuint16m1_t vs2, size_t vs1,
                             size_t vl);
vuint16m2_t __riscv_vrgather(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                             size_t vl);
vuint16m2_t __riscv_vrgather(vbool8_t vm, vuint16m2_t vs2, size_t vs1,
                             size_t vl);
vuint16m4_t __riscv_vrgather(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                             size_t vl);
vuint16m4_t __riscv_vrgather(vbool4_t vm, vuint16m4_t vs2, size_t vs1,
                             size_t vl);
vuint16m8_t __riscv_vrgather(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                             size_t vl);
vuint16m8_t __riscv_vrgather(vbool2_t vm, vuint16m8_t vs2, size_t vs1,
                             size_t vl);
vuint32mf2_t __riscv_vrgather(vbool64_t vm, vuint32mf2_t vs2, vuint32mf2_t vs1,
                              size_t vl);
vuint32mf2_t __riscv_vrgather(vbool64_t vm, vuint32mf2_t vs2, size_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vrgather(vbool32_t vm, vuint32m1_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vrgather(vbool32_t vm, vuint32m1_t vs2, size_t vs1,
                             size_t vl);
vuint32m2_t __riscv_vrgather(vbool16_t vm, vuint32m2_t vs2, vuint32m2_t vs1,
                             size_t vl);
vuint32m2_t __riscv_vrgather(vbool16_t vm, vuint32m2_t vs2, size_t vs1,
                             size_t vl);
vuint32m4_t __riscv_vrgather(vbool8_t vm, vuint32m4_t vs2, vuint32m4_t vs1,
                             size_t vl);
vuint32m4_t __riscv_vrgather(vbool8_t vm, vuint32m4_t vs2, size_t vs1,
                             size_t vl);
vuint32m8_t __riscv_vrgather(vbool4_t vm, vuint32m8_t vs2, vuint32m8_t vs1,
                             size_t vl);
vuint32m8_t __riscv_vrgather(vbool4_t vm, vuint32m8_t vs2, size_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vrgather(vbool64_t vm, vuint64m1_t vs2, vuint64m1_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vrgather(vbool64_t vm, vuint64m1_t vs2, size_t vs1,
                             size_t vl);
vuint64m2_t __riscv_vrgather(vbool32_t vm, vuint64m2_t vs2, vuint64m2_t vs1,
                             size_t vl);
vuint64m2_t __riscv_vrgather(vbool32_t vm, vuint64m2_t vs2, size_t vs1,
                             size_t vl);
vuint64m4_t __riscv_vrgather(vbool16_t vm, vuint64m4_t vs2, vuint64m4_t vs1,
                             size_t vl);
vuint64m4_t __riscv_vrgather(vbool16_t vm, vuint64m4_t vs2, size_t vs1,
                             size_t vl);
vuint64m8_t __riscv_vrgather(vbool8_t vm, vuint64m8_t vs2, vuint64m8_t vs1,
                             size_t vl);
vuint64m8_t __riscv_vrgather(vbool8_t vm, vuint64m8_t vs2, size_t vs1,
                             size_t vl);
vuint8mf8_t __riscv_vrgatherei16(vbool64_t vm, vuint8mf8_t vs2,
                                 vuint16mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgatherei16(vbool32_t vm, vuint8mf4_t vs2,
                                 vuint16mf2_t vs1, size_t vl);
```

```
vuint8mf2_t __riscv_vrgatherei16(vbool16_t vm, vuint8mf2_t vs2, vuint16m1_t vs1,
                                 size_t vl);
vuint8m1_t __riscv_vrgatherei16(vbool8_t vm, vuint8m1_t vs2, vuint16m2_t vs1,
                                size_t vl);
vuint8m2_t __riscv_vrgatherei16(vbool4_t vm, vuint8m2_t vs2, vuint16m4_t vs1,
                                size_t vl);
vuint8m4_t __riscv_vrgatherei16(vbool2_t vm, vuint8m4_t vs2, vuint16m8_t vs1,
                                size_t vl);
vuint16mf4_t __riscv_vrgatherei16(vbool64_t vm, vuint16mf4_t vs2,
                                  vuint16mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgatherei16(vbool32_t vm, vuint16mf2_t vs2,
                                  vuint16mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vrgatherei16(vbool16_t vm, vuint16m1_t vs2, vuint16m1_t vs1,
                                 size_t vl);
vuint16m2_t __riscv_vrgatherei16(vbool8_t vm, vuint16m2_t vs2, vuint16m2_t vs1,
                                 size_t vl);
vuint16m4_t __riscv_vrgatherei16(vbool4_t vm, vuint16m4_t vs2, vuint16m4_t vs1,
                                 size_t vl);
vuint16m8_t __riscv_vrgatherei16(vbool2_t vm, vuint16m8_t vs2, vuint16m8_t vs1,
                                 size_t vl);
vuint32mf2_t __riscv_vrgatherei16(vbool64_t vm, vuint32mf2_t vs2,
                                  vuint16mf4_t vs1, size_t vl);
vuint32m1_t __riscv_vrgatherei16(vbool32_t vm, vuint32m1_t vs2,
                                 vuint16mf2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgatherei16(vbool16_t vm, vuint32m2_t vs2, vuint16m1_t vs1,
                                 size_t vl);
vuint32m4_t __riscv_vrgatherei16(vbool8_t vm, vuint32m4_t vs2, vuint16m2_t vs1,
                                 size_t vl);
vuint32m8_t __riscv_vrgatherei16(vbool4_t vm, vuint32m8_t vs2, vuint16m4_t vs1,
                                 size_t vl);
vuint64m1_t __riscv_vrgatherei16(vbool64_t vm, vuint64m1_t vs2,
                                 vuint16mf4_t vs1, size_t vl);
vuint64m2_t __riscv_vrgatherei16(vbool32_t vm, vuint64m2_t vs2,
                                 vuint16mf2_t vs1, size_t vl);
vuint64m4_t __riscv_vrgatherei16(vbool16_t vm, vuint64m4_t vs2, vuint16m1_t vs1,
                                 size_t vl);
vuint64m8_t __riscv_vrgatherei16(vbool8_t vm, vuint64m8_t vs2, vuint16m2_t vs1,
                                 size_t vl);
```

C.8.6. Vector Compress Intrinsics

```
vfloat16mf4_t __riscv_vcompress(vfloat16mf4_t vs2, vbool64_t vs1, size_t vl);
vfloat16mf2_t __riscv_vcompress(vfloat16mf2_t vs2, vbool32_t vs1, size_t vl);
vfloat16m1_t __riscv_vcompress(vfloat16m1_t vs2, vbool16_t vs1, size_t vl);
vfloat16m2_t __riscv_vcompress(vfloat16m2_t vs2, vbool8_t vs1, size_t vl);
vfloat16m4_t __riscv_vcompress(vfloat16m4_t vs2, vbool4_t vs1, size_t vl);
vfloat16m8_t __riscv_vcompress(vfloat16m8_t vs2, vbool2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vcompress(vfloat32mf2_t vs2, vbool64_t vs1, size_t vl);
vfloat32m1_t __riscv_vcompress(vfloat32m1_t vs2, vbool32_t vs1, size_t vl);
vfloat32m2_t __riscv_vcompress(vfloat32m2_t vs2, vbool16_t vs1, size_t vl);
vfloat32m4_t __riscv_vcompress(vfloat32m4_t vs2, vbool8_t vs1, size_t vl);
vfloat32m8_t __riscv_vcompress(vfloat32m8_t vs2, vbool4_t vs1, size_t vl);
vfloat64m1_t __riscv_vcompress(vfloat64m1_t vs2, vbool64_t vs1, size_t vl);
vfloat64m2_t __riscv_vcompress(vfloat64m2_t vs2, vbool32_t vs1, size_t vl);
vfloat64m4_t __riscv_vcompress(vfloat64m4_t vs2, vbool16_t vs1, size_t vl);
vfloat64m8_t __riscv_vcompress(vfloat64m8_t vs2, vbool8_t vs1, size_t vl);
vint8mf8_t __riscv_vcompress(vint8mf8_t vs2, vbool64_t vs1, size_t vl);
vint8mf4_t __riscv_vcompress(vint8mf4_t vs2, vbool32_t vs1, size_t vl);
vint8mf2_t __riscv_vcompress(vint8mf2_t vs2, vbool16_t vs1, size_t vl);
vint8m1_t __riscv_vcompress(vint8m1_t vs2, vbool8_t vs1, size_t vl);
vint8m2_t __riscv_vcompress(vint8m2_t vs2, vbool4_t vs1, size_t vl);
vint8m4_t __riscv_vcompress(vint8m4_t vs2, vbool2_t vs1, size_t vl);
vint8m8_t __riscv_vcompress(vint8m8_t vs2, vbool1_t vs1, size_t vl);
vint16mf4_t __riscv_vcompress(vint16mf4_t vs2, vbool64_t vs1, size_t vl);
vint16mf2_t __riscv_vcompress(vint16mf2_t vs2, vbool32_t vs1, size_t vl);
```

```
vint16m1_t __riscv_vcompress(vint16m1_t vs2, vbool16_t vs1, size_t vl);
vint16m2_t __riscv_vcompress(vint16m2_t vs2, vbool8_t vs1, size_t vl);
vint16m4_t __riscv_vcompress(vint16m4_t vs2, vbool4_t vs1, size_t vl);
vint16m8_t __riscv_vcompress(vint16m8_t vs2, vbool2_t vs1, size_t vl);
vint32mf2_t __riscv_vcompress(vint32mf2_t vs2, vbool64_t vs1, size_t vl);
vint32m1_t __riscv_vcompress(vint32m1_t vs2, vbool32_t vs1, size_t vl);
vint32m2_t __riscv_vcompress(vint32m2_t vs2, vbool16_t vs1, size_t vl);
vint32m4_t __riscv_vcompress(vint32m4_t vs2, vbool8_t vs1, size_t vl);
vint32m8_t __riscv_vcompress(vint32m8_t vs2, vbool4_t vs1, size_t vl);
vint64m1_t __riscv_vcompress(vint64m1_t vs2, vbool64_t vs1, size_t vl);
vint64m2_t __riscv_vcompress(vint64m2_t vs2, vbool32_t vs1, size_t vl);
vint64m4_t __riscv_vcompress(vint64m4_t vs2, vbool16_t vs1, size_t vl);
vint64m8_t __riscv_vcompress(vint64m8_t vs2, vbool8_t vs1, size_t vl);
vuint8mf8_t __riscv_vcompress(vuint8mf8_t vs2, vbool64_t vs1, size_t vl);
vuint8mf4_t __riscv_vcompress(vuint8mf4_t vs2, vbool32_t vs1, size_t vl);
vuint8mf2_t __riscv_vcompress(vuint8mf2_t vs2, vbool16_t vs1, size_t vl);
vuint8m1_t __riscv_vcompress(vuint8m1_t vs2, vbool8_t vs1, size_t vl);
vuint8m2_t __riscv_vcompress(vuint8m2_t vs2, vbool4_t vs1, size_t vl);
vuint8m4_t __riscv_vcompress(vuint8m4_t vs2, vbool2_t vs1, size_t vl);
vuint8m8_t __riscv_vcompress(vuint8m8_t vs2, vbool1_t vs1, size_t vl);
vuint16mf4_t __riscv_vcompress(vuint16mf4_t vs2, vbool64_t vs1, size_t vl);
vuint16mf2_t __riscv_vcompress(vuint16mf2_t vs2, vbool32_t vs1, size_t vl);
vuint16m1_t __riscv_vcompress(vuint16m1_t vs2, vbool16_t vs1, size_t vl);
vuint16m2_t __riscv_vcompress(vuint16m2_t vs2, vbool8_t vs1, size_t vl);
vuint16m4_t __riscv_vcompress(vuint16m4_t vs2, vbool4_t vs1, size_t vl);
vuint16m8_t __riscv_vcompress(vuint16m8_t vs2, vbool2_t vs1, size_t vl);
vuint32mf2_t __riscv_vcompress(vuint32mf2_t vs2, vbool64_t vs1, size_t vl);
vuint32m1_t __riscv_vcompress(vuint32m1_t vs2, vbool32_t vs1, size_t vl);
vuint32m2_t __riscv_vcompress(vuint32m2_t vs2, vbool16_t vs1, size_t vl);
vuint32m4_t __riscv_vcompress(vuint32m4_t vs2, vbool8_t vs1, size_t vl);
vuint32m8_t __riscv_vcompress(vuint32m8_t vs2, vbool4_t vs1, size_t vl);
vuint64m1_t __riscv_vcompress(vuint64m1_t vs2, vbool64_t vs1, size_t vl);
vuint64m2_t __riscv_vcompress(vuint64m2_t vs2, vbool32_t vs1, size_t vl);
vuint64m4_t __riscv_vcompress(vuint64m4_t vs2, vbool16_t vs1, size_t vl);
vuint64m8_t __riscv_vcompress(vuint64m8_t vs2, vbool8_t vs1, size_t vl);
```

C.9. Miscellaneous Vector Utility Intrinsics

C.9.1. Get `vl` with specific vtype

Intrinsics here don't have an overloaded variant.

C.9.2. Get `VLMAX` with specific vtype

Intrinsics here don't have an overloaded variant.

C.9.3. Reinterpret Cast Conversion Intrinsics

```
// Reinterpret between different type under the same SEW/LMUL
vuint8mf8_t __riscv_vreinterpret_u8mf8(vint8mf8_t src);
vuint8mf4_t __riscv_vreinterpret_u8mf4(vint8mf4_t src);
vuint8mf2_t __riscv_vreinterpret_u8mf2(vint8mf2_t src);
vuint8m1_t __riscv_vreinterpret_u8m1(vint8m1_t src);
vuint8m2_t __riscv_vreinterpret_u8m2(vint8m2_t src);
vuint8m4_t __riscv_vreinterpret_u8m4(vint8m4_t src);
vuint8m8_t __riscv_vreinterpret_u8m8(vint8m8_t src);
vint8mf8_t __riscv_vreinterpret_i8mf8(vuint8mf8_t src);
vint8mf4_t __riscv_vreinterpret_i8mf4(vuint8mf4_t src);
vint8mf2_t __riscv_vreinterpret_i8mf2(vuint8mf2_t src);
vint8m1_t __riscv_vreinterpret_i8m1(vuint8m1_t src);
vint8m2_t __riscv_vreinterpret_i8m2(vuint8m2_t src);
```

```
vint8m4_t __riscv_vreinterpret_i8m4(vuint8m4_t src);
vint8m8_t __riscv_vreinterpret_i8m8(vuint8m8_t src);
vfloat16mf4_t __riscv_vreinterpret_f16mf4(vint16mf4_t src);
vfloat16mf2_t __riscv_vreinterpret_f16mf2(vint16mf2_t src);
vfloat16m1_t __riscv_vreinterpret_f16m1(vint16m1_t src);
vfloat16m2_t __riscv_vreinterpret_f16m2(vint16m2_t src);
vfloat16m4_t __riscv_vreinterpret_f16m4(vint16m4_t src);
vfloat16m8_t __riscv_vreinterpret_f16m8(vint16m8_t src);
vfloat16mf4_t __riscv_vreinterpret_f16mf4(vuint16mf4_t src);
vfloat16mf2_t __riscv_vreinterpret_f16mf2(vuint16mf2_t src);
vfloat16m1_t __riscv_vreinterpret_f16m1(vuint16m1_t src);
vfloat16m2_t __riscv_vreinterpret_f16m2(vuint16m2_t src);
vfloat16m4_t __riscv_vreinterpret_f16m4(vuint16m4_t src);
vfloat16m8_t __riscv_vreinterpret_f16m8(vuint16m8_t src);
vuint16mf4_t __riscv_vreinterpret_u16mf4(vint16mf4_t src);
vuint16mf2_t __riscv_vreinterpret_u16mf2(vint16mf2_t src);
vuint16m1_t __riscv_vreinterpret_u16m1(vint16m1_t src);
vuint16m2_t __riscv_vreinterpret_u16m2(vint16m2_t src);
vuint16m4_t __riscv_vreinterpret_u16m4(vint16m4_t src);
vuint16m8_t __riscv_vreinterpret_u16m8(vint16m8_t src);
vint16mf4_t __riscv_vreinterpret_i16mf4(vuint16mf4_t src);
vint16mf2_t __riscv_vreinterpret_i16mf2(vuint16mf2_t src);
vint16m1_t __riscv_vreinterpret_i16m1(vuint16m1_t src);
vint16m2_t __riscv_vreinterpret_i16m2(vuint16m2_t src);
vint16m4_t __riscv_vreinterpret_i16m4(vuint16m4_t src);
vint16m8_t __riscv_vreinterpret_i16m8(vuint16m8_t src);
vint16mf4_t __riscv_vreinterpret_i16mf4(vfloat16mf4_t src);
vint16mf2_t __riscv_vreinterpret_i16mf2(vfloat16mf2_t src);
vint16m1_t __riscv_vreinterpret_i16m1(vfloat16m1_t src);
vint16m2_t __riscv_vreinterpret_i16m2(vfloat16m2_t src);
vint16m4_t __riscv_vreinterpret_i16m4(vfloat16m4_t src);
vint16m8_t __riscv_vreinterpret_i16m8(vfloat16m8_t src);
vuint16mf4_t __riscv_vreinterpret_u16mf4(vfloat16mf4_t src);
vuint16mf2_t __riscv_vreinterpret_u16mf2(vfloat16mf2_t src);
vuint16m1_t __riscv_vreinterpret_u16m1(vfloat16m1_t src);
vuint16m2_t __riscv_vreinterpret_u16m2(vfloat16m2_t src);
vuint16m4_t __riscv_vreinterpret_u16m4(vfloat16m4_t src);
vuint16m8_t __riscv_vreinterpret_u16m8(vfloat16m8_t src);
vfloat32mf2_t __riscv_vreinterpret_f32mf2(vint32mf2_t src);
vfloat32m1_t __riscv_vreinterpret_f32m1(vint32m1_t src);
vfloat32m2_t __riscv_vreinterpret_f32m2(vint32m2_t src);
vfloat32m4_t __riscv_vreinterpret_f32m4(vint32m4_t src);
vfloat32m8_t __riscv_vreinterpret_f32m8(vint32m8_t src);
vfloat32mf2_t __riscv_vreinterpret_f32mf2(vuint32mf2_t src);
vfloat32m1_t __riscv_vreinterpret_f32m1(vuint32m1_t src);
vfloat32m2_t __riscv_vreinterpret_f32m2(vuint32m2_t src);
vfloat32m4_t __riscv_vreinterpret_f32m4(vuint32m4_t src);
vfloat32m8_t __riscv_vreinterpret_f32m8(vuint32m8_t src);
vuint32mf2_t __riscv_vreinterpret_u32mf2(vint32mf2_t src);
vuint32m1_t __riscv_vreinterpret_u32m1(vint32m1_t src);
vuint32m2_t __riscv_vreinterpret_u32m2(vint32m2_t src);
vuint32m4_t __riscv_vreinterpret_u32m4(vint32m4_t src);
vuint32m8_t __riscv_vreinterpret_u32m8(vint32m8_t src);
vint32mf2_t __riscv_vreinterpret_i32mf2(vuint32mf2_t src);
vint32m1_t __riscv_vreinterpret_i32m1(vuint32m1_t src);
vint32m2_t __riscv_vreinterpret_i32m2(vuint32m2_t src);
vint32m4_t __riscv_vreinterpret_i32m4(vuint32m4_t src);
vint32m8_t __riscv_vreinterpret_i32m8(vuint32m8_t src);
vint32mf2_t __riscv_vreinterpret_i32mf2(vfloat32mf2_t src);
vint32m1_t __riscv_vreinterpret_i32m1(vfloat32m1_t src);
vint32m2_t __riscv_vreinterpret_i32m2(vfloat32m2_t src);
vint32m4_t __riscv_vreinterpret_i32m4(vfloat32m4_t src);
vint32m8_t __riscv_vreinterpret_i32m8(vfloat32m8_t src);
vuint32mf2_t __riscv_vreinterpret_u32mf2(vfloat32mf2_t src);
vuint32m1_t __riscv_vreinterpret_u32m1(vfloat32m1_t src);
vuint32m2_t __riscv_vreinterpret_u32m2(vfloat32m2_t src);
vuint32m4_t __riscv_vreinterpret_u32m4(vfloat32m4_t src);
```

```
vuint32m8_t __riscv_vreinterpret_u32m8(vfloat32m8_t src);
vfloat64m1_t __riscv_vreinterpret_f64m1(vint64m1_t src);
vfloat64m2_t __riscv_vreinterpret_f64m2(vint64m2_t src);
vfloat64m4_t __riscv_vreinterpret_f64m4(vint64m4_t src);
vfloat64m8_t __riscv_vreinterpret_f64m8(vint64m8_t src);
vfloat64m1_t __riscv_vreinterpret_f64m1(vuint64m1_t src);
vfloat64m2_t __riscv_vreinterpret_f64m2(vuint64m2_t src);
vfloat64m4_t __riscv_vreinterpret_f64m4(vuint64m4_t src);
vfloat64m8_t __riscv_vreinterpret_f64m8(vuint64m8_t src);
vuint64m1_t __riscv_vreinterpret_u64m1(vint64m1_t src);
vuint64m2_t __riscv_vreinterpret_u64m2(vint64m2_t src);
vuint64m4_t __riscv_vreinterpret_u64m4(vint64m4_t src);
vuint64m8_t __riscv_vreinterpret_u64m8(vint64m8_t src);
vint64m1_t __riscv_vreinterpret_i64m1(vuint64m1_t src);
vint64m2_t __riscv_vreinterpret_i64m2(vuint64m2_t src);
vint64m4_t __riscv_vreinterpret_i64m4(vuint64m4_t src);
vint64m8_t __riscv_vreinterpret_i64m8(vuint64m8_t src);
vint64m1_t __riscv_vreinterpret_i64m1(vfloat64m1_t src);
vint64m2_t __riscv_vreinterpret_i64m2(vfloat64m2_t src);
vint64m4_t __riscv_vreinterpret_i64m4(vfloat64m4_t src);
vint64m8_t __riscv_vreinterpret_i64m8(vfloat64m8_t src);
vuint64m1_t __riscv_vreinterpret_u64m1(vfloat64m1_t src);
vuint64m2_t __riscv_vreinterpret_u64m2(vfloat64m2_t src);
vuint64m4_t __riscv_vreinterpret_u64m4(vfloat64m4_t src);
vuint64m8_t __riscv_vreinterpret_u64m8(vfloat64m8_t src);
// Reinterpret between different SEW under the same LMUL
vint16mf4_t __riscv_vreinterpret_i16mf4(vint8mf4_t src);
vint16mf2_t __riscv_vreinterpret_i16mf2(vint8mf2_t src);
vint16m1_t __riscv_vreinterpret_i16m1(vint8m1_t src);
vint16m2_t __riscv_vreinterpret_i16m2(vint8m2_t src);
vint16m4_t __riscv_vreinterpret_i16m4(vint8m4_t src);
vint16m8_t __riscv_vreinterpret_i16m8(vint8m8_t src);
vuint16mf4_t __riscv_vreinterpret_u16mf4(vuint8mf4_t src);
vuint16mf2_t __riscv_vreinterpret_u16mf2(vuint8mf2_t src);
vuint16m1_t __riscv_vreinterpret_u16m1(vuint8m1_t src);
vuint16m2_t __riscv_vreinterpret_u16m2(vuint8m2_t src);
vuint16m4_t __riscv_vreinterpret_u16m4(vuint8m4_t src);
vuint16m8_t __riscv_vreinterpret_u16m8(vuint8m8_t src);
vint32mf2_t __riscv_vreinterpret_i32mf2(vint8mf2_t src);
vint32m1_t __riscv_vreinterpret_i32m1(vint8m1_t src);
vint32m2_t __riscv_vreinterpret_i32m2(vint8m2_t src);
vint32m4_t __riscv_vreinterpret_i32m4(vint8m4_t src);
vint32m8_t __riscv_vreinterpret_i32m8(vint8m8_t src);
vuint32mf2_t __riscv_vreinterpret_u32mf2(vuint8mf2_t src);
vuint32m1_t __riscv_vreinterpret_u32m1(vuint8m1_t src);
vuint32m2_t __riscv_vreinterpret_u32m2(vuint8m2_t src);
vuint32m4_t __riscv_vreinterpret_u32m4(vuint8m4_t src);
vuint32m8_t __riscv_vreinterpret_u32m8(vuint8m8_t src);
vint64m1_t __riscv_vreinterpret_i64m1(vint8m1_t src);
vint64m2_t __riscv_vreinterpret_i64m2(vint8m2_t src);
vint64m4_t __riscv_vreinterpret_i64m4(vint8m4_t src);
vint64m8_t __riscv_vreinterpret_i64m8(vint8m8_t src);
vuint64m1_t __riscv_vreinterpret_u64m1(vuint8m1_t src);
vuint64m2_t __riscv_vreinterpret_u64m2(vuint8m2_t src);
vuint64m4_t __riscv_vreinterpret_u64m4(vuint8m4_t src);
vuint64m8_t __riscv_vreinterpret_u64m8(vuint8m8_t src);
vint8mf4_t __riscv_vreinterpret_i8mf4(vint16mf4_t src);
vint8mf2_t __riscv_vreinterpret_i8mf2(vint16mf2_t src);
vint8m1_t __riscv_vreinterpret_i8m1(vint16m1_t src);
vint8m2_t __riscv_vreinterpret_i8m2(vint16m2_t src);
vint8m4_t __riscv_vreinterpret_i8m4(vint16m4_t src);
vint8m8_t __riscv_vreinterpret_i8m8(vint16m8_t src);
vuint8mf4_t __riscv_vreinterpret_u8mf4(vuint16mf4_t src);
vuint8mf2_t __riscv_vreinterpret_u8mf2(vuint16mf2_t src);
vuint8m1_t __riscv_vreinterpret_u8m1(vuint16m1_t src);
vuint8m2_t __riscv_vreinterpret_u8m2(vuint16m2_t src);
vuint8m4_t __riscv_vreinterpret_u8m4(vuint16m4_t src);
```

```
vuint8m8_t __riscv_vreinterpret_u8m8(vuint16m8_t src);
vint32mf2_t __riscv_vreinterpret_i32mf2(vint16mf2_t src);
vint32m1_t __riscv_vreinterpret_i32m1(vint16m1_t src);
vint32m2_t __riscv_vreinterpret_i32m2(vint16m2_t src);
vint32m4_t __riscv_vreinterpret_i32m4(vint16m4_t src);
vint32m8_t __riscv_vreinterpret_i32m8(vint16m8_t src);
vuint32mf2_t __riscv_vreinterpret_u32mf2(vuint16mf2_t src);
vuint32m1_t __riscv_vreinterpret_u32m1(vuint16m1_t src);
vuint32m2_t __riscv_vreinterpret_u32m2(vuint16m2_t src);
vuint32m4_t __riscv_vreinterpret_u32m4(vuint16m4_t src);
vuint32m8_t __riscv_vreinterpret_u32m8(vuint16m8_t src);
vint64m1_t __riscv_vreinterpret_i64m1(vint16m1_t src);
vint64m2_t __riscv_vreinterpret_i64m2(vint16m2_t src);
vint64m4_t __riscv_vreinterpret_i64m4(vint16m4_t src);
vint64m8_t __riscv_vreinterpret_i64m8(vint16m8_t src);
vuint64m1_t __riscv_vreinterpret_u64m1(vuint16m1_t src);
vuint64m2_t __riscv_vreinterpret_u64m2(vuint16m2_t src);
vuint64m4_t __riscv_vreinterpret_u64m4(vuint16m4_t src);
vuint64m8_t __riscv_vreinterpret_u64m8(vuint16m8_t src);
vint8mf2_t __riscv_vreinterpret_i8mf2(vint32mf2_t src);
vint8m1_t __riscv_vreinterpret_i8m1(vint32m1_t src);
vint8m2_t __riscv_vreinterpret_i8m2(vint32m2_t src);
vint8m4_t __riscv_vreinterpret_i8m4(vint32m4_t src);
vint8m8_t __riscv_vreinterpret_i8m8(vint32m8_t src);
vuint8mf2_t __riscv_vreinterpret_u8mf2(vuint32mf2_t src);
vuint8m1_t __riscv_vreinterpret_u8m1(vuint32m1_t src);
vuint8m2_t __riscv_vreinterpret_u8m2(vuint32m2_t src);
vuint8m4_t __riscv_vreinterpret_u8m4(vuint32m4_t src);
vuint8m8_t __riscv_vreinterpret_u8m8(vuint32m8_t src);
vint16mf2_t __riscv_vreinterpret_i16mf2(vint32mf2_t src);
vint16m1_t __riscv_vreinterpret_i16m1(vint32m1_t src);
vint16m2_t __riscv_vreinterpret_i16m2(vint32m2_t src);
vint16m4_t __riscv_vreinterpret_i16m4(vint32m4_t src);
vint16m8_t __riscv_vreinterpret_i16m8(vint32m8_t src);
vuint16mf2_t __riscv_vreinterpret_u16mf2(vuint32mf2_t src);
vuint16m1_t __riscv_vreinterpret_u16m1(vuint32m1_t src);
vuint16m2_t __riscv_vreinterpret_u16m2(vuint32m2_t src);
vuint16m4_t __riscv_vreinterpret_u16m4(vuint32m4_t src);
vuint16m8_t __riscv_vreinterpret_u16m8(vuint32m8_t src);
vint64m1_t __riscv_vreinterpret_i64m1(vint32m1_t src);
vint64m2_t __riscv_vreinterpret_i64m2(vint32m2_t src);
vint64m4_t __riscv_vreinterpret_i64m4(vint32m4_t src);
vint64m8_t __riscv_vreinterpret_i64m8(vint32m8_t src);
vuint64m1_t __riscv_vreinterpret_u64m1(vuint32m1_t src);
vuint64m2_t __riscv_vreinterpret_u64m2(vuint32m2_t src);
vuint64m4_t __riscv_vreinterpret_u64m4(vuint32m4_t src);
vuint64m8_t __riscv_vreinterpret_u64m8(vuint32m8_t src);
vint8m1_t __riscv_vreinterpret_i8m1(vint64m1_t src);
vint8m2_t __riscv_vreinterpret_i8m2(vint64m2_t src);
vint8m4_t __riscv_vreinterpret_i8m4(vint64m4_t src);
vint8m8_t __riscv_vreinterpret_i8m8(vint64m8_t src);
vuint8m1_t __riscv_vreinterpret_u8m1(vuint64m1_t src);
vuint8m2_t __riscv_vreinterpret_u8m2(vuint64m2_t src);
vuint8m4_t __riscv_vreinterpret_u8m4(vuint64m4_t src);
vuint8m8_t __riscv_vreinterpret_u8m8(vuint64m8_t src);
vint16m1_t __riscv_vreinterpret_i16m1(vint64m1_t src);
vint16m2_t __riscv_vreinterpret_i16m2(vint64m2_t src);
vint16m4_t __riscv_vreinterpret_i16m4(vint64m4_t src);
vint16m8_t __riscv_vreinterpret_i16m8(vint64m8_t src);
vuint16m1_t __riscv_vreinterpret_u16m1(vuint64m1_t src);
vuint16m2_t __riscv_vreinterpret_u16m2(vuint64m2_t src);
vuint16m4_t __riscv_vreinterpret_u16m4(vuint64m4_t src);
vuint16m8_t __riscv_vreinterpret_u16m8(vuint64m8_t src);
vint32m1_t __riscv_vreinterpret_i32m1(vint64m1_t src);
vint32m2_t __riscv_vreinterpret_i32m2(vint64m2_t src);
vint32m4_t __riscv_vreinterpret_i32m4(vint64m4_t src);
vint32m8_t __riscv_vreinterpret_i32m8(vint64m8_t src);
```

```
vuint32m1_t __riscv_vreinterpret_u32m1(vuint64m1_t src);
vuint32m2_t __riscv_vreinterpret_u32m2(vuint64m2_t src);
vuint32m4_t __riscv_vreinterpret_u32m4(vuint64m4_t src);
vuint32m8_t __riscv_vreinterpret_u32m8(vuint64m8_t src);
// Reinterpret between vector boolean types and LMUL=1 (m1) vector integer types
vbool64_t __riscv_vreinterpret_b64(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_i8m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_b32(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_i8m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_b16(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_i8m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_b8(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_i8m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_b4(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_i8m1(vbool4_t src);
vbool2_t __riscv_vreinterpret_b2(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_i8m1(vbool2_t src);
vbool1_t __riscv_vreinterpret_b1(vint8m1_t src);
vint8m1_t __riscv_vreinterpret_i8m1(vbool1_t src);
vbool64_t __riscv_vreinterpret_b64(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_u8m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_b32(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_u8m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_b16(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_u8m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_b8(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_u8m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_b4(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_u8m1(vbool4_t src);
vbool2_t __riscv_vreinterpret_b2(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_u8m1(vbool2_t src);
vbool1_t __riscv_vreinterpret_b1(vuint8m1_t src);
vuint8m1_t __riscv_vreinterpret_u8m1(vbool1_t src);
vbool64_t __riscv_vreinterpret_b64(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_i16m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_b32(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_i16m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_b16(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_i16m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_b8(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_i16m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_b4(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_i16m1(vbool4_t src);
vbool2_t __riscv_vreinterpret_b2(vint16m1_t src);
vint16m1_t __riscv_vreinterpret_i16m1(vbool2_t src);
vbool64_t __riscv_vreinterpret_b64(vuint16m1_t src);
vuint16m1_t __riscv_vreinterpret_u16m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_b32(vuint16m1_t src);
vuint16m1_t __riscv_vreinterpret_u16m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_b16(vuint16m1_t src);
vuint16m1_t __riscv_vreinterpret_u16m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_b8(vuint16m1_t src);
vuint16m1_t __riscv_vreinterpret_u16m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_b4(vuint16m1_t src);
vuint16m1_t __riscv_vreinterpret_u16m1(vbool4_t src);
vbool2_t __riscv_vreinterpret_b2(vuint16m1_t src);
vuint16m1_t __riscv_vreinterpret_u16m1(vbool2_t src);
vbool64_t __riscv_vreinterpret_b64(vint32m1_t src);
vint32m1_t __riscv_vreinterpret_i32m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_b32(vint32m1_t src);
vint32m1_t __riscv_vreinterpret_i32m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_b16(vint32m1_t src);
vint32m1_t __riscv_vreinterpret_i32m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_b8(vint32m1_t src);
vint32m1_t __riscv_vreinterpret_i32m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_b4(vint32m1_t src);
vint32m1_t __riscv_vreinterpret_i32m1(vbool4_t src);
```

```
vbool64_t __riscv_vreinterpret_b64(vuint32m1_t src);
vuint32m1_t __riscv_vreinterpret_u32m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_b32(vuint32m1_t src);
vuint32m1_t __riscv_vreinterpret_u32m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_b16(vuint32m1_t src);
vuint32m1_t __riscv_vreinterpret_u32m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_b8(vuint32m1_t src);
vuint32m1_t __riscv_vreinterpret_u32m1(vbool8_t src);
vbool4_t __riscv_vreinterpret_b4(vuint32m1_t src);
vuint32m1_t __riscv_vreinterpret_u32m1(vbool4_t src);
vbool64_t __riscv_vreinterpret_b64(vint64m1_t src);
vint64m1_t __riscv_vreinterpret_i64m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_b32(vint64m1_t src);
vint64m1_t __riscv_vreinterpret_i64m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_b16(vint64m1_t src);
vint64m1_t __riscv_vreinterpret_i64m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_b8(vint64m1_t src);
vint64m1_t __riscv_vreinterpret_i64m1(vbool8_t src);
vbool64_t __riscv_vreinterpret_b64(vuint64m1_t src);
vuint64m1_t __riscv_vreinterpret_u64m1(vbool64_t src);
vbool32_t __riscv_vreinterpret_b32(vuint64m1_t src);
vuint64m1_t __riscv_vreinterpret_u64m1(vbool32_t src);
vbool16_t __riscv_vreinterpret_b16(vuint64m1_t src);
vuint64m1_t __riscv_vreinterpret_u64m1(vbool16_t src);
vbool8_t __riscv_vreinterpret_b8(vuint64m1_t src);
vuint64m1_t __riscv_vreinterpret_u64m1(vbool8_t src);
```

C.9.4. Vector LMUL Extension Intrinsics

```
vfloat16mf2_t __riscv_vlmul_ext_f16mf2(vfloat16mf4_t value);
vfloat16m1_t __riscv_vlmul_ext_f16m1(vfloat16mf4_t value);
vfloat16m2_t __riscv_vlmul_ext_f16m2(vfloat16mf4_t value);
vfloat16m4_t __riscv_vlmul_ext_f16m4(vfloat16mf4_t value);
vfloat16m8_t __riscv_vlmul_ext_f16m8(vfloat16mf4_t value);
vfloat16m1_t __riscv_vlmul_ext_f16m1(vfloat16mf2_t value);
vfloat16m2_t __riscv_vlmul_ext_f16m2(vfloat16mf2_t value);
vfloat16m4_t __riscv_vlmul_ext_f16m4(vfloat16mf2_t value);
vfloat16m8_t __riscv_vlmul_ext_f16m8(vfloat16mf2_t value);
vfloat16m2_t __riscv_vlmul_ext_f16m2(vfloat16m1_t value);
vfloat16m4_t __riscv_vlmul_ext_f16m4(vfloat16m1_t value);
vfloat16m8_t __riscv_vlmul_ext_f16m8(vfloat16m1_t value);
vfloat16m4_t __riscv_vlmul_ext_f16m4(vfloat16m2_t value);
vfloat16m8_t __riscv_vlmul_ext_f16m8(vfloat16m2_t value);
vfloat16m8_t __riscv_vlmul_ext_f16m8(vfloat16m4_t value);
vfloat32m1_t __riscv_vlmul_ext_f32m1(vfloat32mf2_t value);
vfloat32m2_t __riscv_vlmul_ext_f32m2(vfloat32mf2_t value);
vfloat32m4_t __riscv_vlmul_ext_f32m4(vfloat32mf2_t value);
vfloat32m8_t __riscv_vlmul_ext_f32m8(vfloat32mf2_t value);
vfloat32m2_t __riscv_vlmul_ext_f32m2(vfloat32m1_t value);
vfloat32m4_t __riscv_vlmul_ext_f32m4(vfloat32m1_t value);
vfloat32m8_t __riscv_vlmul_ext_f32m8(vfloat32m1_t value);
vfloat32m4_t __riscv_vlmul_ext_f32m4(vfloat32m2_t value);
vfloat32m8_t __riscv_vlmul_ext_f32m8(vfloat32m2_t value);
vfloat32m8_t __riscv_vlmul_ext_f32m8(vfloat32m4_t value);
vfloat64m2_t __riscv_vlmul_ext_f64m2(vfloat64m1_t value);
vfloat64m4_t __riscv_vlmul_ext_f64m4(vfloat64m1_t value);
vfloat64m8_t __riscv_vlmul_ext_f64m8(vfloat64m1_t value);
vfloat64m4_t __riscv_vlmul_ext_f64m4(vfloat64m2_t value);
vfloat64m8_t __riscv_vlmul_ext_f64m8(vfloat64m2_t value);
vfloat64m8_t __riscv_vlmul_ext_f64m8(vfloat64m4_t value);
vint8mf4_t __riscv_vlmul_ext_i8mf4(vint8mf8_t value);
vint8mf2_t __riscv_vlmul_ext_i8mf2(vint8mf8_t value);
vint8m1_t __riscv_vlmul_ext_i8m1(vint8mf8_t value);
vint8m2_t __riscv_vlmul_ext_i8m2(vint8mf8_t value);
vint8m4_t __riscv_vlmul_ext_i8m4(vint8mf8_t value);
```

```
vint8m8_t __riscv_vlmul_ext_i8m8(vint8mf8_t value);
vint8mf2_t __riscv_vlmul_ext_i8mf2(vint8mf4_t value);
vint8m1_t __riscv_vlmul_ext_i8m1(vint8mf4_t value);
vint8m2_t __riscv_vlmul_ext_i8m2(vint8mf4_t value);
vint8m4_t __riscv_vlmul_ext_i8m4(vint8mf4_t value);
vint8m8_t __riscv_vlmul_ext_i8m8(vint8mf4_t value);
vint8m1_t __riscv_vlmul_ext_i8m1(vint8mf2_t value);
vint8m2_t __riscv_vlmul_ext_i8m2(vint8mf2_t value);
vint8m4_t __riscv_vlmul_ext_i8m4(vint8mf2_t value);
vint8m8_t __riscv_vlmul_ext_i8m8(vint8mf2_t value);
vint8m2_t __riscv_vlmul_ext_i8m2(vint8m1_t value);
vint8m4_t __riscv_vlmul_ext_i8m4(vint8m1_t value);
vint8m8_t __riscv_vlmul_ext_i8m8(vint8m1_t value);
vint8m4_t __riscv_vlmul_ext_i8m4(vint8m2_t value);
vint8m8_t __riscv_vlmul_ext_i8m8(vint8m2_t value);
vint8m8_t __riscv_vlmul_ext_i8m8(vint8m4_t value);
vint16mf2_t __riscv_vlmul_ext_i16mf2(vint16mf4_t value);
vint16m1_t __riscv_vlmul_ext_i16m1(vint16mf4_t value);
vint16m2_t __riscv_vlmul_ext_i16m2(vint16mf4_t value);
vint16m4_t __riscv_vlmul_ext_i16m4(vint16mf4_t value);
vint16m8_t __riscv_vlmul_ext_i16m8(vint16mf4_t value);
vint16m1_t __riscv_vlmul_ext_i16m1(vint16mf2_t value);
vint16m2_t __riscv_vlmul_ext_i16m2(vint16mf2_t value);
vint16m4_t __riscv_vlmul_ext_i16m4(vint16mf2_t value);
vint16m8_t __riscv_vlmul_ext_i16m8(vint16mf2_t value);
vint16m2_t __riscv_vlmul_ext_i16m2(vint16m1_t value);
vint16m4_t __riscv_vlmul_ext_i16m4(vint16m1_t value);
vint16m8_t __riscv_vlmul_ext_i16m8(vint16m1_t value);
vint16m4_t __riscv_vlmul_ext_i16m4(vint16m2_t value);
vint16m8_t __riscv_vlmul_ext_i16m8(vint16m2_t value);
vint16m8_t __riscv_vlmul_ext_i16m8(vint16m4_t value);
vint32m1_t __riscv_vlmul_ext_i32m1(vint32mf2_t value);
vint32m2_t __riscv_vlmul_ext_i32m2(vint32mf2_t value);
vint32m4_t __riscv_vlmul_ext_i32m4(vint32mf2_t value);
vint32m8_t __riscv_vlmul_ext_i32m8(vint32mf2_t value);
vint32m2_t __riscv_vlmul_ext_i32m2(vint32m1_t value);
vint32m4_t __riscv_vlmul_ext_i32m4(vint32m1_t value);
vint32m8_t __riscv_vlmul_ext_i32m8(vint32m1_t value);
vint32m4_t __riscv_vlmul_ext_i32m4(vint32m2_t value);
vint32m8_t __riscv_vlmul_ext_i32m8(vint32m2_t value);
vint32m8_t __riscv_vlmul_ext_i32m8(vint32m4_t value);
vint64m2_t __riscv_vlmul_ext_i64m2(vint64m1_t value);
vint64m4_t __riscv_vlmul_ext_i64m4(vint64m1_t value);
vint64m8_t __riscv_vlmul_ext_i64m8(vint64m1_t value);
vint64m4_t __riscv_vlmul_ext_i64m4(vint64m2_t value);
vint64m8_t __riscv_vlmul_ext_i64m8(vint64m2_t value);
vint64m8_t __riscv_vlmul_ext_i64m8(vint64m4_t value);
vuint8mf4_t __riscv_vlmul_ext_u8mf4(vuint8mf8_t value);
vuint8mf2_t __riscv_vlmul_ext_u8mf2(vuint8mf8_t value);
vuint8m1_t __riscv_vlmul_ext_u8m1(vuint8mf8_t value);
vuint8m2_t __riscv_vlmul_ext_u8m2(vuint8mf8_t value);
vuint8m4_t __riscv_vlmul_ext_u8m4(vuint8mf8_t value);
vuint8m8_t __riscv_vlmul_ext_u8m8(vuint8mf8_t value);
vuint8mf2_t __riscv_vlmul_ext_u8mf2(vuint8mf4_t value);
vuint8m1_t __riscv_vlmul_ext_u8m1(vuint8mf4_t value);
vuint8m2_t __riscv_vlmul_ext_u8m2(vuint8mf4_t value);
vuint8m4_t __riscv_vlmul_ext_u8m4(vuint8mf4_t value);
vuint8m8_t __riscv_vlmul_ext_u8m8(vuint8mf4_t value);
vuint8m1_t __riscv_vlmul_ext_u8m1(vuint8mf2_t value);
vuint8m2_t __riscv_vlmul_ext_u8m2(vuint8mf2_t value);
vuint8m4_t __riscv_vlmul_ext_u8m4(vuint8mf2_t value);
vuint8m8_t __riscv_vlmul_ext_u8m8(vuint8mf2_t value);
vuint8m2_t __riscv_vlmul_ext_u8m2(vuint8m1_t value);
vuint8m4_t __riscv_vlmul_ext_u8m4(vuint8m1_t value);
vuint8m8_t __riscv_vlmul_ext_u8m8(vuint8m1_t value);
vuint8m4_t __riscv_vlmul_ext_u8m4(vuint8m2_t value);
vuint8m8_t __riscv_vlmul_ext_u8m8(vuint8m2_t value);
```

```
vuint8m8_t __riscv_vlmul_ext_u8m8(vuint8m4_t value);
vuint16mf2_t __riscv_vlmul_ext_u16mf2(vuint16mf4_t value);
vuint16m1_t __riscv_vlmul_ext_u16m1(vuint16mf4_t value);
vuint16m2_t __riscv_vlmul_ext_u16m2(vuint16mf4_t value);
vuint16m4_t __riscv_vlmul_ext_u16m4(vuint16mf4_t value);
vuint16m8_t __riscv_vlmul_ext_u16m8(vuint16mf4_t value);
vuint16m1_t __riscv_vlmul_ext_u16m1(vuint16mf2_t value);
vuint16m2_t __riscv_vlmul_ext_u16m2(vuint16mf2_t value);
vuint16m4_t __riscv_vlmul_ext_u16m4(vuint16mf2_t value);
vuint16m8_t __riscv_vlmul_ext_u16m8(vuint16mf2_t value);
vuint16m2_t __riscv_vlmul_ext_u16m2(vuint16m1_t value);
vuint16m4_t __riscv_vlmul_ext_u16m4(vuint16m1_t value);
vuint16m8_t __riscv_vlmul_ext_u16m8(vuint16m1_t value);
vuint16m4_t __riscv_vlmul_ext_u16m4(vuint16m2_t value);
vuint16m8_t __riscv_vlmul_ext_u16m8(vuint16m2_t value);
vuint16m8_t __riscv_vlmul_ext_u16m8(vuint16m4_t value);
vuint32m1_t __riscv_vlmul_ext_u32m1(vuint32mf2_t value);
vuint32m2_t __riscv_vlmul_ext_u32m2(vuint32mf2_t value);
vuint32m4_t __riscv_vlmul_ext_u32m4(vuint32mf2_t value);
vuint32m8_t __riscv_vlmul_ext_u32m8(vuint32mf2_t value);
vuint32m2_t __riscv_vlmul_ext_u32m2(vuint32m1_t value);
vuint32m4_t __riscv_vlmul_ext_u32m4(vuint32m1_t value);
vuint32m8_t __riscv_vlmul_ext_u32m8(vuint32m1_t value);
vuint32m4_t __riscv_vlmul_ext_u32m4(vuint32m2_t value);
vuint32m8_t __riscv_vlmul_ext_u32m8(vuint32m2_t value);
vuint32m8_t __riscv_vlmul_ext_u32m8(vuint32m4_t value);
vuint64m2_t __riscv_vlmul_ext_u64m2(vuint64m1_t value);
vuint64m4_t __riscv_vlmul_ext_u64m4(vuint64m1_t value);
vuint64m8_t __riscv_vlmul_ext_u64m8(vuint64m1_t value);
vuint64m4_t __riscv_vlmul_ext_u64m4(vuint64m2_t value);
vuint64m8_t __riscv_vlmul_ext_u64m8(vuint64m2_t value);
vuint64m8_t __riscv_vlmul_ext_u64m8(vuint64m4_t value);
```

C.9.5. Vector LMUL Truncation Intrinsics

```
vfloat16mf4_t __riscv_vlmul_trunc_f16mf4(vfloat16mf2_t value);
vfloat16mf4_t __riscv_vlmul_trunc_f16mf4(vfloat16m1_t value);
vfloat16mf2_t __riscv_vlmul_trunc_f16mf2(vfloat16m1_t value);
vfloat16mf4_t __riscv_vlmul_trunc_f16mf4(vfloat16m2_t value);
vfloat16mf2_t __riscv_vlmul_trunc_f16mf2(vfloat16m2_t value);
vfloat16m1_t __riscv_vlmul_trunc_f16m1(vfloat16m2_t value);
vfloat16mf4_t __riscv_vlmul_trunc_f16mf4(vfloat16m4_t value);
vfloat16mf2_t __riscv_vlmul_trunc_f16mf2(vfloat16m4_t value);
vfloat16m1_t __riscv_vlmul_trunc_f16m1(vfloat16m4_t value);
vfloat16m2_t __riscv_vlmul_trunc_f16m2(vfloat16m4_t value);
vfloat16mf4_t __riscv_vlmul_trunc_f16mf4(vfloat16m8_t value);
vfloat16mf2_t __riscv_vlmul_trunc_f16mf2(vfloat16m8_t value);
vfloat16m1_t __riscv_vlmul_trunc_f16m1(vfloat16m8_t value);
vfloat16m2_t __riscv_vlmul_trunc_f16m2(vfloat16m8_t value);
vfloat16m4_t __riscv_vlmul_trunc_f16m4(vfloat16m8_t value);
vfloat32mf2_t __riscv_vlmul_trunc_f32mf2(vfloat32m1_t value);
vfloat32mf2_t __riscv_vlmul_trunc_f32mf2(vfloat32m2_t value);
vfloat32m1_t __riscv_vlmul_trunc_f32m1(vfloat32m2_t value);
vfloat32mf2_t __riscv_vlmul_trunc_f32mf2(vfloat32m4_t value);
vfloat32m1_t __riscv_vlmul_trunc_f32m1(vfloat32m4_t value);
vfloat32m2_t __riscv_vlmul_trunc_f32m2(vfloat32m4_t value);
vfloat32mf2_t __riscv_vlmul_trunc_f32mf2(vfloat32m8_t value);
vfloat32m1_t __riscv_vlmul_trunc_f32m1(vfloat32m8_t value);
vfloat32m2_t __riscv_vlmul_trunc_f32m2(vfloat32m8_t value);
vfloat32m4_t __riscv_vlmul_trunc_f32m4(vfloat32m8_t value);
vfloat64m1_t __riscv_vlmul_trunc_f64m1(vfloat64m2_t value);
vfloat64m1_t __riscv_vlmul_trunc_f64m1(vfloat64m4_t value);
vfloat64m2_t __riscv_vlmul_trunc_f64m2(vfloat64m4_t value);
vfloat64m1_t __riscv_vlmul_trunc_f64m1(vfloat64m8_t value);
vfloat64m2_t __riscv_vlmul_trunc_f64m2(vfloat64m8_t value);
```

```
vfloat64m4_t __riscv_vlmul_trunc_f64m4(vfloat64m8_t value);
vint8mf8_t __riscv_vlmul_trunc_i8mf8(vint8mf4_t value);
vint8mf8_t __riscv_vlmul_trunc_i8mf8(vint8mf2_t value);
vint8mf4_t __riscv_vlmul_trunc_i8mf4(vint8mf2_t value);
vint8mf8_t __riscv_vlmul_trunc_i8mf8(vint8m1_t value);
vint8mf4_t __riscv_vlmul_trunc_i8mf4(vint8m1_t value);
vint8mf2_t __riscv_vlmul_trunc_i8mf2(vint8m1_t value);
vint8mf8_t __riscv_vlmul_trunc_i8mf8(vint8m2_t value);
vint8mf4_t __riscv_vlmul_trunc_i8mf4(vint8m2_t value);
vint8mf2_t __riscv_vlmul_trunc_i8mf2(vint8m2_t value);
vint8m1_t __riscv_vlmul_trunc_i8m1(vint8m2_t value);
vint8mf8_t __riscv_vlmul_trunc_i8mf8(vint8m4_t value);
vint8mf4_t __riscv_vlmul_trunc_i8mf4(vint8m4_t value);
vint8mf2_t __riscv_vlmul_trunc_i8mf2(vint8m4_t value);
vint8m1_t __riscv_vlmul_trunc_i8m1(vint8m4_t value);
vint8m2_t __riscv_vlmul_trunc_i8m2(vint8m4_t value);
vint8mf8_t __riscv_vlmul_trunc_i8mf8(vint8m8_t value);
vint8mf4_t __riscv_vlmul_trunc_i8mf4(vint8m8_t value);
vint8mf2_t __riscv_vlmul_trunc_i8mf2(vint8m8_t value);
vint8m1_t __riscv_vlmul_trunc_i8m1(vint8m8_t value);
vint8m2_t __riscv_vlmul_trunc_i8m2(vint8m8_t value);
vint8m4_t __riscv_vlmul_trunc_i8m4(vint8m8_t value);
vint16mf4_t __riscv_vlmul_trunc_i16mf4(vint16mf2_t value);
vint16mf4_t __riscv_vlmul_trunc_i16mf4(vint16m1_t value);
vint16mf2_t __riscv_vlmul_trunc_i16mf2(vint16m1_t value);
vint16mf4_t __riscv_vlmul_trunc_i16mf4(vint16m2_t value);
vint16mf2_t __riscv_vlmul_trunc_i16mf2(vint16m2_t value);
vint16m1_t __riscv_vlmul_trunc_i16m1(vint16m2_t value);
vint16mf4_t __riscv_vlmul_trunc_i16mf4(vint16m4_t value);
vint16mf2_t __riscv_vlmul_trunc_i16mf2(vint16m4_t value);
vint16m1_t __riscv_vlmul_trunc_i16m1(vint16m4_t value);
vint16m2_t __riscv_vlmul_trunc_i16m2(vint16m4_t value);
vint16mf4_t __riscv_vlmul_trunc_i16mf4(vint16m8_t value);
vint16mf2_t __riscv_vlmul_trunc_i16mf2(vint16m8_t value);
vint16m1_t __riscv_vlmul_trunc_i16m1(vint16m8_t value);
vint16m2_t __riscv_vlmul_trunc_i16m2(vint16m8_t value);
vint16m4_t __riscv_vlmul_trunc_i16m4(vint16m8_t value);
vint32mf2_t __riscv_vlmul_trunc_i32mf2(vint32m1_t value);
vint32mf2_t __riscv_vlmul_trunc_i32mf2(vint32m2_t value);
vint32m1_t __riscv_vlmul_trunc_i32m1(vint32m2_t value);
vint32mf2_t __riscv_vlmul_trunc_i32mf2(vint32m4_t value);
vint32m1_t __riscv_vlmul_trunc_i32m1(vint32m4_t value);
vint32m2_t __riscv_vlmul_trunc_i32m2(vint32m4_t value);
vint32mf2_t __riscv_vlmul_trunc_i32mf2(vint32m8_t value);
vint32m1_t __riscv_vlmul_trunc_i32m1(vint32m8_t value);
vint32m2_t __riscv_vlmul_trunc_i32m2(vint32m8_t value);
vint32m4_t __riscv_vlmul_trunc_i32m4(vint32m8_t value);
vint64m1_t __riscv_vlmul_trunc_i64m1(vint64m2_t value);
vint64m1_t __riscv_vlmul_trunc_i64m1(vint64m4_t value);
vint64m2_t __riscv_vlmul_trunc_i64m2(vint64m4_t value);
vint64m1_t __riscv_vlmul_trunc_i64m1(vint64m8_t value);
vint64m2_t __riscv_vlmul_trunc_i64m2(vint64m8_t value);
vint64m4_t __riscv_vlmul_trunc_i64m4(vint64m8_t value);
vuint8mf8_t __riscv_vlmul_trunc_u8mf8(vuint8mf4_t value);
vuint8mf8_t __riscv_vlmul_trunc_u8mf8(vuint8mf2_t value);
vuint8mf4_t __riscv_vlmul_trunc_u8mf4(vuint8mf2_t value);
vuint8mf8_t __riscv_vlmul_trunc_u8mf8(vuint8m1_t value);
vuint8mf4_t __riscv_vlmul_trunc_u8mf4(vuint8m1_t value);
vuint8mf2_t __riscv_vlmul_trunc_u8mf2(vuint8m1_t value);
vuint8mf8_t __riscv_vlmul_trunc_u8mf8(vuint8m2_t value);
vuint8mf4_t __riscv_vlmul_trunc_u8mf4(vuint8m2_t value);
vuint8mf2_t __riscv_vlmul_trunc_u8mf2(vuint8m2_t value);
vuint8m1_t __riscv_vlmul_trunc_u8m1(vuint8m2_t value);
vuint8mf8_t __riscv_vlmul_trunc_u8mf8(vuint8m4_t value);
vuint8mf4_t __riscv_vlmul_trunc_u8mf4(vuint8m4_t value);
vuint8mf2_t __riscv_vlmul_trunc_u8mf2(vuint8m4_t value);
vuint8m1_t __riscv_vlmul_trunc_u8m1(vuint8m4_t value);
```

```
vuint8m2_t __riscv_vlmul_trunc_u8m2(vuint8m4_t value);
vuint8mf8_t __riscv_vlmul_trunc_u8mf8(vuint8m8_t value);
vuint8mf4_t __riscv_vlmul_trunc_u8mf4(vuint8m8_t value);
vuint8mf2_t __riscv_vlmul_trunc_u8mf2(vuint8m8_t value);
vuint8m1_t __riscv_vlmul_trunc_u8m1(vuint8m8_t value);
vuint8m2_t __riscv_vlmul_trunc_u8m2(vuint8m8_t value);
vuint8m4_t __riscv_vlmul_trunc_u8m4(vuint8m8_t value);
vuint16mf4_t __riscv_vlmul_trunc_u16mf4(vuint16mf2_t value);
vuint16mf4_t __riscv_vlmul_trunc_u16mf4(vuint16m1_t value);
vuint16mf2_t __riscv_vlmul_trunc_u16mf2(vuint16m1_t value);
vuint16mf4_t __riscv_vlmul_trunc_u16mf4(vuint16m2_t value);
vuint16mf2_t __riscv_vlmul_trunc_u16mf2(vuint16m2_t value);
vuint16m1_t __riscv_vlmul_trunc_u16m1(vuint16m2_t value);
vuint16mf4_t __riscv_vlmul_trunc_u16mf4(vuint16m4_t value);
vuint16mf2_t __riscv_vlmul_trunc_u16mf2(vuint16m4_t value);
vuint16m1_t __riscv_vlmul_trunc_u16m1(vuint16m4_t value);
vuint16m2_t __riscv_vlmul_trunc_u16m2(vuint16m4_t value);
vuint16mf4_t __riscv_vlmul_trunc_u16mf4(vuint16m8_t value);
vuint16mf2_t __riscv_vlmul_trunc_u16mf2(vuint16m8_t value);
vuint16m1_t __riscv_vlmul_trunc_u16m1(vuint16m8_t value);
vuint16m2_t __riscv_vlmul_trunc_u16m2(vuint16m8_t value);
vuint16m4_t __riscv_vlmul_trunc_u16m4(vuint16m8_t value);
vuint32mf2_t __riscv_vlmul_trunc_u32mf2(vuint32m1_t value);
vuint32mf2_t __riscv_vlmul_trunc_u32mf2(vuint32m2_t value);
vuint32m1_t __riscv_vlmul_trunc_u32m1(vuint32m2_t value);
vuint32mf2_t __riscv_vlmul_trunc_u32mf2(vuint32m4_t value);
vuint32m1_t __riscv_vlmul_trunc_u32m1(vuint32m4_t value);
vuint32m2_t __riscv_vlmul_trunc_u32m2(vuint32m4_t value);
vuint32mf2_t __riscv_vlmul_trunc_u32mf2(vuint32m8_t value);
vuint32m1_t __riscv_vlmul_trunc_u32m1(vuint32m8_t value);
vuint32m2_t __riscv_vlmul_trunc_u32m2(vuint32m8_t value);
vuint32m4_t __riscv_vlmul_trunc_u32m4(vuint32m8_t value);
vuint64m1_t __riscv_vlmul_trunc_u64m1(vuint64m2_t value);
vuint64m1_t __riscv_vlmul_trunc_u64m1(vuint64m4_t value);
vuint64m2_t __riscv_vlmul_trunc_u64m2(vuint64m4_t value);
vuint64m1_t __riscv_vlmul_trunc_u64m1(vuint64m8_t value);
vuint64m2_t __riscv_vlmul_trunc_u64m2(vuint64m8_t value);
vuint64m4_t __riscv_vlmul_trunc_u64m4(vuint64m8_t value);
```

C.9.6. Vector Initialization Intrinsics

Intrinsics here don't have an overloaded variant.

C.9.7. Vector Insertion Intrinsics

```
vfloat16m2_t __riscv_vset(vfloat16m2_t dest, size_t index, vfloat16m1_t value);
vfloat16m4_t __riscv_vset(vfloat16m4_t dest, size_t index, vfloat16m1_t value);
vfloat16m4_t __riscv_vset(vfloat16m4_t dest, size_t index, vfloat16m2_t value);
vfloat16m8_t __riscv_vset(vfloat16m8_t dest, size_t index, vfloat16m1_t value);
vfloat16m8_t __riscv_vset(vfloat16m8_t dest, size_t index, vfloat16m2_t value);
vfloat16m8_t __riscv_vset(vfloat16m8_t dest, size_t index, vfloat16m4_t value);
vfloat32m2_t __riscv_vset(vfloat32m2_t dest, size_t index, vfloat32m1_t value);
vfloat32m4_t __riscv_vset(vfloat32m4_t dest, size_t index, vfloat32m1_t value);
vfloat32m4_t __riscv_vset(vfloat32m4_t dest, size_t index, vfloat32m2_t value);
vfloat32m8_t __riscv_vset(vfloat32m8_t dest, size_t index, vfloat32m1_t value);
vfloat32m8_t __riscv_vset(vfloat32m8_t dest, size_t index, vfloat32m2_t value);
vfloat32m8_t __riscv_vset(vfloat32m8_t dest, size_t index, vfloat32m4_t value);
vfloat64m2_t __riscv_vset(vfloat64m2_t dest, size_t index, vfloat64m1_t value);
vfloat64m4_t __riscv_vset(vfloat64m4_t dest, size_t index, vfloat64m1_t value);
vfloat64m4_t __riscv_vset(vfloat64m4_t dest, size_t index, vfloat64m2_t value);
vfloat64m8_t __riscv_vset(vfloat64m8_t dest, size_t index, vfloat64m1_t value);
vfloat64m8_t __riscv_vset(vfloat64m8_t dest, size_t index, vfloat64m2_t value);
vfloat64m8_t __riscv_vset(vfloat64m8_t dest, size_t index, vfloat64m4_t value);
vint8m2_t __riscv_vset(vint8m2_t dest, size_t index, vint8m1_t value);
```

```
vint8m4_t __riscv_vset(vint8m4_t dest, size_t index, vint8m1_t value);
vint8m4_t __riscv_vset(vint8m4_t dest, size_t index, vint8m2_t value);
vint8m8_t __riscv_vset(vint8m8_t dest, size_t index, vint8m1_t value);
vint8m8_t __riscv_vset(vint8m8_t dest, size_t index, vint8m2_t value);
vint8m8_t __riscv_vset(vint8m8_t dest, size_t index, vint8m4_t value);
vint16m2_t __riscv_vset(vint16m2_t dest, size_t index, vint16m1_t value);
vint16m4_t __riscv_vset(vint16m4_t dest, size_t index, vint16m1_t value);
vint16m4_t __riscv_vset(vint16m4_t dest, size_t index, vint16m2_t value);
vint16m8_t __riscv_vset(vint16m8_t dest, size_t index, vint16m1_t value);
vint16m8_t __riscv_vset(vint16m8_t dest, size_t index, vint16m2_t value);
vint16m8_t __riscv_vset(vint16m8_t dest, size_t index, vint16m4_t value);
vint32m2_t __riscv_vset(vint32m2_t dest, size_t index, vint32m1_t value);
vint32m4_t __riscv_vset(vint32m4_t dest, size_t index, vint32m1_t value);
vint32m4_t __riscv_vset(vint32m4_t dest, size_t index, vint32m2_t value);
vint32m8_t __riscv_vset(vint32m8_t dest, size_t index, vint32m1_t value);
vint32m8_t __riscv_vset(vint32m8_t dest, size_t index, vint32m2_t value);
vint32m8_t __riscv_vset(vint32m8_t dest, size_t index, vint32m4_t value);
vint64m2_t __riscv_vset(vint64m2_t dest, size_t index, vint64m1_t value);
vint64m4_t __riscv_vset(vint64m4_t dest, size_t index, vint64m1_t value);
vint64m4_t __riscv_vset(vint64m4_t dest, size_t index, vint64m2_t value);
vint64m8_t __riscv_vset(vint64m8_t dest, size_t index, vint64m1_t value);
vint64m8_t __riscv_vset(vint64m8_t dest, size_t index, vint64m2_t value);
vint64m8_t __riscv_vset(vint64m8_t dest, size_t index, vint64m4_t value);
vuint8m2_t __riscv_vset(vuint8m2_t dest, size_t index, vuint8m1_t value);
vuint8m4_t __riscv_vset(vuint8m4_t dest, size_t index, vuint8m1_t value);
vuint8m4_t __riscv_vset(vuint8m4_t dest, size_t index, vuint8m2_t value);
vuint8m8_t __riscv_vset(vuint8m8_t dest, size_t index, vuint8m1_t value);
vuint8m8_t __riscv_vset(vuint8m8_t dest, size_t index, vuint8m2_t value);
vuint8m8_t __riscv_vset(vuint8m8_t dest, size_t index, vuint8m4_t value);
vuint16m2_t __riscv_vset(vuint16m2_t dest, size_t index, vuint16m1_t value);
vuint16m4_t __riscv_vset(vuint16m4_t dest, size_t index, vuint16m1_t value);
vuint16m4_t __riscv_vset(vuint16m4_t dest, size_t index, vuint16m2_t value);
vuint16m8_t __riscv_vset(vuint16m8_t dest, size_t index, vuint16m1_t value);
vuint16m8_t __riscv_vset(vuint16m8_t dest, size_t index, vuint16m2_t value);
vuint16m8_t __riscv_vset(vuint16m8_t dest, size_t index, vuint16m4_t value);
vuint32m2_t __riscv_vset(vuint32m2_t dest, size_t index, vuint32m1_t value);
vuint32m4_t __riscv_vset(vuint32m4_t dest, size_t index, vuint32m1_t value);
vuint32m4_t __riscv_vset(vuint32m4_t dest, size_t index, vuint32m2_t value);
vuint32m8_t __riscv_vset(vuint32m8_t dest, size_t index, vuint32m1_t value);
vuint32m8_t __riscv_vset(vuint32m8_t dest, size_t index, vuint32m2_t value);
vuint32m8_t __riscv_vset(vuint32m8_t dest, size_t index, vuint32m4_t value);
vuint64m2_t __riscv_vset(vuint64m2_t dest, size_t index, vuint64m1_t value);
vuint64m4_t __riscv_vset(vuint64m4_t dest, size_t index, vuint64m1_t value);
vuint64m4_t __riscv_vset(vuint64m4_t dest, size_t index, vuint64m2_t value);
vuint64m8_t __riscv_vset(vuint64m8_t dest, size_t index, vuint64m1_t value);
vuint64m8_t __riscv_vset(vuint64m8_t dest, size_t index, vuint64m2_t value);
vuint64m8_t __riscv_vset(vuint64m8_t dest, size_t index, vuint64m4_t value);
vfloat16mf4x2_t __riscv_vset(vfloat16mf4x2_t dest, size_t index,
                             vfloat16mf4_t value);
vfloat16mf4x3_t __riscv_vset(vfloat16mf4x3_t dest, size_t index,
                             vfloat16mf4_t value);
vfloat16mf4x4_t __riscv_vset(vfloat16mf4x4_t dest, size_t index,
                             vfloat16mf4_t value);
vfloat16mf4x5_t __riscv_vset(vfloat16mf4x5_t dest, size_t index,
                             vfloat16mf4_t value);
vfloat16mf4x6_t __riscv_vset(vfloat16mf4x6_t dest, size_t index,
                             vfloat16mf4_t value);
vfloat16mf4x7_t __riscv_vset(vfloat16mf4x7_t dest, size_t index,
                             vfloat16mf4_t value);
vfloat16mf4x8_t __riscv_vset(vfloat16mf4x8_t dest, size_t index,
                             vfloat16mf4_t value);
vfloat16mf2x2_t __riscv_vset(vfloat16mf2x2_t dest, size_t index,
                             vfloat16mf2_t value);
vfloat16mf2x3_t __riscv_vset(vfloat16mf2x3_t dest, size_t index,
                             vfloat16mf2_t value);
vfloat16mf2x4_t __riscv_vset(vfloat16mf2x4_t dest, size_t index,
                             vfloat16mf2_t value);
```

```
vfloat16mf2x5_t __riscv_vset(vfloat16mf2x5_t dest, size_t index,
                             vfloat16mf2_t value);
vfloat16mf2x6_t __riscv_vset(vfloat16mf2x6_t dest, size_t index,
                             vfloat16mf2_t value);
vfloat16mf2x7_t __riscv_vset(vfloat16mf2x7_t dest, size_t index,
                             vfloat16mf2_t value);
vfloat16mf2x8_t __riscv_vset(vfloat16mf2x8_t dest, size_t index,
                             vfloat16mf2_t value);
vfloat16m1x2_t __riscv_vset(vfloat16m1x2_t dest, size_t index,
                            vfloat16m1_t value);
vfloat16m1x3_t __riscv_vset(vfloat16m1x3_t dest, size_t index,
                            vfloat16m1_t value);
vfloat16m1x4_t __riscv_vset(vfloat16m1x4_t dest, size_t index,
                            vfloat16m1_t value);
vfloat16m1x5_t __riscv_vset(vfloat16m1x5_t dest, size_t index,
                            vfloat16m1_t value);
vfloat16m1x6_t __riscv_vset(vfloat16m1x6_t dest, size_t index,
                            vfloat16m1_t value);
vfloat16m1x7_t __riscv_vset(vfloat16m1x7_t dest, size_t index,
                            vfloat16m1_t value);
vfloat16m1x8_t __riscv_vset(vfloat16m1x8_t dest, size_t index,
                            vfloat16m1_t value);
vfloat16m2x2_t __riscv_vset(vfloat16m2x2_t dest, size_t index,
                            vfloat16m2_t value);
vfloat16m2x3_t __riscv_vset(vfloat16m2x3_t dest, size_t index,
                            vfloat16m2_t value);
vfloat16m2x4_t __riscv_vset(vfloat16m2x4_t dest, size_t index,
                            vfloat16m2_t value);
vfloat16m4x2_t __riscv_vset(vfloat16m4x2_t dest, size_t index,
                            vfloat16m4_t value);
vfloat32mf2x2_t __riscv_vset(vfloat32mf2x2_t dest, size_t index,
                             vfloat32mf2_t value);
vfloat32mf2x3_t __riscv_vset(vfloat32mf2x3_t dest, size_t index,
                             vfloat32mf2_t value);
vfloat32mf2x4_t __riscv_vset(vfloat32mf2x4_t dest, size_t index,
                             vfloat32mf2_t value);
vfloat32mf2x5_t __riscv_vset(vfloat32mf2x5_t dest, size_t index,
                             vfloat32mf2_t value);
vfloat32mf2x6_t __riscv_vset(vfloat32mf2x6_t dest, size_t index,
                             vfloat32mf2_t value);
vfloat32mf2x7_t __riscv_vset(vfloat32mf2x7_t dest, size_t index,
                             vfloat32mf2_t value);
vfloat32mf2x8_t __riscv_vset(vfloat32mf2x8_t dest, size_t index,
                             vfloat32mf2_t value);
vfloat32m1x2_t __riscv_vset(vfloat32m1x2_t dest, size_t index,
                            vfloat32m1_t value);
vfloat32m1x3_t __riscv_vset(vfloat32m1x3_t dest, size_t index,
                            vfloat32m1_t value);
vfloat32m1x4_t __riscv_vset(vfloat32m1x4_t dest, size_t index,
                            vfloat32m1_t value);
vfloat32m1x5_t __riscv_vset(vfloat32m1x5_t dest, size_t index,
                            vfloat32m1_t value);
vfloat32m1x6_t __riscv_vset(vfloat32m1x6_t dest, size_t index,
                            vfloat32m1_t value);
vfloat32m1x7_t __riscv_vset(vfloat32m1x7_t dest, size_t index,
                            vfloat32m1_t value);
vfloat32m1x8_t __riscv_vset(vfloat32m1x8_t dest, size_t index,
                            vfloat32m1_t value);
vfloat32m2x2_t __riscv_vset(vfloat32m2x2_t dest, size_t index,
                            vfloat32m2_t value);
vfloat32m2x3_t __riscv_vset(vfloat32m2x3_t dest, size_t index,
                            vfloat32m2_t value);
vfloat32m2x4_t __riscv_vset(vfloat32m2x4_t dest, size_t index,
                            vfloat32m2_t value);
vfloat32m4x2_t __riscv_vset(vfloat32m4x2_t dest, size_t index,
                            vfloat32m4_t value);
vfloat64m1x2_t __riscv_vset(vfloat64m1x2_t dest, size_t index,
```

```
                            vfloat64m1_t value);
vfloat64m1x3_t __riscv_vset(vfloat64m1x3_t dest, size_t index,
                            vfloat64m1_t value);
vfloat64m1x4_t __riscv_vset(vfloat64m1x4_t dest, size_t index,
                            vfloat64m1_t value);
vfloat64m1x5_t __riscv_vset(vfloat64m1x5_t dest, size_t index,
                            vfloat64m1_t value);
vfloat64m1x6_t __riscv_vset(vfloat64m1x6_t dest, size_t index,
                            vfloat64m1_t value);
vfloat64m1x7_t __riscv_vset(vfloat64m1x7_t dest, size_t index,
                            vfloat64m1_t value);
vfloat64m1x8_t __riscv_vset(vfloat64m1x8_t dest, size_t index,
                            vfloat64m1_t value);
vfloat64m2x2_t __riscv_vset(vfloat64m2x2_t dest, size_t index,
                            vfloat64m2_t value);
vfloat64m2x3_t __riscv_vset(vfloat64m2x3_t dest, size_t index,
                            vfloat64m2_t value);
vfloat64m2x4_t __riscv_vset(vfloat64m2x4_t dest, size_t index,
                            vfloat64m2_t value);
vfloat64m4x2_t __riscv_vset(vfloat64m4x2_t dest, size_t index,
                            vfloat64m4_t value);
vint8mf8x2_t __riscv_vset(vint8mf8x2_t dest, size_t index, vint8mf8_t value);
vint8mf8x3_t __riscv_vset(vint8mf8x3_t dest, size_t index, vint8mf8_t value);
vint8mf8x4_t __riscv_vset(vint8mf8x4_t dest, size_t index, vint8mf8_t value);
vint8mf8x5_t __riscv_vset(vint8mf8x5_t dest, size_t index, vint8mf8_t value);
vint8mf8x6_t __riscv_vset(vint8mf8x6_t dest, size_t index, vint8mf8_t value);
vint8mf8x7_t __riscv_vset(vint8mf8x7_t dest, size_t index, vint8mf8_t value);
vint8mf8x8_t __riscv_vset(vint8mf8x8_t dest, size_t index, vint8mf8_t value);
vint8mf4x2_t __riscv_vset(vint8mf4x2_t dest, size_t index, vint8mf4_t value);
vint8mf4x3_t __riscv_vset(vint8mf4x3_t dest, size_t index, vint8mf4_t value);
vint8mf4x4_t __riscv_vset(vint8mf4x4_t dest, size_t index, vint8mf4_t value);
vint8mf4x5_t __riscv_vset(vint8mf4x5_t dest, size_t index, vint8mf4_t value);
vint8mf4x6_t __riscv_vset(vint8mf4x6_t dest, size_t index, vint8mf4_t value);
vint8mf4x7_t __riscv_vset(vint8mf4x7_t dest, size_t index, vint8mf4_t value);
vint8mf4x8_t __riscv_vset(vint8mf4x8_t dest, size_t index, vint8mf4_t value);
vint8mf2x2_t __riscv_vset(vint8mf2x2_t dest, size_t index, vint8mf2_t value);
vint8mf2x3_t __riscv_vset(vint8mf2x3_t dest, size_t index, vint8mf2_t value);
vint8mf2x4_t __riscv_vset(vint8mf2x4_t dest, size_t index, vint8mf2_t value);
vint8mf2x5_t __riscv_vset(vint8mf2x5_t dest, size_t index, vint8mf2_t value);
vint8mf2x6_t __riscv_vset(vint8mf2x6_t dest, size_t index, vint8mf2_t value);
vint8mf2x7_t __riscv_vset(vint8mf2x7_t dest, size_t index, vint8mf2_t value);
vint8mf2x8_t __riscv_vset(vint8mf2x8_t dest, size_t index, vint8mf2_t value);
vint8m1x2_t __riscv_vset(vint8m1x2_t dest, size_t index, vint8m1_t value);
vint8m1x3_t __riscv_vset(vint8m1x3_t dest, size_t index, vint8m1_t value);
vint8m1x4_t __riscv_vset(vint8m1x4_t dest, size_t index, vint8m1_t value);
vint8m1x5_t __riscv_vset(vint8m1x5_t dest, size_t index, vint8m1_t value);
vint8m1x6_t __riscv_vset(vint8m1x6_t dest, size_t index, vint8m1_t value);
vint8m1x7_t __riscv_vset(vint8m1x7_t dest, size_t index, vint8m1_t value);
vint8m1x8_t __riscv_vset(vint8m1x8_t dest, size_t index, vint8m1_t value);
vint8m2x2_t __riscv_vset(vint8m2x2_t dest, size_t index, vint8m2_t value);
vint8m2x3_t __riscv_vset(vint8m2x3_t dest, size_t index, vint8m2_t value);
vint8m2x4_t __riscv_vset(vint8m2x4_t dest, size_t index, vint8m2_t value);
vint8m4x2_t __riscv_vset(vint8m4x2_t dest, size_t index, vint8m4_t value);
vint16mf4x2_t __riscv_vset(vint16mf4x2_t dest, size_t index, vint16mf4_t value);
vint16mf4x3_t __riscv_vset(vint16mf4x3_t dest, size_t index, vint16mf4_t value);
vint16mf4x4_t __riscv_vset(vint16mf4x4_t dest, size_t index, vint16mf4_t value);
vint16mf4x5_t __riscv_vset(vint16mf4x5_t dest, size_t index, vint16mf4_t value);
vint16mf4x6_t __riscv_vset(vint16mf4x6_t dest, size_t index, vint16mf4_t value);
vint16mf4x7_t __riscv_vset(vint16mf4x7_t dest, size_t index, vint16mf4_t value);
vint16mf4x8_t __riscv_vset(vint16mf4x8_t dest, size_t index, vint16mf4_t value);
vint16mf2x2_t __riscv_vset(vint16mf2x2_t dest, size_t index, vint16mf2_t value);
vint16mf2x3_t __riscv_vset(vint16mf2x3_t dest, size_t index, vint16mf2_t value);
vint16mf2x4_t __riscv_vset(vint16mf2x4_t dest, size_t index, vint16mf2_t value);
vint16mf2x5_t __riscv_vset(vint16mf2x5_t dest, size_t index, vint16mf2_t value);
vint16mf2x6_t __riscv_vset(vint16mf2x6_t dest, size_t index, vint16mf2_t value);
vint16mf2x7_t __riscv_vset(vint16mf2x7_t dest, size_t index, vint16mf2_t value);
vint16mf2x8_t __riscv_vset(vint16mf2x8_t dest, size_t index, vint16mf2_t value);
```

```
vint16m1x2_t __riscv_vset(vint16m1x2_t dest, size_t index, vint16m1_t value);
vint16m1x3_t __riscv_vset(vint16m1x3_t dest, size_t index, vint16m1_t value);
vint16m1x4_t __riscv_vset(vint16m1x4_t dest, size_t index, vint16m1_t value);
vint16m1x5_t __riscv_vset(vint16m1x5_t dest, size_t index, vint16m1_t value);
vint16m1x6_t __riscv_vset(vint16m1x6_t dest, size_t index, vint16m1_t value);
vint16m1x7_t __riscv_vset(vint16m1x7_t dest, size_t index, vint16m1_t value);
vint16m1x8_t __riscv_vset(vint16m1x8_t dest, size_t index, vint16m1_t value);
vint16m2x2_t __riscv_vset(vint16m2x2_t dest, size_t index, vint16m2_t value);
vint16m2x3_t __riscv_vset(vint16m2x3_t dest, size_t index, vint16m2_t value);
vint16m2x4_t __riscv_vset(vint16m2x4_t dest, size_t index, vint16m2_t value);
vint16m4x2_t __riscv_vset(vint16m4x2_t dest, size_t index, vint16m4_t value);
vint32mf2x2_t __riscv_vset(vint32mf2x2_t dest, size_t index, vint32mf2_t value);
vint32mf2x3_t __riscv_vset(vint32mf2x3_t dest, size_t index, vint32mf2_t value);
vint32mf2x4_t __riscv_vset(vint32mf2x4_t dest, size_t index, vint32mf2_t value);
vint32mf2x5_t __riscv_vset(vint32mf2x5_t dest, size_t index, vint32mf2_t value);
vint32mf2x6_t __riscv_vset(vint32mf2x6_t dest, size_t index, vint32mf2_t value);
vint32mf2x7_t __riscv_vset(vint32mf2x7_t dest, size_t index, vint32mf2_t value);
vint32mf2x8_t __riscv_vset(vint32mf2x8_t dest, size_t index, vint32mf2_t value);
vint32m1x2_t __riscv_vset(vint32m1x2_t dest, size_t index, vint32m1_t value);
vint32m1x3_t __riscv_vset(vint32m1x3_t dest, size_t index, vint32m1_t value);
vint32m1x4_t __riscv_vset(vint32m1x4_t dest, size_t index, vint32m1_t value);
vint32m1x5_t __riscv_vset(vint32m1x5_t dest, size_t index, vint32m1_t value);
vint32m1x6_t __riscv_vset(vint32m1x6_t dest, size_t index, vint32m1_t value);
vint32m1x7_t __riscv_vset(vint32m1x7_t dest, size_t index, vint32m1_t value);
vint32m1x8_t __riscv_vset(vint32m1x8_t dest, size_t index, vint32m1_t value);
vint32m2x2_t __riscv_vset(vint32m2x2_t dest, size_t index, vint32m2_t value);
vint32m2x3_t __riscv_vset(vint32m2x3_t dest, size_t index, vint32m2_t value);
vint32m2x4_t __riscv_vset(vint32m2x4_t dest, size_t index, vint32m2_t value);
vint32m4x2_t __riscv_vset(vint32m4x2_t dest, size_t index, vint32m4_t value);
vint64m1x2_t __riscv_vset(vint64m1x2_t dest, size_t index, vint64m1_t value);
vint64m1x3_t __riscv_vset(vint64m1x3_t dest, size_t index, vint64m1_t value);
vint64m1x4_t __riscv_vset(vint64m1x4_t dest, size_t index, vint64m1_t value);
vint64m1x5_t __riscv_vset(vint64m1x5_t dest, size_t index, vint64m1_t value);
vint64m1x6_t __riscv_vset(vint64m1x6_t dest, size_t index, vint64m1_t value);
vint64m1x7_t __riscv_vset(vint64m1x7_t dest, size_t index, vint64m1_t value);
vint64m1x8_t __riscv_vset(vint64m1x8_t dest, size_t index, vint64m1_t value);
vint64m2x2_t __riscv_vset(vint64m2x2_t dest, size_t index, vint64m2_t value);
vint64m2x3_t __riscv_vset(vint64m2x3_t dest, size_t index, vint64m2_t value);
vint64m2x4_t __riscv_vset(vint64m2x4_t dest, size_t index, vint64m2_t value);
vint64m4x2_t __riscv_vset(vint64m4x2_t dest, size_t index, vint64m4_t value);
vuint8mf8x2_t __riscv_vset(vuint8mf8x2_t dest, size_t index, vuint8mf8_t value);
vuint8mf8x3_t __riscv_vset(vuint8mf8x3_t dest, size_t index, vuint8mf8_t value);
vuint8mf8x4_t __riscv_vset(vuint8mf8x4_t dest, size_t index, vuint8mf8_t value);
vuint8mf8x5_t __riscv_vset(vuint8mf8x5_t dest, size_t index, vuint8mf8_t value);
vuint8mf8x6_t __riscv_vset(vuint8mf8x6_t dest, size_t index, vuint8mf8_t value);
vuint8mf8x7_t __riscv_vset(vuint8mf8x7_t dest, size_t index, vuint8mf8_t value);
vuint8mf8x8_t __riscv_vset(vuint8mf8x8_t dest, size_t index, vuint8mf8_t value);
vuint8mf4x2_t __riscv_vset(vuint8mf4x2_t dest, size_t index, vuint8mf4_t value);
vuint8mf4x3_t __riscv_vset(vuint8mf4x3_t dest, size_t index, vuint8mf4_t value);
vuint8mf4x4_t __riscv_vset(vuint8mf4x4_t dest, size_t index, vuint8mf4_t value);
vuint8mf4x5_t __riscv_vset(vuint8mf4x5_t dest, size_t index, vuint8mf4_t value);
vuint8mf4x6_t __riscv_vset(vuint8mf4x6_t dest, size_t index, vuint8mf4_t value);
vuint8mf4x7_t __riscv_vset(vuint8mf4x7_t dest, size_t index, vuint8mf4_t value);
vuint8mf4x8_t __riscv_vset(vuint8mf4x8_t dest, size_t index, vuint8mf4_t value);
vuint8mf2x2_t __riscv_vset(vuint8mf2x2_t dest, size_t index, vuint8mf2_t value);
vuint8mf2x3_t __riscv_vset(vuint8mf2x3_t dest, size_t index, vuint8mf2_t value);
vuint8mf2x4_t __riscv_vset(vuint8mf2x4_t dest, size_t index, vuint8mf2_t value);
vuint8mf2x5_t __riscv_vset(vuint8mf2x5_t dest, size_t index, vuint8mf2_t value);
vuint8mf2x6_t __riscv_vset(vuint8mf2x6_t dest, size_t index, vuint8mf2_t value);
vuint8mf2x7_t __riscv_vset(vuint8mf2x7_t dest, size_t index, vuint8mf2_t value);
vuint8mf2x8_t __riscv_vset(vuint8mf2x8_t dest, size_t index, vuint8mf2_t value);
vuint8m1x2_t __riscv_vset(vuint8m1x2_t dest, size_t index, vuint8m1_t value);
vuint8m1x3_t __riscv_vset(vuint8m1x3_t dest, size_t index, vuint8m1_t value);
vuint8m1x4_t __riscv_vset(vuint8m1x4_t dest, size_t index, vuint8m1_t value);
vuint8m1x5_t __riscv_vset(vuint8m1x5_t dest, size_t index, vuint8m1_t value);
vuint8m1x6_t __riscv_vset(vuint8m1x6_t dest, size_t index, vuint8m1_t value);
vuint8m1x7_t __riscv_vset(vuint8m1x7_t dest, size_t index, vuint8m1_t value);
```

```
vuint8m1x8_t __riscv_vset(vuint8m1x8_t dest, size_t index, vuint8m1_t value);
vuint8m2x2_t __riscv_vset(vuint8m2x2_t dest, size_t index, vuint8m2_t value);
vuint8m2x3_t __riscv_vset(vuint8m2x3_t dest, size_t index, vuint8m2_t value);
vuint8m2x4_t __riscv_vset(vuint8m2x4_t dest, size_t index, vuint8m2_t value);
vuint8m4x2_t __riscv_vset(vuint8m4x2_t dest, size_t index, vuint8m4_t value);
vuint16mf4x2_t __riscv_vset(vuint16mf4x2_t dest, size_t index,
                            vuint16mf4_t value);
vuint16mf4x3_t __riscv_vset(vuint16mf4x3_t dest, size_t index,
                            vuint16mf4_t value);
vuint16mf4x4_t __riscv_vset(vuint16mf4x4_t dest, size_t index,
                            vuint16mf4_t value);
vuint16mf4x5_t __riscv_vset(vuint16mf4x5_t dest, size_t index,
                            vuint16mf4_t value);
vuint16mf4x6_t __riscv_vset(vuint16mf4x6_t dest, size_t index,
                            vuint16mf4_t value);
vuint16mf4x7_t __riscv_vset(vuint16mf4x7_t dest, size_t index,
                            vuint16mf4_t value);
vuint16mf4x8_t __riscv_vset(vuint16mf4x8_t dest, size_t index,
                            vuint16mf4_t value);
vuint16mf2x2_t __riscv_vset(vuint16mf2x2_t dest, size_t index,
                            vuint16mf2_t value);
vuint16mf2x3_t __riscv_vset(vuint16mf2x3_t dest, size_t index,
                            vuint16mf2_t value);
vuint16mf2x4_t __riscv_vset(vuint16mf2x4_t dest, size_t index,
                            vuint16mf2_t value);
vuint16mf2x5_t __riscv_vset(vuint16mf2x5_t dest, size_t index,
                            vuint16mf2_t value);
vuint16mf2x6_t __riscv_vset(vuint16mf2x6_t dest, size_t index,
                            vuint16mf2_t value);
vuint16mf2x7_t __riscv_vset(vuint16mf2x7_t dest, size_t index,
                            vuint16mf2_t value);
vuint16mf2x8_t __riscv_vset(vuint16mf2x8_t dest, size_t index,
                            vuint16mf2_t value);
vuint16m1x2_t __riscv_vset(vuint16m1x2_t dest, size_t index, vuint16m1_t value);
vuint16m1x3_t __riscv_vset(vuint16m1x3_t dest, size_t index, vuint16m1_t value);
vuint16m1x4_t __riscv_vset(vuint16m1x4_t dest, size_t index, vuint16m1_t value);
vuint16m1x5_t __riscv_vset(vuint16m1x5_t dest, size_t index, vuint16m1_t value);
vuint16m1x6_t __riscv_vset(vuint16m1x6_t dest, size_t index, vuint16m1_t value);
vuint16m1x7_t __riscv_vset(vuint16m1x7_t dest, size_t index, vuint16m1_t value);
vuint16m1x8_t __riscv_vset(vuint16m1x8_t dest, size_t index, vuint16m1_t value);
vuint16m2x2_t __riscv_vset(vuint16m2x2_t dest, size_t index, vuint16m2_t value);
vuint16m2x3_t __riscv_vset(vuint16m2x3_t dest, size_t index, vuint16m2_t value);
vuint16m2x4_t __riscv_vset(vuint16m2x4_t dest, size_t index, vuint16m2_t value);
vuint16m4x2_t __riscv_vset(vuint16m4x2_t dest, size_t index, vuint16m4_t value);
vuint32mf2x2_t __riscv_vset(vuint32mf2x2_t dest, size_t index,
                            vuint32mf2_t value);
vuint32mf2x3_t __riscv_vset(vuint32mf2x3_t dest, size_t index,
                            vuint32mf2_t value);
vuint32mf2x4_t __riscv_vset(vuint32mf2x4_t dest, size_t index,
                            vuint32mf2_t value);
vuint32mf2x5_t __riscv_vset(vuint32mf2x5_t dest, size_t index,
                            vuint32mf2_t value);
vuint32mf2x6_t __riscv_vset(vuint32mf2x6_t dest, size_t index,
                            vuint32mf2_t value);
vuint32mf2x7_t __riscv_vset(vuint32mf2x7_t dest, size_t index,
                            vuint32mf2_t value);
vuint32mf2x8_t __riscv_vset(vuint32mf2x8_t dest, size_t index,
                            vuint32mf2_t value);
vuint32m1x2_t __riscv_vset(vuint32m1x2_t dest, size_t index, vuint32m1_t value);
vuint32m1x3_t __riscv_vset(vuint32m1x3_t dest, size_t index, vuint32m1_t value);
vuint32m1x4_t __riscv_vset(vuint32m1x4_t dest, size_t index, vuint32m1_t value);
vuint32m1x5_t __riscv_vset(vuint32m1x5_t dest, size_t index, vuint32m1_t value);
vuint32m1x6_t __riscv_vset(vuint32m1x6_t dest, size_t index, vuint32m1_t value);
vuint32m1x7_t __riscv_vset(vuint32m1x7_t dest, size_t index, vuint32m1_t value);
vuint32m1x8_t __riscv_vset(vuint32m1x8_t dest, size_t index, vuint32m1_t value);
vuint32m2x2_t __riscv_vset(vuint32m2x2_t dest, size_t index, vuint32m2_t value);
vuint32m2x3_t __riscv_vset(vuint32m2x3_t dest, size_t index, vuint32m2_t value);
```

```
vuint32m2x4_t __riscv_vset(vuint32m2x4_t dest, size_t index, vuint32m2_t value);
vuint32m4x2_t __riscv_vset(vuint32m4x2_t dest, size_t index, vuint32m4_t value);
vuint64m1x2_t __riscv_vset(vuint64m1x2_t dest, size_t index, vuint64m1_t value);
vuint64m1x3_t __riscv_vset(vuint64m1x3_t dest, size_t index, vuint64m1_t value);
vuint64m1x4_t __riscv_vset(vuint64m1x4_t dest, size_t index, vuint64m1_t value);
vuint64m1x5_t __riscv_vset(vuint64m1x5_t dest, size_t index, vuint64m1_t value);
vuint64m1x6_t __riscv_vset(vuint64m1x6_t dest, size_t index, vuint64m1_t value);
vuint64m1x7_t __riscv_vset(vuint64m1x7_t dest, size_t index, vuint64m1_t value);
vuint64m1x8_t __riscv_vset(vuint64m1x8_t dest, size_t index, vuint64m1_t value);
vuint64m2x2_t __riscv_vset(vuint64m2x2_t dest, size_t index, vuint64m2_t value);
vuint64m2x3_t __riscv_vset(vuint64m2x3_t dest, size_t index, vuint64m2_t value);
vuint64m2x4_t __riscv_vset(vuint64m2x4_t dest, size_t index, vuint64m2_t value);
vuint64m4x2_t __riscv_vset(vuint64m4x2_t dest, size_t index, vuint64m4_t value);
```

C.9.8. Vector Extraction Intrinsics

```
vfloat16m1_t __riscv_vget_f16m1(vfloat16m2_t src, size_t index);
vfloat16m1_t __riscv_vget_f16m1(vfloat16m4_t src, size_t index);
vfloat16m1_t __riscv_vget_f16m1(vfloat16m8_t src, size_t index);
vfloat16m2_t __riscv_vget_f16m2(vfloat16m4_t src, size_t index);
vfloat16m2_t __riscv_vget_f16m2(vfloat16m8_t src, size_t index);
vfloat16m4_t __riscv_vget_f16m4(vfloat16m8_t src, size_t index);
vfloat32m1_t __riscv_vget_f32m1(vfloat32m2_t src, size_t index);
vfloat32m1_t __riscv_vget_f32m1(vfloat32m4_t src, size_t index);
vfloat32m1_t __riscv_vget_f32m1(vfloat32m8_t src, size_t index);
vfloat32m2_t __riscv_vget_f32m2(vfloat32m4_t src, size_t index);
vfloat32m2_t __riscv_vget_f32m2(vfloat32m8_t src, size_t index);
vfloat32m4_t __riscv_vget_f32m4(vfloat32m8_t src, size_t index);
vfloat64m1_t __riscv_vget_f64m1(vfloat64m2_t src, size_t index);
vfloat64m1_t __riscv_vget_f64m1(vfloat64m4_t src, size_t index);
vfloat64m1_t __riscv_vget_f64m1(vfloat64m8_t src, size_t index);
vfloat64m2_t __riscv_vget_f64m2(vfloat64m4_t src, size_t index);
vfloat64m2_t __riscv_vget_f64m2(vfloat64m8_t src, size_t index);
vfloat64m4_t __riscv_vget_f64m4(vfloat64m8_t src, size_t index);
vint8m1_t __riscv_vget_i8m1(vint8m2_t src, size_t index);
vint8m1_t __riscv_vget_i8m1(vint8m4_t src, size_t index);
vint8m1_t __riscv_vget_i8m1(vint8m8_t src, size_t index);
vint8m2_t __riscv_vget_i8m2(vint8m4_t src, size_t index);
vint8m2_t __riscv_vget_i8m2(vint8m8_t src, size_t index);
vint8m4_t __riscv_vget_i8m4(vint8m8_t src, size_t index);
vint16m1_t __riscv_vget_i16m1(vint16m2_t src, size_t index);
vint16m1_t __riscv_vget_i16m1(vint16m4_t src, size_t index);
vint16m1_t __riscv_vget_i16m1(vint16m8_t src, size_t index);
vint16m2_t __riscv_vget_i16m2(vint16m4_t src, size_t index);
vint16m2_t __riscv_vget_i16m2(vint16m8_t src, size_t index);
vint16m4_t __riscv_vget_i16m4(vint16m8_t src, size_t index);
vint32m1_t __riscv_vget_i32m1(vint32m2_t src, size_t index);
vint32m1_t __riscv_vget_i32m1(vint32m4_t src, size_t index);
vint32m1_t __riscv_vget_i32m1(vint32m8_t src, size_t index);
vint32m2_t __riscv_vget_i32m2(vint32m4_t src, size_t index);
vint32m2_t __riscv_vget_i32m2(vint32m8_t src, size_t index);
vint32m4_t __riscv_vget_i32m4(vint32m8_t src, size_t index);
vint64m1_t __riscv_vget_i64m1(vint64m2_t src, size_t index);
vint64m1_t __riscv_vget_i64m1(vint64m4_t src, size_t index);
vint64m1_t __riscv_vget_i64m1(vint64m8_t src, size_t index);
vint64m2_t __riscv_vget_i64m2(vint64m4_t src, size_t index);
vint64m2_t __riscv_vget_i64m2(vint64m8_t src, size_t index);
vint64m4_t __riscv_vget_i64m4(vint64m8_t src, size_t index);
vuint8m1_t __riscv_vget_u8m1(vuint8m2_t src, size_t index);
vuint8m1_t __riscv_vget_u8m1(vuint8m4_t src, size_t index);
vuint8m1_t __riscv_vget_u8m1(vuint8m8_t src, size_t index);
vuint8m2_t __riscv_vget_u8m2(vuint8m4_t src, size_t index);
vuint8m2_t __riscv_vget_u8m2(vuint8m8_t src, size_t index);
vuint8m4_t __riscv_vget_u8m4(vuint8m8_t src, size_t index);
vuint16m1_t __riscv_vget_u16m1(vuint16m2_t src, size_t index);
```

```
vuint16m1_t __riscv_vget_u16m1(vuint16m4_t src, size_t index);
vuint16m1_t __riscv_vget_u16m1(vuint16m8_t src, size_t index);
vuint16m2_t __riscv_vget_u16m2(vuint16m4_t src, size_t index);
vuint16m2_t __riscv_vget_u16m2(vuint16m8_t src, size_t index);
vuint16m4_t __riscv_vget_u16m4(vuint16m8_t src, size_t index);
vuint32m1_t __riscv_vget_u32m1(vuint32m2_t src, size_t index);
vuint32m1_t __riscv_vget_u32m1(vuint32m4_t src, size_t index);
vuint32m1_t __riscv_vget_u32m1(vuint32m8_t src, size_t index);
vuint32m2_t __riscv_vget_u32m2(vuint32m4_t src, size_t index);
vuint32m2_t __riscv_vget_u32m2(vuint32m8_t src, size_t index);
vuint32m4_t __riscv_vget_u32m4(vuint32m8_t src, size_t index);
vuint64m1_t __riscv_vget_u64m1(vuint64m2_t src, size_t index);
vuint64m1_t __riscv_vget_u64m1(vuint64m4_t src, size_t index);
vuint64m1_t __riscv_vget_u64m1(vuint64m8_t src, size_t index);
vuint64m2_t __riscv_vget_u64m2(vuint64m4_t src, size_t index);
vuint64m2_t __riscv_vget_u64m2(vuint64m8_t src, size_t index);
vuint64m4_t __riscv_vget_u64m4(vuint64m8_t src, size_t index);
vfloat16mf4_t __riscv_vget_f16mf4(vfloat16mf4x2_t src, size_t index);
vfloat16mf4_t __riscv_vget_f16mf4(vfloat16mf4x3_t src, size_t index);
vfloat16mf4_t __riscv_vget_f16mf4(vfloat16mf4x4_t src, size_t index);
vfloat16mf4_t __riscv_vget_f16mf4(vfloat16mf4x5_t src, size_t index);
vfloat16mf4_t __riscv_vget_f16mf4(vfloat16mf4x6_t src, size_t index);
vfloat16mf4_t __riscv_vget_f16mf4(vfloat16mf4x7_t src, size_t index);
vfloat16mf4_t __riscv_vget_f16mf4(vfloat16mf4x8_t src, size_t index);
vfloat16mf2_t __riscv_vget_f16mf2(vfloat16mf2x2_t src, size_t index);
vfloat16mf2_t __riscv_vget_f16mf2(vfloat16mf2x3_t src, size_t index);
vfloat16mf2_t __riscv_vget_f16mf2(vfloat16mf2x4_t src, size_t index);
vfloat16mf2_t __riscv_vget_f16mf2(vfloat16mf2x5_t src, size_t index);
vfloat16mf2_t __riscv_vget_f16mf2(vfloat16mf2x6_t src, size_t index);
vfloat16mf2_t __riscv_vget_f16mf2(vfloat16mf2x7_t src, size_t index);
vfloat16mf2_t __riscv_vget_f16mf2(vfloat16mf2x8_t src, size_t index);
vfloat16m1_t __riscv_vget_f16m1(vfloat16m1x2_t src, size_t index);
vfloat16m1_t __riscv_vget_f16m1(vfloat16m1x3_t src, size_t index);
vfloat16m1_t __riscv_vget_f16m1(vfloat16m1x4_t src, size_t index);
vfloat16m1_t __riscv_vget_f16m1(vfloat16m1x5_t src, size_t index);
vfloat16m1_t __riscv_vget_f16m1(vfloat16m1x6_t src, size_t index);
vfloat16m1_t __riscv_vget_f16m1(vfloat16m1x7_t src, size_t index);
vfloat16m1_t __riscv_vget_f16m1(vfloat16m1x8_t src, size_t index);
vfloat16m2_t __riscv_vget_f16m2(vfloat16m2x2_t src, size_t index);
vfloat16m2_t __riscv_vget_f16m2(vfloat16m2x3_t src, size_t index);
vfloat16m2_t __riscv_vget_f16m2(vfloat16m2x4_t src, size_t index);
vfloat16m4_t __riscv_vget_f16m4(vfloat16m4x2_t src, size_t index);
vfloat32mf2_t __riscv_vget_f32mf2(vfloat32mf2x2_t src, size_t index);
vfloat32mf2_t __riscv_vget_f32mf2(vfloat32mf2x3_t src, size_t index);
vfloat32mf2_t __riscv_vget_f32mf2(vfloat32mf2x4_t src, size_t index);
vfloat32mf2_t __riscv_vget_f32mf2(vfloat32mf2x5_t src, size_t index);
vfloat32mf2_t __riscv_vget_f32mf2(vfloat32mf2x6_t src, size_t index);
vfloat32mf2_t __riscv_vget_f32mf2(vfloat32mf2x7_t src, size_t index);
vfloat32mf2_t __riscv_vget_f32mf2(vfloat32mf2x8_t src, size_t index);
vfloat32m1_t __riscv_vget_f32m1(vfloat32m1x2_t src, size_t index);
vfloat32m1_t __riscv_vget_f32m1(vfloat32m1x3_t src, size_t index);
vfloat32m1_t __riscv_vget_f32m1(vfloat32m1x4_t src, size_t index);
vfloat32m1_t __riscv_vget_f32m1(vfloat32m1x5_t src, size_t index);
vfloat32m1_t __riscv_vget_f32m1(vfloat32m1x6_t src, size_t index);
vfloat32m1_t __riscv_vget_f32m1(vfloat32m1x7_t src, size_t index);
vfloat32m1_t __riscv_vget_f32m1(vfloat32m1x8_t src, size_t index);
vfloat32m2_t __riscv_vget_f32m2(vfloat32m2x2_t src, size_t index);
vfloat32m2_t __riscv_vget_f32m2(vfloat32m2x3_t src, size_t index);
vfloat32m2_t __riscv_vget_f32m2(vfloat32m2x4_t src, size_t index);
vfloat32m4_t __riscv_vget_f32m4(vfloat32m4x2_t src, size_t index);
vfloat64m1_t __riscv_vget_f64m1(vfloat64m1x2_t src, size_t index);
vfloat64m1_t __riscv_vget_f64m1(vfloat64m1x3_t src, size_t index);
vfloat64m1_t __riscv_vget_f64m1(vfloat64m1x4_t src, size_t index);
vfloat64m1_t __riscv_vget_f64m1(vfloat64m1x5_t src, size_t index);
vfloat64m1_t __riscv_vget_f64m1(vfloat64m1x6_t src, size_t index);
vfloat64m1_t __riscv_vget_f64m1(vfloat64m1x7_t src, size_t index);
vfloat64m1_t __riscv_vget_f64m1(vfloat64m1x8_t src, size_t index);
```

```
vfloat64m2_t __riscv_vget_f64m2(vfloat64m2x2_t src, size_t index);
vfloat64m2_t __riscv_vget_f64m2(vfloat64m2x3_t src, size_t index);
vfloat64m2_t __riscv_vget_f64m2(vfloat64m2x4_t src, size_t index);
vfloat64m4_t __riscv_vget_f64m4(vfloat64m4x2_t src, size_t index);
vint8mf8_t __riscv_vget_i8mf8(vint8mf8x2_t src, size_t index);
vint8mf8_t __riscv_vget_i8mf8(vint8mf8x3_t src, size_t index);
vint8mf8_t __riscv_vget_i8mf8(vint8mf8x4_t src, size_t index);
vint8mf8_t __riscv_vget_i8mf8(vint8mf8x5_t src, size_t index);
vint8mf8_t __riscv_vget_i8mf8(vint8mf8x6_t src, size_t index);
vint8mf8_t __riscv_vget_i8mf8(vint8mf8x7_t src, size_t index);
vint8mf8_t __riscv_vget_i8mf8(vint8mf8x8_t src, size_t index);
vint8mf4_t __riscv_vget_i8mf4(vint8mf4x2_t src, size_t index);
vint8mf4_t __riscv_vget_i8mf4(vint8mf4x3_t src, size_t index);
vint8mf4_t __riscv_vget_i8mf4(vint8mf4x4_t src, size_t index);
vint8mf4_t __riscv_vget_i8mf4(vint8mf4x5_t src, size_t index);
vint8mf4_t __riscv_vget_i8mf4(vint8mf4x6_t src, size_t index);
vint8mf4_t __riscv_vget_i8mf4(vint8mf4x7_t src, size_t index);
vint8mf4_t __riscv_vget_i8mf4(vint8mf4x8_t src, size_t index);
vint8mf2_t __riscv_vget_i8mf2(vint8mf2x2_t src, size_t index);
vint8mf2_t __riscv_vget_i8mf2(vint8mf2x3_t src, size_t index);
vint8mf2_t __riscv_vget_i8mf2(vint8mf2x4_t src, size_t index);
vint8mf2_t __riscv_vget_i8mf2(vint8mf2x5_t src, size_t index);
vint8mf2_t __riscv_vget_i8mf2(vint8mf2x6_t src, size_t index);
vint8mf2_t __riscv_vget_i8mf2(vint8mf2x7_t src, size_t index);
vint8mf2_t __riscv_vget_i8mf2(vint8mf2x8_t src, size_t index);
vint8m1_t __riscv_vget_i8m1(vint8m1x2_t src, size_t index);
vint8m1_t __riscv_vget_i8m1(vint8m1x3_t src, size_t index);
vint8m1_t __riscv_vget_i8m1(vint8m1x4_t src, size_t index);
vint8m1_t __riscv_vget_i8m1(vint8m1x5_t src, size_t index);
vint8m1_t __riscv_vget_i8m1(vint8m1x6_t src, size_t index);
vint8m1_t __riscv_vget_i8m1(vint8m1x7_t src, size_t index);
vint8m1_t __riscv_vget_i8m1(vint8m1x8_t src, size_t index);
vint8m2_t __riscv_vget_i8m2(vint8m2x2_t src, size_t index);
vint8m2_t __riscv_vget_i8m2(vint8m2x3_t src, size_t index);
vint8m2_t __riscv_vget_i8m2(vint8m2x4_t src, size_t index);
vint8m4_t __riscv_vget_i8m4(vint8m4x2_t src, size_t index);
vint16mf4_t __riscv_vget_i16mf4(vint16mf4x2_t src, size_t index);
vint16mf4_t __riscv_vget_i16mf4(vint16mf4x3_t src, size_t index);
vint16mf4_t __riscv_vget_i16mf4(vint16mf4x4_t src, size_t index);
vint16mf4_t __riscv_vget_i16mf4(vint16mf4x5_t src, size_t index);
vint16mf4_t __riscv_vget_i16mf4(vint16mf4x6_t src, size_t index);
vint16mf4_t __riscv_vget_i16mf4(vint16mf4x7_t src, size_t index);
vint16mf4_t __riscv_vget_i16mf4(vint16mf4x8_t src, size_t index);
vint16mf2_t __riscv_vget_i16mf2(vint16mf2x2_t src, size_t index);
vint16mf2_t __riscv_vget_i16mf2(vint16mf2x3_t src, size_t index);
vint16mf2_t __riscv_vget_i16mf2(vint16mf2x4_t src, size_t index);
vint16mf2_t __riscv_vget_i16mf2(vint16mf2x5_t src, size_t index);
vint16mf2_t __riscv_vget_i16mf2(vint16mf2x6_t src, size_t index);
vint16mf2_t __riscv_vget_i16mf2(vint16mf2x7_t src, size_t index);
vint16mf2_t __riscv_vget_i16mf2(vint16mf2x8_t src, size_t index);
vint16m1_t __riscv_vget_i16m1(vint16m1x2_t src, size_t index);
vint16m1_t __riscv_vget_i16m1(vint16m1x3_t src, size_t index);
vint16m1_t __riscv_vget_i16m1(vint16m1x4_t src, size_t index);
vint16m1_t __riscv_vget_i16m1(vint16m1x5_t src, size_t index);
vint16m1_t __riscv_vget_i16m1(vint16m1x6_t src, size_t index);
vint16m1_t __riscv_vget_i16m1(vint16m1x7_t src, size_t index);
vint16m1_t __riscv_vget_i16m1(vint16m1x8_t src, size_t index);
vint16m2_t __riscv_vget_i16m2(vint16m2x2_t src, size_t index);
vint16m2_t __riscv_vget_i16m2(vint16m2x3_t src, size_t index);
vint16m2_t __riscv_vget_i16m2(vint16m2x4_t src, size_t index);
vint16m4_t __riscv_vget_i16m4(vint16m4x2_t src, size_t index);
vint32mf2_t __riscv_vget_i32mf2(vint32mf2x2_t src, size_t index);
vint32mf2_t __riscv_vget_i32mf2(vint32mf2x3_t src, size_t index);
vint32mf2_t __riscv_vget_i32mf2(vint32mf2x4_t src, size_t index);
vint32mf2_t __riscv_vget_i32mf2(vint32mf2x5_t src, size_t index);
vint32mf2_t __riscv_vget_i32mf2(vint32mf2x6_t src, size_t index);
vint32mf2_t __riscv_vget_i32mf2(vint32mf2x7_t src, size_t index);
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vint32mf2_t __riscv_vget_i32mf2(vint32mf2x8_t src, size_t index);
vint32m1_t __riscv_vget_i32m1(vint32m1x2_t src, size_t index);
vint32m1_t __riscv_vget_i32m1(vint32m1x3_t src, size_t index);
vint32m1_t __riscv_vget_i32m1(vint32m1x4_t src, size_t index);
vint32m1_t __riscv_vget_i32m1(vint32m1x5_t src, size_t index);
vint32m1_t __riscv_vget_i32m1(vint32m1x6_t src, size_t index);
vint32m1_t __riscv_vget_i32m1(vint32m1x7_t src, size_t index);
vint32m1_t __riscv_vget_i32m1(vint32m1x8_t src, size_t index);
vint32m2_t __riscv_vget_i32m2(vint32m2x2_t src, size_t index);
vint32m2_t __riscv_vget_i32m2(vint32m2x3_t src, size_t index);
vint32m2_t __riscv_vget_i32m2(vint32m2x4_t src, size_t index);
vint32m4_t __riscv_vget_i32m4(vint32m4x2_t src, size_t index);
vint64m1_t __riscv_vget_i64m1(vint64m1x2_t src, size_t index);
vint64m1_t __riscv_vget_i64m1(vint64m1x3_t src, size_t index);
vint64m1_t __riscv_vget_i64m1(vint64m1x4_t src, size_t index);
vint64m1_t __riscv_vget_i64m1(vint64m1x5_t src, size_t index);
vint64m1_t __riscv_vget_i64m1(vint64m1x6_t src, size_t index);
vint64m1_t __riscv_vget_i64m1(vint64m1x7_t src, size_t index);
vint64m1_t __riscv_vget_i64m1(vint64m1x8_t src, size_t index);
vint64m2_t __riscv_vget_i64m2(vint64m2x2_t src, size_t index);
vint64m2_t __riscv_vget_i64m2(vint64m2x3_t src, size_t index);
vint64m2_t __riscv_vget_i64m2(vint64m2x4_t src, size_t index);
vint64m4_t __riscv_vget_i64m4(vint64m4x2_t src, size_t index);
vuint8mf8_t __riscv_vget_u8mf8(vuint8mf8x2_t src, size_t index);
vuint8mf8_t __riscv_vget_u8mf8(vuint8mf8x3_t src, size_t index);
vuint8mf8_t __riscv_vget_u8mf8(vuint8mf8x4_t src, size_t index);
vuint8mf8_t __riscv_vget_u8mf8(vuint8mf8x5_t src, size_t index);
vuint8mf8_t __riscv_vget_u8mf8(vuint8mf8x6_t src, size_t index);
vuint8mf8_t __riscv_vget_u8mf8(vuint8mf8x7_t src, size_t index);
vuint8mf8_t __riscv_vget_u8mf8(vuint8mf8x8_t src, size_t index);
vuint8mf4_t __riscv_vget_u8mf4(vuint8mf4x2_t src, size_t index);
vuint8mf4_t __riscv_vget_u8mf4(vuint8mf4x3_t src, size_t index);
vuint8mf4_t __riscv_vget_u8mf4(vuint8mf4x4_t src, size_t index);
vuint8mf4_t __riscv_vget_u8mf4(vuint8mf4x5_t src, size_t index);
vuint8mf4_t __riscv_vget_u8mf4(vuint8mf4x6_t src, size_t index);
vuint8mf4_t __riscv_vget_u8mf4(vuint8mf4x7_t src, size_t index);
vuint8mf4_t __riscv_vget_u8mf4(vuint8mf4x8_t src, size_t index);
vuint8mf2_t __riscv_vget_u8mf2(vuint8mf2x2_t src, size_t index);
vuint8mf2_t __riscv_vget_u8mf2(vuint8mf2x3_t src, size_t index);
vuint8mf2_t __riscv_vget_u8mf2(vuint8mf2x4_t src, size_t index);
vuint8mf2_t __riscv_vget_u8mf2(vuint8mf2x5_t src, size_t index);
vuint8mf2_t __riscv_vget_u8mf2(vuint8mf2x6_t src, size_t index);
vuint8mf2_t __riscv_vget_u8mf2(vuint8mf2x7_t src, size_t index);
vuint8mf2_t __riscv_vget_u8mf2(vuint8mf2x8_t src, size_t index);
vuint8m1_t __riscv_vget_u8m1(vuint8m1x2_t src, size_t index);
vuint8m1_t __riscv_vget_u8m1(vuint8m1x3_t src, size_t index);
vuint8m1_t __riscv_vget_u8m1(vuint8m1x4_t src, size_t index);
vuint8m1_t __riscv_vget_u8m1(vuint8m1x5_t src, size_t index);
vuint8m1_t __riscv_vget_u8m1(vuint8m1x6_t src, size_t index);
vuint8m1_t __riscv_vget_u8m1(vuint8m1x7_t src, size_t index);
vuint8m1_t __riscv_vget_u8m1(vuint8m1x8_t src, size_t index);
vuint8m2_t __riscv_vget_u8m2(vuint8m2x2_t src, size_t index);
vuint8m2_t __riscv_vget_u8m2(vuint8m2x3_t src, size_t index);
vuint8m2_t __riscv_vget_u8m2(vuint8m2x4_t src, size_t index);
vuint8m4_t __riscv_vget_u8m4(vuint8m4x2_t src, size_t index);
vuint16mf4_t __riscv_vget_u16mf4(vuint16mf4x2_t src, size_t index);
vuint16mf4_t __riscv_vget_u16mf4(vuint16mf4x3_t src, size_t index);
vuint16mf4_t __riscv_vget_u16mf4(vuint16mf4x4_t src, size_t index);
vuint16mf4_t __riscv_vget_u16mf4(vuint16mf4x5_t src, size_t index);
vuint16mf4_t __riscv_vget_u16mf4(vuint16mf4x6_t src, size_t index);
vuint16mf4_t __riscv_vget_u16mf4(vuint16mf4x7_t src, size_t index);
vuint16mf4_t __riscv_vget_u16mf4(vuint16mf4x8_t src, size_t index);
vuint16mf2_t __riscv_vget_u16mf2(vuint16mf2x2_t src, size_t index);
vuint16mf2_t __riscv_vget_u16mf2(vuint16mf2x3_t src, size_t index);
vuint16mf2_t __riscv_vget_u16mf2(vuint16mf2x4_t src, size_t index);
vuint16mf2_t __riscv_vget_u16mf2(vuint16mf2x5_t src, size_t index);
vuint16mf2_t __riscv_vget_u16mf2(vuint16mf2x6_t src, size_t index);
```

```
vuint16mf2_t __riscv_vget_u16mf2(vuint16mf2x7_t src, size_t index);
vuint16mf2_t __riscv_vget_u16mf2(vuint16mf2x8_t src, size_t index);
vuint16m1_t __riscv_vget_u16m1(vuint16m1x2_t src, size_t index);
vuint16m1_t __riscv_vget_u16m1(vuint16m1x3_t src, size_t index);
vuint16m1_t __riscv_vget_u16m1(vuint16m1x4_t src, size_t index);
vuint16m1_t __riscv_vget_u16m1(vuint16m1x5_t src, size_t index);
vuint16m1_t __riscv_vget_u16m1(vuint16m1x6_t src, size_t index);
vuint16m1_t __riscv_vget_u16m1(vuint16m1x7_t src, size_t index);
vuint16m1_t __riscv_vget_u16m1(vuint16m1x8_t src, size_t index);
vuint16m2_t __riscv_vget_u16m2(vuint16m2x2_t src, size_t index);
vuint16m2_t __riscv_vget_u16m2(vuint16m2x3_t src, size_t index);
vuint16m2_t __riscv_vget_u16m2(vuint16m2x4_t src, size_t index);
vuint16m4_t __riscv_vget_u16m4(vuint16m4x2_t src, size_t index);
vuint32mf2_t __riscv_vget_u32mf2(vuint32mf2x2_t src, size_t index);
vuint32mf2_t __riscv_vget_u32mf2(vuint32mf2x3_t src, size_t index);
vuint32mf2_t __riscv_vget_u32mf2(vuint32mf2x4_t src, size_t index);
vuint32mf2_t __riscv_vget_u32mf2(vuint32mf2x5_t src, size_t index);
vuint32mf2_t __riscv_vget_u32mf2(vuint32mf2x6_t src, size_t index);
vuint32mf2_t __riscv_vget_u32mf2(vuint32mf2x7_t src, size_t index);
vuint32mf2_t __riscv_vget_u32mf2(vuint32mf2x8_t src, size_t index);
vuint32m1_t __riscv_vget_u32m1(vuint32m1x2_t src, size_t index);
vuint32m1_t __riscv_vget_u32m1(vuint32m1x3_t src, size_t index);
vuint32m1_t __riscv_vget_u32m1(vuint32m1x4_t src, size_t index);
vuint32m1_t __riscv_vget_u32m1(vuint32m1x5_t src, size_t index);
vuint32m1_t __riscv_vget_u32m1(vuint32m1x6_t src, size_t index);
vuint32m1_t __riscv_vget_u32m1(vuint32m1x7_t src, size_t index);
vuint32m1_t __riscv_vget_u32m1(vuint32m1x8_t src, size_t index);
vuint32m2_t __riscv_vget_u32m2(vuint32m2x2_t src, size_t index);
vuint32m2_t __riscv_vget_u32m2(vuint32m2x3_t src, size_t index);
vuint32m2_t __riscv_vget_u32m2(vuint32m2x4_t src, size_t index);
vuint32m4_t __riscv_vget_u32m4(vuint32m4x2_t src, size_t index);
vuint64m1_t __riscv_vget_u64m1(vuint64m1x2_t src, size_t index);
vuint64m1_t __riscv_vget_u64m1(vuint64m1x3_t src, size_t index);
vuint64m1_t __riscv_vget_u64m1(vuint64m1x4_t src, size_t index);
vuint64m1_t __riscv_vget_u64m1(vuint64m1x5_t src, size_t index);
vuint64m1_t __riscv_vget_u64m1(vuint64m1x6_t src, size_t index);
vuint64m1_t __riscv_vget_u64m1(vuint64m1x7_t src, size_t index);
vuint64m1_t __riscv_vget_u64m1(vuint64m1x8_t src, size_t index);
vuint64m2_t __riscv_vget_u64m2(vuint64m2x2_t src, size_t index);
vuint64m2_t __riscv_vget_u64m2(vuint64m2x3_t src, size_t index);
vuint64m2_t __riscv_vget_u64m2(vuint64m2x4_t src, size_t index);
vuint64m4_t __riscv_vget_u64m4(vuint64m4x2_t src, size_t index);
```

C.9.9. Vector Creation Intrinsics

Intrinsics here don't have an overloaded variant.

Appendix D: Implicit (Overloaded) intrinsics, policy variants

D.1. Vector Loads and Stores Intrinsics

D.1.1. Vector Unit-Stride Load Intrinsics

```
vfloat16mf4_t __riscv_vle16_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                               size_t vl);
vfloat16mf2_t __riscv_vle16_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                               size_t vl);
vfloat16m1_t __riscv_vle16_tu(vfloat16m1_t vd, const _Float16 *rs1, size_t vl);
vfloat16m2_t __riscv_vle16_tu(vfloat16m2_t vd, const _Float16 *rs1, size_t vl);
vfloat16m4_t __riscv_vle16_tu(vfloat16m4_t vd, const _Float16 *rs1, size_t vl);
vfloat16m8_t __riscv_vle16_tu(vfloat16m8_t vd, const _Float16 *rs1, size_t vl);
vfloat32mf2_t __riscv_vle32_tu(vfloat32mf2_t vd, const float *rs1, size_t vl);
vfloat32m1_t __riscv_vle32_tu(vfloat32m1_t vd, const float *rs1, size_t vl);
vfloat32m2_t __riscv_vle32_tu(vfloat32m2_t vd, const float *rs1, size_t vl);
vfloat32m4_t __riscv_vle32_tu(vfloat32m4_t vd, const float *rs1, size_t vl);
vfloat32m8_t __riscv_vle32_tu(vfloat32m8_t vd, const float *rs1, size_t vl);
vfloat64m1_t __riscv_vle64_tu(vfloat64m1_t vd, const double *rs1, size_t vl);
vfloat64m2_t __riscv_vle64_tu(vfloat64m2_t vd, const double *rs1, size_t vl);
vfloat64m4_t __riscv_vle64_tu(vfloat64m4_t vd, const double *rs1, size_t vl);
vfloat64m8_t __riscv_vle64_tu(vfloat64m8_t vd, const double *rs1, size_t vl);
vint8mf8_t __riscv_vle8_tu(vint8mf8_t vd, const int8_t *rs1, size_t vl);
vint8mf4_t __riscv_vle8_tu(vint8mf4_t vd, const int8_t *rs1, size_t vl);
vint8mf2_t __riscv_vle8_tu(vint8mf2_t vd, const int8_t *rs1, size_t vl);
vint8m1_t __riscv_vle8_tu(vint8m1_t vd, const int8_t *rs1, size_t vl);
vint8m2_t __riscv_vle8_tu(vint8m2_t vd, const int8_t *rs1, size_t vl);
vint8m4_t __riscv_vle8_tu(vint8m4_t vd, const int8_t *rs1, size_t vl);
vint8m8_t __riscv_vle8_tu(vint8m8_t vd, const int8_t *rs1, size_t vl);
vint16mf4_t __riscv_vle16_tu(vint16mf4_t vd, const int16_t *rs1, size_t vl);
vint16mf2_t __riscv_vle16_tu(vint16mf2_t vd, const int16_t *rs1, size_t vl);
vint16m1_t __riscv_vle16_tu(vint16m1_t vd, const int16_t *rs1, size_t vl);
vint16m2_t __riscv_vle16_tu(vint16m2_t vd, const int16_t *rs1, size_t vl);
vint16m4_t __riscv_vle16_tu(vint16m4_t vd, const int16_t *rs1, size_t vl);
vint16m8_t __riscv_vle16_tu(vint16m8_t vd, const int16_t *rs1, size_t vl);
vint32mf2_t __riscv_vle32_tu(vint32mf2_t vd, const int32_t *rs1, size_t vl);
vint32m1_t __riscv_vle32_tu(vint32m1_t vd, const int32_t *rs1, size_t vl);
vint32m2_t __riscv_vle32_tu(vint32m2_t vd, const int32_t *rs1, size_t vl);
vint32m4_t __riscv_vle32_tu(vint32m4_t vd, const int32_t *rs1, size_t vl);
vint32m8_t __riscv_vle32_tu(vint32m8_t vd, const int32_t *rs1, size_t vl);
vint64m1_t __riscv_vle64_tu(vint64m1_t vd, const int64_t *rs1, size_t vl);
vint64m2_t __riscv_vle64_tu(vint64m2_t vd, const int64_t *rs1, size_t vl);
vint64m4_t __riscv_vle64_tu(vint64m4_t vd, const int64_t *rs1, size_t vl);
vint64m8_t __riscv_vle64_tu(vint64m8_t vd, const int64_t *rs1, size_t vl);
vuint8mf8_t __riscv_vle8_tu(vuint8mf8_t vd, const uint8_t *rs1, size_t vl);
vuint8mf4_t __riscv_vle8_tu(vuint8mf4_t vd, const uint8_t *rs1, size_t vl);
vuint8mf2_t __riscv_vle8_tu(vuint8mf2_t vd, const uint8_t *rs1, size_t vl);
vuint8m1_t __riscv_vle8_tu(vuint8m1_t vd, const uint8_t *rs1, size_t vl);
vuint8m2_t __riscv_vle8_tu(vuint8m2_t vd, const uint8_t *rs1, size_t vl);
vuint8m4_t __riscv_vle8_tu(vuint8m4_t vd, const uint8_t *rs1, size_t vl);
vuint8m8_t __riscv_vle8_tu(vuint8m8_t vd, const uint8_t *rs1, size_t vl);
vuint16mf4_t __riscv_vle16_tu(vuint16mf4_t vd, const uint16_t *rs1, size_t vl);
vuint16mf2_t __riscv_vle16_tu(vuint16mf2_t vd, const uint16_t *rs1, size_t vl);
vuint16m1_t __riscv_vle16_tu(vuint16m1_t vd, const uint16_t *rs1, size_t vl);
vuint16m2_t __riscv_vle16_tu(vuint16m2_t vd, const uint16_t *rs1, size_t vl);
vuint16m4_t __riscv_vle16_tu(vuint16m4_t vd, const uint16_t *rs1, size_t vl);
vuint16m8_t __riscv_vle16_tu(vuint16m8_t vd, const uint16_t *rs1, size_t vl);
vuint32mf2_t __riscv_vle32_tu(vuint32mf2_t vd, const uint32_t *rs1, size_t vl);
vuint32m1_t __riscv_vle32_tu(vuint32m1_t vd, const uint32_t *rs1, size_t vl);
```

```
vuint32m2_t __riscv_vle32_tu(vuint32m2_t vd, const uint32_t *rs1, size_t vl);
vuint32m4_t __riscv_vle32_tu(vuint32m4_t vd, const uint32_t *rs1, size_t vl);
vuint32m8_t __riscv_vle32_tu(vuint32m8_t vd, const uint32_t *rs1, size_t vl);
vuint64m1_t __riscv_vle64_tu(vuint64m1_t vd, const uint64_t *rs1, size_t vl);
vuint64m2_t __riscv_vle64_tu(vuint64m2_t vd, const uint64_t *rs1, size_t vl);
vuint64m4_t __riscv_vle64_tu(vuint64m4_t vd, const uint64_t *rs1, size_t vl);
vuint64m8_t __riscv_vle64_tu(vuint64m8_t vd, const uint64_t *rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16_tum(vbool64_t vm, vfloat16mf4_t vd,
                                const _Float16 *rs1, size_t vl);
vfloat16mf2_t __riscv_vle16_tum(vbool32_t vm, vfloat16mf2_t vd,
                                const _Float16 *rs1, size_t vl);
vfloat16m1_t __riscv_vle16_tum(vbool16_t vm, vfloat16m1_t vd,
                               const _Float16 *rs1, size_t vl);
vfloat16m2_t __riscv_vle16_tum(vbool8_t vm, vfloat16m2_t vd,
                               const _Float16 *rs1, size_t vl);
vfloat16m4_t __riscv_vle16_tum(vbool4_t vm, vfloat16m4_t vd,
                               const _Float16 *rs1, size_t vl);
vfloat16m8_t __riscv_vle16_tum(vbool2_t vm, vfloat16m8_t vd,
                               const _Float16 *rs1, size_t vl);
vfloat32mf2_t __riscv_vle32_tum(vbool64_t vm, vfloat32mf2_t vd,
                                const float *rs1, size_t vl);
vfloat32m1_t __riscv_vle32_tum(vbool32_t vm, vfloat32m1_t vd, const float *rs1,
                               size_t vl);
vfloat32m2_t __riscv_vle32_tum(vbool16_t vm, vfloat32m2_t vd, const float *rs1,
                               size_t vl);
vfloat32m4_t __riscv_vle32_tum(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                               size_t vl);
vfloat32m8_t __riscv_vle32_tum(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                               size_t vl);
vfloat64m1_t __riscv_vle64_tum(vbool64_t vm, vfloat64m1_t vd, const double *rs1,
                               size_t vl);
vfloat64m2_t __riscv_vle64_tum(vbool32_t vm, vfloat64m2_t vd, const double *rs1,
                               size_t vl);
vfloat64m4_t __riscv_vle64_tum(vbool16_t vm, vfloat64m4_t vd, const double *rs1,
                               size_t vl);
vfloat64m8_t __riscv_vle64_tum(vbool8_t vm, vfloat64m8_t vd, const double *rs1,
                               size_t vl);
vint8mf8_t __riscv_vle8_tum(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                            size_t vl);
vint8mf4_t __riscv_vle8_tum(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                            size_t vl);
vint8mf2_t __riscv_vle8_tum(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                            size_t vl);
vint8m1_t __riscv_vle8_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                           size_t vl);
vint8m2_t __riscv_vle8_tum(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                           size_t vl);
vint8m4_t __riscv_vle8_tum(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                           size_t vl);
vint8m8_t __riscv_vle8_tum(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                           size_t vl);
vint16mf4_t __riscv_vle16_tum(vbool64_t vm, vint16mf4_t vd, const int16_t *rs1,
                              size_t vl);
vint16mf2_t __riscv_vle16_tum(vbool32_t vm, vint16mf2_t vd, const int16_t *rs1,
                              size_t vl);
vint16m1_t __riscv_vle16_tum(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                             size_t vl);
vint16m2_t __riscv_vle16_tum(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                             size_t vl);
vint16m4_t __riscv_vle16_tum(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                             size_t vl);
vint16m8_t __riscv_vle16_tum(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                             size_t vl);
vint32mf2_t __riscv_vle32_tum(vbool64_t vm, vint32mf2_t vd, const int32_t *rs1,
                              size_t vl);
vint32m1_t __riscv_vle32_tum(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
```

```
                              size_t vl);
vint32m2_t __riscv_vle32_tum(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                              size_t vl);
vint32m4_t __riscv_vle32_tum(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                              size_t vl);
vint32m8_t __riscv_vle32_tum(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                              size_t vl);
vint64m1_t __riscv_vle64_tum(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                              size_t vl);
vint64m2_t __riscv_vle64_tum(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                              size_t vl);
vint64m4_t __riscv_vle64_tum(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                              size_t vl);
vint64m8_t __riscv_vle64_tum(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                              size_t vl);
vuint8mf8_t __riscv_vle8_tum(vbool64_t vm, vuint8mf8_t vd, const uint8_t *rs1,
                              size_t vl);
vuint8mf4_t __riscv_vle8_tum(vbool32_t vm, vuint8mf4_t vd, const uint8_t *rs1,
                              size_t vl);
vuint8mf2_t __riscv_vle8_tum(vbool16_t vm, vuint8mf2_t vd, const uint8_t *rs1,
                              size_t vl);
vuint8m1_t __riscv_vle8_tum(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                             size_t vl);
vuint8m2_t __riscv_vle8_tum(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                             size_t vl);
vuint8m4_t __riscv_vle8_tum(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                             size_t vl);
vuint8m8_t __riscv_vle8_tum(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                             size_t vl);
vuint16mf4_t __riscv_vle16_tum(vbool64_t vm, vuint16mf4_t vd,
                               const uint16_t *rs1, size_t vl);
vuint16mf2_t __riscv_vle16_tum(vbool32_t vm, vuint16mf2_t vd,
                               const uint16_t *rs1, size_t vl);
vuint16m1_t __riscv_vle16_tum(vbool16_t vm, vuint16m1_t vd, const uint16_t *rs1,
                              size_t vl);
vuint16m2_t __riscv_vle16_tum(vbool8_t vm, vuint16m2_t vd, const uint16_t *rs1,
                              size_t vl);
vuint16m4_t __riscv_vle16_tum(vbool4_t vm, vuint16m4_t vd, const uint16_t *rs1,
                              size_t vl);
vuint16m8_t __riscv_vle16_tum(vbool2_t vm, vuint16m8_t vd, const uint16_t *rs1,
                              size_t vl);
vuint32mf2_t __riscv_vle32_tum(vbool64_t vm, vuint32mf2_t vd,
                               const uint32_t *rs1, size_t vl);
vuint32m1_t __riscv_vle32_tum(vbool32_t vm, vuint32m1_t vd, const uint32_t *rs1,
                              size_t vl);
vuint32m2_t __riscv_vle32_tum(vbool16_t vm, vuint32m2_t vd, const uint32_t *rs1,
                              size_t vl);
vuint32m4_t __riscv_vle32_tum(vbool8_t vm, vuint32m4_t vd, const uint32_t *rs1,
                              size_t vl);
vuint32m8_t __riscv_vle32_tum(vbool4_t vm, vuint32m8_t vd, const uint32_t *rs1,
                              size_t vl);
vuint64m1_t __riscv_vle64_tum(vbool64_t vm, vuint64m1_t vd, const uint64_t *rs1,
                              size_t vl);
vuint64m2_t __riscv_vle64_tum(vbool32_t vm, vuint64m2_t vd, const uint64_t *rs1,
                              size_t vl);
vuint64m4_t __riscv_vle64_tum(vbool16_t vm, vuint64m4_t vd, const uint64_t *rs1,
                              size_t vl);
vuint64m8_t __riscv_vle64_tum(vbool8_t vm, vuint64m8_t vd, const uint64_t *rs1,
                              size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 const _Float16 *rs1, size_t vl);
vfloat16mf2_t __riscv_vle16_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 const _Float16 *rs1, size_t vl);
vfloat16m1_t __riscv_vle16_tumu(vbool16_t vm, vfloat16m1_t vd,
                                const _Float16 *rs1, size_t vl);
vfloat16m2_t __riscv_vle16_tumu(vbool8_t vm, vfloat16m2_t vd,
```

```
                                const _Float16 *rs1, size_t vl);
vfloat16m4_t __riscv_vle16_tumu(vbool4_t vm, vfloat16m4_t vd,
                                const _Float16 *rs1, size_t vl);
vfloat16m8_t __riscv_vle16_tumu(vbool2_t vm, vfloat16m8_t vd,
                                const _Float16 *rs1, size_t vl);
vfloat32mf2_t __riscv_vle32_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 const float *rs1, size_t vl);
vfloat32m1_t __riscv_vle32_tumu(vbool32_t vm, vfloat32m1_t vd, const float *rs1,
                                size_t vl);
vfloat32m2_t __riscv_vle32_tumu(vbool16_t vm, vfloat32m2_t vd, const float *rs1,
                                size_t vl);
vfloat32m4_t __riscv_vle32_tumu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                size_t vl);
vfloat32m8_t __riscv_vle32_tumu(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                size_t vl);
vfloat64m1_t __riscv_vle64_tumu(vbool64_t vm, vfloat64m1_t vd,
                                const double *rs1, size_t vl);
vfloat64m2_t __riscv_vle64_tumu(vbool32_t vm, vfloat64m2_t vd,
                                const double *rs1, size_t vl);
vfloat64m4_t __riscv_vle64_tumu(vbool16_t vm, vfloat64m4_t vd,
                                const double *rs1, size_t vl);
vfloat64m8_t __riscv_vle64_tumu(vbool8_t vm, vfloat64m8_t vd, const double *rs1,
                                size_t vl);
vint8mf8_t __riscv_vle8_tumu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                             size_t vl);
vint8mf4_t __riscv_vle8_tumu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                             size_t vl);
vint8mf2_t __riscv_vle8_tumu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                             size_t vl);
vint8m1_t __riscv_vle8_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                            size_t vl);
vint8m2_t __riscv_vle8_tumu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                            size_t vl);
vint8m4_t __riscv_vle8_tumu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                            size_t vl);
vint8m8_t __riscv_vle8_tumu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                            size_t vl);
vint16mf4_t __riscv_vle16_tumu(vbool64_t vm, vint16mf4_t vd, const int16_t *rs1,
                               size_t vl);
vint16mf2_t __riscv_vle16_tumu(vbool32_t vm, vint16mf2_t vd, const int16_t *rs1,
                               size_t vl);
vint16m1_t __riscv_vle16_tumu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                              size_t vl);
vint16m2_t __riscv_vle16_tumu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                              size_t vl);
vint16m4_t __riscv_vle16_tumu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                              size_t vl);
vint16m8_t __riscv_vle16_tumu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                              size_t vl);
vint32mf2_t __riscv_vle32_tumu(vbool64_t vm, vint32mf2_t vd, const int32_t *rs1,
                               size_t vl);
vint32m1_t __riscv_vle32_tumu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                              size_t vl);
vint32m2_t __riscv_vle32_tumu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                              size_t vl);
vint32m4_t __riscv_vle32_tumu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                              size_t vl);
vint32m8_t __riscv_vle32_tumu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                              size_t vl);
vint64m1_t __riscv_vle64_tumu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                              size_t vl);
vint64m2_t __riscv_vle64_tumu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                              size_t vl);
vint64m4_t __riscv_vle64_tumu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                              size_t vl);
vint64m8_t __riscv_vle64_tumu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                              size_t vl);
```

```
vuint8mf8_t __riscv_vle8_tumu(vbool64_t vm, vuint8mf8_t vd, const uint8_t *rs1,
                              size_t vl);
vuint8mf4_t __riscv_vle8_tumu(vbool32_t vm, vuint8mf4_t vd, const uint8_t *rs1,
                              size_t vl);
vuint8mf2_t __riscv_vle8_tumu(vbool16_t vm, vuint8mf2_t vd, const uint8_t *rs1,
                              size_t vl);
vuint8m1_t __riscv_vle8_tumu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                             size_t vl);
vuint8m2_t __riscv_vle8_tumu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                             size_t vl);
vuint8m4_t __riscv_vle8_tumu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                             size_t vl);
vuint8m8_t __riscv_vle8_tumu(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                             size_t vl);
vuint16mf4_t __riscv_vle16_tumu(vbool64_t vm, vuint16mf4_t vd,
                                const uint16_t *rs1, size_t vl);
vuint16mf2_t __riscv_vle16_tumu(vbool32_t vm, vuint16mf2_t vd,
                                const uint16_t *rs1, size_t vl);
vuint16m1_t __riscv_vle16_tumu(vbool16_t vm, vuint16m1_t vd,
                               const uint16_t *rs1, size_t vl);
vuint16m2_t __riscv_vle16_tumu(vbool8_t vm, vuint16m2_t vd, const uint16_t *rs1,
                               size_t vl);
vuint16m4_t __riscv_vle16_tumu(vbool4_t vm, vuint16m4_t vd, const uint16_t *rs1,
                               size_t vl);
vuint16m8_t __riscv_vle16_tumu(vbool2_t vm, vuint16m8_t vd, const uint16_t *rs1,
                               size_t vl);
vuint32mf2_t __riscv_vle32_tumu(vbool64_t vm, vuint32mf2_t vd,
                                const uint32_t *rs1, size_t vl);
vuint32m1_t __riscv_vle32_tumu(vbool32_t vm, vuint32m1_t vd,
                               const uint32_t *rs1, size_t vl);
vuint32m2_t __riscv_vle32_tumu(vbool16_t vm, vuint32m2_t vd,
                               const uint32_t *rs1, size_t vl);
vuint32m4_t __riscv_vle32_tumu(vbool8_t vm, vuint32m4_t vd, const uint32_t *rs1,
                               size_t vl);
vuint32m8_t __riscv_vle32_tumu(vbool4_t vm, vuint32m8_t vd, const uint32_t *rs1,
                               size_t vl);
vuint64m1_t __riscv_vle64_tumu(vbool64_t vm, vuint64m1_t vd,
                               const uint64_t *rs1, size_t vl);
vuint64m2_t __riscv_vle64_tumu(vbool32_t vm, vuint64m2_t vd,
                               const uint64_t *rs1, size_t vl);
vuint64m4_t __riscv_vle64_tumu(vbool16_t vm, vuint64m4_t vd,
                               const uint64_t *rs1, size_t vl);
vuint64m8_t __riscv_vle64_tumu(vbool8_t vm, vuint64m8_t vd, const uint64_t *rs1,
                               size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16_mu(vbool64_t vm, vfloat16mf4_t vd,
                               const _Float16 *rs1, size_t vl);
vfloat16mf2_t __riscv_vle16_mu(vbool32_t vm, vfloat16mf2_t vd,
                               const _Float16 *rs1, size_t vl);
vfloat16m1_t __riscv_vle16_mu(vbool16_t vm, vfloat16m1_t vd,
                              const _Float16 *rs1, size_t vl);
vfloat16m2_t __riscv_vle16_mu(vbool8_t vm, vfloat16m2_t vd, const _Float16 *rs1,
                              size_t vl);
vfloat16m4_t __riscv_vle16_mu(vbool4_t vm, vfloat16m4_t vd, const _Float16 *rs1,
                              size_t vl);
vfloat16m8_t __riscv_vle16_mu(vbool2_t vm, vfloat16m8_t vd, const _Float16 *rs1,
                              size_t vl);
vfloat32mf2_t __riscv_vle32_mu(vbool64_t vm, vfloat32mf2_t vd, const float *rs1,
                               size_t vl);
vfloat32m1_t __riscv_vle32_mu(vbool32_t vm, vfloat32m1_t vd, const float *rs1,
                              size_t vl);
vfloat32m2_t __riscv_vle32_mu(vbool16_t vm, vfloat32m2_t vd, const float *rs1,
                              size_t vl);
vfloat32m4_t __riscv_vle32_mu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                              size_t vl);
vfloat32m8_t __riscv_vle32_mu(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                              size_t vl);
```

```
vfloat64m1_t __riscv_vle64_mu(vbool64_t vm, vfloat64m1_t vd, const double *rs1,
                              size_t vl);
vfloat64m2_t __riscv_vle64_mu(vbool32_t vm, vfloat64m2_t vd, const double *rs1,
                              size_t vl);
vfloat64m4_t __riscv_vle64_mu(vbool16_t vm, vfloat64m4_t vd, const double *rs1,
                              size_t vl);
vfloat64m8_t __riscv_vle64_mu(vbool8_t vm, vfloat64m8_t vd, const double *rs1,
                              size_t vl);
vint8mf8_t __riscv_vle8_mu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                           size_t vl);
vint8mf4_t __riscv_vle8_mu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                           size_t vl);
vint8mf2_t __riscv_vle8_mu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                           size_t vl);
vint8m1_t __riscv_vle8_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                          size_t vl);
vint8m2_t __riscv_vle8_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                          size_t vl);
vint8m4_t __riscv_vle8_mu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                          size_t vl);
vint8m8_t __riscv_vle8_mu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                          size_t vl);
vint16mf4_t __riscv_vle16_mu(vbool64_t vm, vint16mf4_t vd, const int16_t *rs1,
                             size_t vl);
vint16mf2_t __riscv_vle16_mu(vbool32_t vm, vint16mf2_t vd, const int16_t *rs1,
                             size_t vl);
vint16m1_t __riscv_vle16_mu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                            size_t vl);
vint16m2_t __riscv_vle16_mu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                            size_t vl);
vint16m4_t __riscv_vle16_mu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                            size_t vl);
vint16m8_t __riscv_vle16_mu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                            size_t vl);
vint32mf2_t __riscv_vle32_mu(vbool64_t vm, vint32mf2_t vd, const int32_t *rs1,
                             size_t vl);
vint32m1_t __riscv_vle32_mu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                            size_t vl);
vint32m2_t __riscv_vle32_mu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                            size_t vl);
vint32m4_t __riscv_vle32_mu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                            size_t vl);
vint32m8_t __riscv_vle32_mu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                            size_t vl);
vint64m1_t __riscv_vle64_mu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                            size_t vl);
vint64m2_t __riscv_vle64_mu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                            size_t vl);
vint64m4_t __riscv_vle64_mu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                            size_t vl);
vint64m8_t __riscv_vle64_mu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                            size_t vl);
vuint8mf8_t __riscv_vle8_mu(vbool64_t vm, vuint8mf8_t vd, const uint8_t *rs1,
                            size_t vl);
vuint8mf4_t __riscv_vle8_mu(vbool32_t vm, vuint8mf4_t vd, const uint8_t *rs1,
                            size_t vl);
vuint8mf2_t __riscv_vle8_mu(vbool16_t vm, vuint8mf2_t vd, const uint8_t *rs1,
                            size_t vl);
vuint8m1_t __riscv_vle8_mu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                           size_t vl);
vuint8m2_t __riscv_vle8_mu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                           size_t vl);
vuint8m4_t __riscv_vle8_mu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                           size_t vl);
vuint8m8_t __riscv_vle8_mu(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                           size_t vl);
vuint16mf4_t __riscv_vle16_mu(vbool64_t vm, vuint16mf4_t vd,
```

```
                              const uint16_t *rs1, size_t vl);
vuint16mf2_t __riscv_vle16_mu(vbool32_t vm, vuint16mf2_t vd,
                              const uint16_t *rs1, size_t vl);
vuint16m1_t __riscv_vle16_mu(vbool16_t vm, vuint16m1_t vd, const uint16_t *rs1,
                             size_t vl);
vuint16m2_t __riscv_vle16_mu(vbool8_t vm, vuint16m2_t vd, const uint16_t *rs1,
                             size_t vl);
vuint16m4_t __riscv_vle16_mu(vbool4_t vm, vuint16m4_t vd, const uint16_t *rs1,
                             size_t vl);
vuint16m8_t __riscv_vle16_mu(vbool2_t vm, vuint16m8_t vd, const uint16_t *rs1,
                             size_t vl);
vuint32mf2_t __riscv_vle32_mu(vbool64_t vm, vuint32mf2_t vd,
                              const uint32_t *rs1, size_t vl);
vuint32m1_t __riscv_vle32_mu(vbool32_t vm, vuint32m1_t vd, const uint32_t *rs1,
                             size_t vl);
vuint32m2_t __riscv_vle32_mu(vbool16_t vm, vuint32m2_t vd, const uint32_t *rs1,
                             size_t vl);
vuint32m4_t __riscv_vle32_mu(vbool8_t vm, vuint32m4_t vd, const uint32_t *rs1,
                             size_t vl);
vuint32m8_t __riscv_vle32_mu(vbool4_t vm, vuint32m8_t vd, const uint32_t *rs1,
                             size_t vl);
vuint64m1_t __riscv_vle64_mu(vbool64_t vm, vuint64m1_t vd, const uint64_t *rs1,
                             size_t vl);
vuint64m2_t __riscv_vle64_mu(vbool32_t vm, vuint64m2_t vd, const uint64_t *rs1,
                             size_t vl);
vuint64m4_t __riscv_vle64_mu(vbool16_t vm, vuint64m4_t vd, const uint64_t *rs1,
                             size_t vl);
vuint64m8_t __riscv_vle64_mu(vbool8_t vm, vuint64m8_t vd, const uint64_t *rs1,
                             size_t vl);
```

D.1.2. Vector Unit-Stride Store Intrinsics

Intrinsics here don't have a policy variant.

D.1.3. Vector Mask Load/Store Intrinsics

Intrinsics here don't have a policy variant.

D.1.4. Vector Strided Load Intrinsics

```
vfloat16mf4_t __riscv_vlse16_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                ptrdiff_t rs2, size_t vl);
vfloat16mf2_t __riscv_vlse16_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                ptrdiff_t rs2, size_t vl);
vfloat16m1_t __riscv_vlse16_tu(vfloat16m1_t vd, const _Float16 *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat16m2_t __riscv_vlse16_tu(vfloat16m2_t vd, const _Float16 *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat16m4_t __riscv_vlse16_tu(vfloat16m4_t vd, const _Float16 *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat16m8_t __riscv_vlse16_tu(vfloat16m8_t vd, const _Float16 *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat32mf2_t __riscv_vlse32_tu(vfloat32mf2_t vd, const float *rs1,
                                ptrdiff_t rs2, size_t vl);
vfloat32m1_t __riscv_vlse32_tu(vfloat32m1_t vd, const float *rs1, ptrdiff_t rs2,
                               size_t vl);
vfloat32m2_t __riscv_vlse32_tu(vfloat32m2_t vd, const float *rs1, ptrdiff_t rs2,
                               size_t vl);
vfloat32m4_t __riscv_vlse32_tu(vfloat32m4_t vd, const float *rs1, ptrdiff_t rs2,
                               size_t vl);
vfloat32m8_t __riscv_vlse32_tu(vfloat32m8_t vd, const float *rs1, ptrdiff_t rs2,
                               size_t vl);
```

```
vfloat64m1_t __riscv_vlse64_tu(vfloat64m1_t vd, const double *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat64m2_t __riscv_vlse64_tu(vfloat64m2_t vd, const double *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat64m4_t __riscv_vlse64_tu(vfloat64m4_t vd, const double *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat64m8_t __riscv_vlse64_tu(vfloat64m8_t vd, const double *rs1,
                               ptrdiff_t rs2, size_t vl);
vint8mf8_t __riscv_vlse8_tu(vint8mf8_t vd, const int8_t *rs1, ptrdiff_t rs2,
                            size_t vl);
vint8mf4_t __riscv_vlse8_tu(vint8mf4_t vd, const int8_t *rs1, ptrdiff_t rs2,
                            size_t vl);
vint8mf2_t __riscv_vlse8_tu(vint8mf2_t vd, const int8_t *rs1, ptrdiff_t rs2,
                            size_t vl);
vint8m1_t __riscv_vlse8_tu(vint8m1_t vd, const int8_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vint8m2_t __riscv_vlse8_tu(vint8m2_t vd, const int8_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vint8m4_t __riscv_vlse8_tu(vint8m4_t vd, const int8_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vint8m8_t __riscv_vlse8_tu(vint8m8_t vd, const int8_t *rs1, ptrdiff_t rs2,
                           size_t vl);
vint16mf4_t __riscv_vlse16_tu(vint16mf4_t vd, const int16_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint16mf2_t __riscv_vlse16_tu(vint16mf2_t vd, const int16_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint16m1_t __riscv_vlse16_tu(vint16m1_t vd, const int16_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vint16m2_t __riscv_vlse16_tu(vint16m2_t vd, const int16_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vint16m4_t __riscv_vlse16_tu(vint16m4_t vd, const int16_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vint16m8_t __riscv_vlse16_tu(vint16m8_t vd, const int16_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vint32mf2_t __riscv_vlse32_tu(vint32mf2_t vd, const int32_t *rs1, ptrdiff_t rs2,
                              size_t vl);
vint32m1_t __riscv_vlse32_tu(vint32m1_t vd, const int32_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vint32m2_t __riscv_vlse32_tu(vint32m2_t vd, const int32_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vint32m4_t __riscv_vlse32_tu(vint32m4_t vd, const int32_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vint32m8_t __riscv_vlse32_tu(vint32m8_t vd, const int32_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vint64m1_t __riscv_vlse64_tu(vint64m1_t vd, const int64_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vint64m2_t __riscv_vlse64_tu(vint64m2_t vd, const int64_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vint64m4_t __riscv_vlse64_tu(vint64m4_t vd, const int64_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vint64m8_t __riscv_vlse64_tu(vint64m8_t vd, const int64_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vuint8mf8_t __riscv_vlse8_tu(vuint8mf8_t vd, const uint8_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vuint8mf4_t __riscv_vlse8_tu(vuint8mf4_t vd, const uint8_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vuint8mf2_t __riscv_vlse8_tu(vuint8mf2_t vd, const uint8_t *rs1, ptrdiff_t rs2,
                             size_t vl);
vuint8m1_t __riscv_vlse8_tu(vuint8m1_t vd, const uint8_t *rs1, ptrdiff_t rs2,
                            size_t vl);
vuint8m2_t __riscv_vlse8_tu(vuint8m2_t vd, const uint8_t *rs1, ptrdiff_t rs2,
                            size_t vl);
vuint8m4_t __riscv_vlse8_tu(vuint8m4_t vd, const uint8_t *rs1, ptrdiff_t rs2,
                            size_t vl);
vuint8m8_t __riscv_vlse8_tu(vuint8m8_t vd, const uint8_t *rs1, ptrdiff_t rs2,
                            size_t vl);
vuint16mf4_t __riscv_vlse16_tu(vuint16mf4_t vd, const uint16_t *rs1,
```

```
                                ptrdiff_t rs2, size_t vl);
vuint16mf2_t __riscv_vlse16_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                ptrdiff_t rs2, size_t vl);
vuint16m1_t __riscv_vlse16_tu(vuint16m1_t vd, const uint16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint16m2_t __riscv_vlse16_tu(vuint16m2_t vd, const uint16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint16m4_t __riscv_vlse16_tu(vuint16m4_t vd, const uint16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint16m8_t __riscv_vlse16_tu(vuint16m8_t vd, const uint16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint32mf2_t __riscv_vlse32_tu(vuint32mf2_t vd, const uint32_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vuint32m1_t __riscv_vlse32_tu(vuint32m1_t vd, const uint32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint32m2_t __riscv_vlse32_tu(vuint32m2_t vd, const uint32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint32m4_t __riscv_vlse32_tu(vuint32m4_t vd, const uint32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint32m8_t __riscv_vlse32_tu(vuint32m8_t vd, const uint32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint64m1_t __riscv_vlse64_tu(vuint64m1_t vd, const uint64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint64m2_t __riscv_vlse64_tu(vuint64m2_t vd, const uint64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint64m4_t __riscv_vlse64_tu(vuint64m4_t vd, const uint64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint64m8_t __riscv_vlse64_tu(vuint64m8_t vd, const uint64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vlse16_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16mf2_t __riscv_vlse16_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16m1_t __riscv_vlse16_tum(vbool16_t vm, vfloat16m1_t vd,
                                const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16m2_t __riscv_vlse16_tum(vbool8_t vm, vfloat16m2_t vd,
                                const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16m4_t __riscv_vlse16_tum(vbool4_t vm, vfloat16m4_t vd,
                                const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16m8_t __riscv_vlse16_tum(vbool2_t vm, vfloat16m8_t vd,
                                const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat32mf2_t __riscv_vlse32_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 const float *rs1, ptrdiff_t rs2, size_t vl);
vfloat32m1_t __riscv_vlse32_tum(vbool32_t vm, vfloat32m1_t vd, const float *rs1,
                                ptrdiff_t rs2, size_t vl);
vfloat32m2_t __riscv_vlse32_tum(vbool16_t vm, vfloat32m2_t vd, const float *rs1,
                                ptrdiff_t rs2, size_t vl);
vfloat32m4_t __riscv_vlse32_tum(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                ptrdiff_t rs2, size_t vl);
vfloat32m8_t __riscv_vlse32_tum(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                ptrdiff_t rs2, size_t vl);
vfloat64m1_t __riscv_vlse64_tum(vbool64_t vm, vfloat64m1_t vd,
                                const double *rs1, ptrdiff_t rs2, size_t vl);
vfloat64m2_t __riscv_vlse64_tum(vbool32_t vm, vfloat64m2_t vd,
                                const double *rs1, ptrdiff_t rs2, size_t vl);
vfloat64m4_t __riscv_vlse64_tum(vbool16_t vm, vfloat64m4_t vd,
                                const double *rs1, ptrdiff_t rs2, size_t vl);
vfloat64m8_t __riscv_vlse64_tum(vbool8_t vm, vfloat64m8_t vd, const double *rs1,
                                ptrdiff_t rs2, size_t vl);
vint8mf8_t __riscv_vlse8_tum(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint8mf4_t __riscv_vlse8_tum(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint8mf2_t __riscv_vlse8_tum(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint8m1_t __riscv_vlse8_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
```

```
                            ptrdiff_t rs2, size_t vl);
vint8m2_t __riscv_vlse8_tum(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                            ptrdiff_t rs2, size_t vl);
vint8m4_t __riscv_vlse8_tum(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                            ptrdiff_t rs2, size_t vl);
vint8m8_t __riscv_vlse8_tum(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                            ptrdiff_t rs2, size_t vl);
vint16mf4_t __riscv_vlse16_tum(vbool64_t vm, vint16mf4_t vd, const int16_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint16mf2_t __riscv_vlse16_tum(vbool32_t vm, vint16mf2_t vd, const int16_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint16m1_t __riscv_vlse16_tum(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint16m2_t __riscv_vlse16_tum(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint16m4_t __riscv_vlse16_tum(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint16m8_t __riscv_vlse16_tum(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint32mf2_t __riscv_vlse32_tum(vbool64_t vm, vint32mf2_t vd, const int32_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint32m1_t __riscv_vlse32_tum(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint32m2_t __riscv_vlse32_tum(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint32m4_t __riscv_vlse32_tum(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint32m8_t __riscv_vlse32_tum(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint64m1_t __riscv_vlse64_tum(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint64m2_t __riscv_vlse64_tum(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint64m4_t __riscv_vlse64_tum(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint64m8_t __riscv_vlse64_tum(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint8mf8_t __riscv_vlse8_tum(vbool64_t vm, vuint8mf8_t vd, const uint8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint8mf4_t __riscv_vlse8_tum(vbool32_t vm, vuint8mf4_t vd, const uint8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint8mf2_t __riscv_vlse8_tum(vbool16_t vm, vuint8mf2_t vd, const uint8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint8m1_t __riscv_vlse8_tum(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vuint8m2_t __riscv_vlse8_tum(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vuint8m4_t __riscv_vlse8_tum(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vuint8m8_t __riscv_vlse8_tum(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vuint16mf4_t __riscv_vlse16_tum(vbool64_t vm, vuint16mf4_t vd,
                                const uint16_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16mf2_t __riscv_vlse16_tum(vbool32_t vm, vuint16mf2_t vd,
                                const uint16_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16m1_t __riscv_vlse16_tum(vbool16_t vm, vuint16m1_t vd,
                               const uint16_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16m2_t __riscv_vlse16_tum(vbool8_t vm, vuint16m2_t vd, const uint16_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vuint16m4_t __riscv_vlse16_tum(vbool4_t vm, vuint16m4_t vd, const uint16_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vuint16m8_t __riscv_vlse16_tum(vbool2_t vm, vuint16m8_t vd, const uint16_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vuint32mf2_t __riscv_vlse32_tum(vbool64_t vm, vuint32mf2_t vd,
                                const uint32_t *rs1, ptrdiff_t rs2, size_t vl);
vuint32m1_t __riscv_vlse32_tum(vbool32_t vm, vuint32m1_t vd,
                               const uint32_t *rs1, ptrdiff_t rs2, size_t vl);
```

```
vuint32m2_t __riscv_vlse32_tum(vbool16_t vm, vuint32m2_t vd,
                               const uint32_t *rs1, ptrdiff_t rs2, size_t vl);
vuint32m4_t __riscv_vlse32_tum(vbool8_t vm, vuint32m4_t vd, const uint32_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vuint32m8_t __riscv_vlse32_tum(vbool4_t vm, vuint32m8_t vd, const uint32_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vuint64m1_t __riscv_vlse64_tum(vbool64_t vm, vuint64m1_t vd,
                               const uint64_t *rs1, ptrdiff_t rs2, size_t vl);
vuint64m2_t __riscv_vlse64_tum(vbool32_t vm, vuint64m2_t vd,
                               const uint64_t *rs1, ptrdiff_t rs2, size_t vl);
vuint64m4_t __riscv_vlse64_tum(vbool16_t vm, vuint64m4_t vd,
                               const uint64_t *rs1, ptrdiff_t rs2, size_t vl);
vuint64m8_t __riscv_vlse64_tum(vbool8_t vm, vuint64m8_t vd, const uint64_t *rs1,
                               ptrdiff_t rs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vlse16_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vlse16_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, ptrdiff_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vlse16_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16m2_t __riscv_vlse16_tumu(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16m4_t __riscv_vlse16_tumu(vbool4_t vm, vfloat16m4_t vd,
                                 const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16m8_t __riscv_vlse16_tumu(vbool2_t vm, vfloat16m8_t vd,
                                 const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat32mf2_t __riscv_vlse32_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  const float *rs1, ptrdiff_t rs2, size_t vl);
vfloat32m1_t __riscv_vlse32_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 const float *rs1, ptrdiff_t rs2, size_t vl);
vfloat32m2_t __riscv_vlse32_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 const float *rs1, ptrdiff_t rs2, size_t vl);
vfloat32m4_t __riscv_vlse32_tumu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                 ptrdiff_t rs2, size_t vl);
vfloat32m8_t __riscv_vlse32_tumu(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                 ptrdiff_t rs2, size_t vl);
vfloat64m1_t __riscv_vlse64_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 const double *rs1, ptrdiff_t rs2, size_t vl);
vfloat64m2_t __riscv_vlse64_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 const double *rs1, ptrdiff_t rs2, size_t vl);
vfloat64m4_t __riscv_vlse64_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 const double *rs1, ptrdiff_t rs2, size_t vl);
vfloat64m8_t __riscv_vlse64_tumu(vbool8_t vm, vfloat64m8_t vd,
                                 const double *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8_t __riscv_vlse8_tumu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint8mf4_t __riscv_vlse8_tumu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint8mf2_t __riscv_vlse8_tumu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint8m1_t __riscv_vlse8_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint8m2_t __riscv_vlse8_tumu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint8m4_t __riscv_vlse8_tumu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint8m8_t __riscv_vlse8_tumu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint16mf4_t __riscv_vlse16_tumu(vbool64_t vm, vint16mf4_t vd,
                                const int16_t *rs1, ptrdiff_t rs2, size_t vl);
vint16mf2_t __riscv_vlse16_tumu(vbool32_t vm, vint16mf2_t vd,
                                const int16_t *rs1, ptrdiff_t rs2, size_t vl);
vint16m1_t __riscv_vlse16_tumu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                               ptrdiff_t rs2, size_t vl);
```

```
vint16m2_t __riscv_vlse16_tumu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint16m4_t __riscv_vlse16_tumu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint16m8_t __riscv_vlse16_tumu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint32mf2_t __riscv_vlse32_tumu(vbool64_t vm, vint32mf2_t vd,
                                const int32_t *rs1, ptrdiff_t rs2, size_t vl);
vint32m1_t __riscv_vlse32_tumu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint32m2_t __riscv_vlse32_tumu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint32m4_t __riscv_vlse32_tumu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint32m8_t __riscv_vlse32_tumu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint64m1_t __riscv_vlse64_tumu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint64m2_t __riscv_vlse64_tumu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint64m4_t __riscv_vlse64_tumu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vint64m8_t __riscv_vlse64_tumu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vuint8mf8_t __riscv_vlse8_tumu(vbool64_t vm, vuint8mf8_t vd, const uint8_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vuint8mf4_t __riscv_vlse8_tumu(vbool32_t vm, vuint8mf4_t vd, const uint8_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vuint8mf2_t __riscv_vlse8_tumu(vbool16_t vm, vuint8mf2_t vd, const uint8_t *rs1,
                               ptrdiff_t rs2, size_t vl);
vuint8m1_t __riscv_vlse8_tumu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint8m2_t __riscv_vlse8_tumu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint8m4_t __riscv_vlse8_tumu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint8m8_t __riscv_vlse8_tumu(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint16mf4_t __riscv_vlse16_tumu(vbool64_t vm, vuint16mf4_t vd,
                                 const uint16_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16mf2_t __riscv_vlse16_tumu(vbool32_t vm, vuint16mf2_t vd,
                                 const uint16_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16m1_t __riscv_vlse16_tumu(vbool16_t vm, vuint16m1_t vd,
                                const uint16_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16m2_t __riscv_vlse16_tumu(vbool8_t vm, vuint16m2_t vd,
                                const uint16_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16m4_t __riscv_vlse16_tumu(vbool4_t vm, vuint16m4_t vd,
                                const uint16_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16m8_t __riscv_vlse16_tumu(vbool2_t vm, vuint16m8_t vd,
                                const uint16_t *rs1, ptrdiff_t rs2, size_t vl);
vuint32mf2_t __riscv_vlse32_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 const uint32_t *rs1, ptrdiff_t rs2, size_t vl);
vuint32m1_t __riscv_vlse32_tumu(vbool32_t vm, vuint32m1_t vd,
                                const uint32_t *rs1, ptrdiff_t rs2, size_t vl);
vuint32m2_t __riscv_vlse32_tumu(vbool16_t vm, vuint32m2_t vd,
                                const uint32_t *rs1, ptrdiff_t rs2, size_t vl);
vuint32m4_t __riscv_vlse32_tumu(vbool8_t vm, vuint32m4_t vd,
                                const uint32_t *rs1, ptrdiff_t rs2, size_t vl);
vuint32m8_t __riscv_vlse32_tumu(vbool4_t vm, vuint32m8_t vd,
                                const uint32_t *rs1, ptrdiff_t rs2, size_t vl);
vuint64m1_t __riscv_vlse64_tumu(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, ptrdiff_t rs2, size_t vl);
vuint64m2_t __riscv_vlse64_tumu(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, ptrdiff_t rs2, size_t vl);
vuint64m4_t __riscv_vlse64_tumu(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, ptrdiff_t rs2, size_t vl);
vuint64m8_t __riscv_vlse64_tumu(vbool8_t vm, vuint64m8_t vd,
```

```
                                const uint64_t *rs1, ptrdiff_t rs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vlse16_mu(vbool64_t vm, vfloat16mf4_t vd,
                                const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16mf2_t __riscv_vlse16_mu(vbool32_t vm, vfloat16mf2_t vd,
                                const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16m1_t __riscv_vlse16_mu(vbool16_t vm, vfloat16m1_t vd,
                               const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16m2_t __riscv_vlse16_mu(vbool8_t vm, vfloat16m2_t vd,
                               const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16m4_t __riscv_vlse16_mu(vbool4_t vm, vfloat16m4_t vd,
                               const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat16m8_t __riscv_vlse16_mu(vbool2_t vm, vfloat16m8_t vd,
                               const _Float16 *rs1, ptrdiff_t rs2, size_t vl);
vfloat32mf2_t __riscv_vlse32_mu(vbool64_t vm, vfloat32mf2_t vd,
                                const float *rs1, ptrdiff_t rs2, size_t vl);
vfloat32m1_t __riscv_vlse32_mu(vbool32_t vm, vfloat32m1_t vd, const float *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat32m2_t __riscv_vlse32_mu(vbool16_t vm, vfloat32m2_t vd, const float *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat32m4_t __riscv_vlse32_mu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat32m8_t __riscv_vlse32_mu(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat64m1_t __riscv_vlse64_mu(vbool64_t vm, vfloat64m1_t vd, const double *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat64m2_t __riscv_vlse64_mu(vbool32_t vm, vfloat64m2_t vd, const double *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat64m4_t __riscv_vlse64_mu(vbool16_t vm, vfloat64m4_t vd, const double *rs1,
                               ptrdiff_t rs2, size_t vl);
vfloat64m8_t __riscv_vlse64_mu(vbool8_t vm, vfloat64m8_t vd, const double *rs1,
                               ptrdiff_t rs2, size_t vl);
vint8mf8_t __riscv_vlse8_mu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                            ptrdiff_t rs2, size_t vl);
vint8mf4_t __riscv_vlse8_mu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                            ptrdiff_t rs2, size_t vl);
vint8mf2_t __riscv_vlse8_mu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                            ptrdiff_t rs2, size_t vl);
vint8m1_t __riscv_vlse8_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                           ptrdiff_t rs2, size_t vl);
vint8m2_t __riscv_vlse8_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                           ptrdiff_t rs2, size_t vl);
vint8m4_t __riscv_vlse8_mu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                           ptrdiff_t rs2, size_t vl);
vint8m8_t __riscv_vlse8_mu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                           ptrdiff_t rs2, size_t vl);
vint16mf4_t __riscv_vlse16_mu(vbool64_t vm, vint16mf4_t vd, const int16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint16mf2_t __riscv_vlse16_mu(vbool32_t vm, vint16mf2_t vd, const int16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint16m1_t __riscv_vlse16_mu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint16m2_t __riscv_vlse16_mu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint16m4_t __riscv_vlse16_mu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint16m8_t __riscv_vlse16_mu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint32mf2_t __riscv_vlse32_mu(vbool64_t vm, vint32mf2_t vd, const int32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint32m1_t __riscv_vlse32_mu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint32m2_t __riscv_vlse32_mu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint32m4_t __riscv_vlse32_mu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vint32m8_t __riscv_vlse32_mu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
```

```
                              ptrdiff_t rs2, size_t vl);
vint64m1_t __riscv_vlse64_mu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint64m2_t __riscv_vlse64_mu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint64m4_t __riscv_vlse64_mu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vint64m8_t __riscv_vlse64_mu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint8mf8_t __riscv_vlse8_mu(vbool64_t vm, vuint8mf8_t vd, const uint8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint8mf4_t __riscv_vlse8_mu(vbool32_t vm, vuint8mf4_t vd, const uint8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint8mf2_t __riscv_vlse8_mu(vbool16_t vm, vuint8mf2_t vd, const uint8_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint8m1_t __riscv_vlse8_mu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vuint8m2_t __riscv_vlse8_mu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vuint8m4_t __riscv_vlse8_mu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vuint8m8_t __riscv_vlse8_mu(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                             ptrdiff_t rs2, size_t vl);
vuint16mf4_t __riscv_vlse16_mu(vbool64_t vm, vuint16mf4_t vd,
                               const uint16_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16mf2_t __riscv_vlse16_mu(vbool32_t vm, vuint16mf2_t vd,
                               const uint16_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16m1_t __riscv_vlse16_mu(vbool16_t vm, vuint16m1_t vd, const uint16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint16m2_t __riscv_vlse16_mu(vbool8_t vm, vuint16m2_t vd, const uint16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint16m4_t __riscv_vlse16_mu(vbool4_t vm, vuint16m4_t vd, const uint16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint16m8_t __riscv_vlse16_mu(vbool2_t vm, vuint16m8_t vd, const uint16_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint32mf2_t __riscv_vlse32_mu(vbool64_t vm, vuint32mf2_t vd,
                               const uint32_t *rs1, ptrdiff_t rs2, size_t vl);
vuint32m1_t __riscv_vlse32_mu(vbool32_t vm, vuint32m1_t vd, const uint32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint32m2_t __riscv_vlse32_mu(vbool16_t vm, vuint32m2_t vd, const uint32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint32m4_t __riscv_vlse32_mu(vbool8_t vm, vuint32m4_t vd, const uint32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint32m8_t __riscv_vlse32_mu(vbool4_t vm, vuint32m8_t vd, const uint32_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint64m1_t __riscv_vlse64_mu(vbool64_t vm, vuint64m1_t vd, const uint64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint64m2_t __riscv_vlse64_mu(vbool32_t vm, vuint64m2_t vd, const uint64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint64m4_t __riscv_vlse64_mu(vbool16_t vm, vuint64m4_t vd, const uint64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
vuint64m8_t __riscv_vlse64_mu(vbool8_t vm, vuint64m8_t vd, const uint64_t *rs1,
                              ptrdiff_t rs2, size_t vl);
```

D.1.5. Vector Strided Store Intrinsics

Intrinsics here don't have a policy variant.

D.1.6. Vector Indexed Load Intrinsics

```
vfloat16mf4_t __riscv_vloxei8_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei8_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                 vuint8mf4_t rs2, size_t vl);
```

```
vfloat16m1_t __riscv_vloxei8_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                vuint8mf2_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei8_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                vuint8m1_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei8_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                vuint8m2_t rs2, size_t vl);
vfloat16m8_t __riscv_vloxei8_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                vuint8m4_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei16_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei16_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                  vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei16_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                 vuint16m1_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei16_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                 vuint16m2_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei16_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                 vuint16m4_t rs2, size_t vl);
vfloat16m8_t __riscv_vloxei16_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                 vuint16m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei32_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                  vuint32mf2_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei32_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                  vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei32_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                 vuint32m2_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei32_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                 vuint32m4_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei32_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                 vuint32m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei64_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                  vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vloxei64_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                  vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vloxei64_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                 vuint64m4_t rs2, size_t vl);
vfloat16m2_t __riscv_vloxei64_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                 vuint64m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei8_tu(vfloat32mf2_t vd, const float *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei8_tu(vfloat32m1_t vd, const float *rs1,
                                vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei8_tu(vfloat32m2_t vd, const float *rs1,
                                vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei8_tu(vfloat32m4_t vd, const float *rs1,
                                vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei8_tu(vfloat32m8_t vd, const float *rs1,
                                vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei16_tu(vfloat32mf2_t vd, const float *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei16_tu(vfloat32m1_t vd, const float *rs1,
                                 vuint16mf2_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei16_tu(vfloat32m2_t vd, const float *rs1,
                                 vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei16_tu(vfloat32m4_t vd, const float *rs1,
                                 vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei16_tu(vfloat32m8_t vd, const float *rs1,
                                 vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei32_tu(vfloat32mf2_t vd, const float *rs1,
                                  vuint32mf2_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei32_tu(vfloat32m1_t vd, const float *rs1,
                                 vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei32_tu(vfloat32m2_t vd, const float *rs1,
                                 vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei32_tu(vfloat32m4_t vd, const float *rs1,
                                 vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei32_tu(vfloat32m8_t vd, const float *rs1,
```

```
                                vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei64_tu(vfloat32mf2_t vd, const float *rs1,
                                  vuint64m1_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei64_tu(vfloat32m1_t vd, const float *rs1,
                                 vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei64_tu(vfloat32m2_t vd, const float *rs1,
                                 vuint64m4_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei64_tu(vfloat32m4_t vd, const float *rs1,
                                 vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei8_tu(vfloat64m1_t vd, const double *rs1,
                                vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei8_tu(vfloat64m2_t vd, const double *rs1,
                                vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei8_tu(vfloat64m4_t vd, const double *rs1,
                                vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei8_tu(vfloat64m8_t vd, const double *rs1,
                                vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei16_tu(vfloat64m1_t vd, const double *rs1,
                                 vuint16mf4_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei16_tu(vfloat64m2_t vd, const double *rs1,
                                 vuint16mf2_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei16_tu(vfloat64m4_t vd, const double *rs1,
                                 vuint16m1_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei16_tu(vfloat64m8_t vd, const double *rs1,
                                 vuint16m2_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei32_tu(vfloat64m1_t vd, const double *rs1,
                                 vuint32mf2_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei32_tu(vfloat64m2_t vd, const double *rs1,
                                 vuint32m1_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei32_tu(vfloat64m4_t vd, const double *rs1,
                                 vuint32m2_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei32_tu(vfloat64m8_t vd, const double *rs1,
                                 vuint32m4_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei64_tu(vfloat64m1_t vd, const double *rs1,
                                 vuint64m1_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei64_tu(vfloat64m2_t vd, const double *rs1,
                                 vuint64m2_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei64_tu(vfloat64m4_t vd, const double *rs1,
                                 vuint64m4_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei64_tu(vfloat64m8_t vd, const double *rs1,
                                 vuint64m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei8_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei8_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                 vuint8mf4_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei8_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                vuint8mf2_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei8_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                vuint8m1_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei8_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                vuint8m2_t rs2, size_t vl);
vfloat16m8_t __riscv_vluxei8_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                vuint8m4_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei16_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei16_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                  vuint16mf2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei16_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                 vuint16m1_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei16_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                 vuint16m2_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei16_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                 vuint16m4_t rs2, size_t vl);
vfloat16m8_t __riscv_vluxei16_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                 vuint16m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei32_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                  vuint32mf2_t rs2, size_t vl);
```

```
vfloat16mf2_t __riscv_vluxei32_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                  vuint32m1_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei32_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                 vuint32m2_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei32_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                 vuint32m4_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei32_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                 vuint32m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei64_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                  vuint64m1_t rs2, size_t vl);
vfloat16mf2_t __riscv_vluxei64_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                  vuint64m2_t rs2, size_t vl);
vfloat16m1_t __riscv_vluxei64_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                 vuint64m4_t rs2, size_t vl);
vfloat16m2_t __riscv_vluxei64_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                 vuint64m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei8_tu(vfloat32mf2_t vd, const float *rs1,
                                 vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei8_tu(vfloat32m1_t vd, const float *rs1,
                                vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei8_tu(vfloat32m2_t vd, const float *rs1,
                                vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei8_tu(vfloat32m4_t vd, const float *rs1,
                                vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei8_tu(vfloat32m8_t vd, const float *rs1,
                                vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei16_tu(vfloat32mf2_t vd, const float *rs1,
                                  vuint16mf4_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei16_tu(vfloat32m1_t vd, const float *rs1,
                                 vuint16mf2_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei16_tu(vfloat32m2_t vd, const float *rs1,
                                 vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei16_tu(vfloat32m4_t vd, const float *rs1,
                                 vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei16_tu(vfloat32m8_t vd, const float *rs1,
                                 vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei32_tu(vfloat32mf2_t vd, const float *rs1,
                                  vuint32mf2_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei32_tu(vfloat32m1_t vd, const float *rs1,
                                 vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei32_tu(vfloat32m2_t vd, const float *rs1,
                                 vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei32_tu(vfloat32m4_t vd, const float *rs1,
                                 vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei32_tu(vfloat32m8_t vd, const float *rs1,
                                 vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei64_tu(vfloat32mf2_t vd, const float *rs1,
                                  vuint64m1_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei64_tu(vfloat32m1_t vd, const float *rs1,
                                 vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei64_tu(vfloat32m2_t vd, const float *rs1,
                                 vuint64m4_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei64_tu(vfloat32m4_t vd, const float *rs1,
                                 vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei8_tu(vfloat64m1_t vd, const double *rs1,
                                vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei8_tu(vfloat64m2_t vd, const double *rs1,
                                vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei8_tu(vfloat64m4_t vd, const double *rs1,
                                vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei8_tu(vfloat64m8_t vd, const double *rs1,
                                vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei16_tu(vfloat64m1_t vd, const double *rs1,
                                 vuint16mf4_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei16_tu(vfloat64m2_t vd, const double *rs1,
                                 vuint16mf2_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei16_tu(vfloat64m4_t vd, const double *rs1,
```

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                                vuint16m1_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei16_tu(vfloat64m8_t vd, const double *rs1,
                                vuint16m2_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei32_tu(vfloat64m1_t vd, const double *rs1,
                                vuint32mf2_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei32_tu(vfloat64m2_t vd, const double *rs1,
                                vuint32m1_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei32_tu(vfloat64m4_t vd, const double *rs1,
                                vuint32m2_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei32_tu(vfloat64m8_t vd, const double *rs1,
                                vuint32m4_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei64_tu(vfloat64m1_t vd, const double *rs1,
                                vuint64m1_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei64_tu(vfloat64m2_t vd, const double *rs1,
                                vuint64m2_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei64_tu(vfloat64m4_t vd, const double *rs1,
                                vuint64m4_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei64_tu(vfloat64m8_t vd, const double *rs1,
                                vuint64m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei8_tu(vint8mf8_t vd, const int8_t *rs1, vuint8mf8_t rs2,
                              size_t vl);
vint8mf4_t __riscv_vloxei8_tu(vint8mf4_t vd, const int8_t *rs1, vuint8mf4_t rs2,
                              size_t vl);
vint8mf2_t __riscv_vloxei8_tu(vint8mf2_t vd, const int8_t *rs1, vuint8mf2_t rs2,
                              size_t vl);
vint8m1_t __riscv_vloxei8_tu(vint8m1_t vd, const int8_t *rs1, vuint8m1_t rs2,
                             size_t vl);
vint8m2_t __riscv_vloxei8_tu(vint8m2_t vd, const int8_t *rs1, vuint8m2_t rs2,
                             size_t vl);
vint8m4_t __riscv_vloxei8_tu(vint8m4_t vd, const int8_t *rs1, vuint8m4_t rs2,
                             size_t vl);
vint8m8_t __riscv_vloxei8_tu(vint8m8_t vd, const int8_t *rs1, vuint8m8_t rs2,
                             size_t vl);
vint8mf8_t __riscv_vloxei16_tu(vint8mf8_t vd, const int8_t *rs1,
                               vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei16_tu(vint8mf4_t vd, const int8_t *rs1,
                               vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei16_tu(vint8mf2_t vd, const int8_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vloxei16_tu(vint8m1_t vd, const int8_t *rs1, vuint16m2_t rs2,
                              size_t vl);
vint8m2_t __riscv_vloxei16_tu(vint8m2_t vd, const int8_t *rs1, vuint16m4_t rs2,
                              size_t vl);
vint8m4_t __riscv_vloxei16_tu(vint8m4_t vd, const int8_t *rs1, vuint16m8_t rs2,
                              size_t vl);
vint8mf8_t __riscv_vloxei32_tu(vint8mf8_t vd, const int8_t *rs1,
                               vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei32_tu(vint8mf4_t vd, const int8_t *rs1,
                               vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei32_tu(vint8mf2_t vd, const int8_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei32_tu(vint8m1_t vd, const int8_t *rs1, vuint32m4_t rs2,
                              size_t vl);
vint8m2_t __riscv_vloxei32_tu(vint8m2_t vd, const int8_t *rs1, vuint32m8_t rs2,
                              size_t vl);
vint8mf8_t __riscv_vloxei64_tu(vint8mf8_t vd, const int8_t *rs1,
                               vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei64_tu(vint8mf4_t vd, const int8_t *rs1,
                               vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei64_tu(vint8mf2_t vd, const int8_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vloxei64_tu(vint8m1_t vd, const int8_t *rs1, vuint64m8_t rs2,
                              size_t vl);
vint16mf4_t __riscv_vloxei8_tu(vint16mf4_t vd, const int16_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei8_tu(vint16mf2_t vd, const int16_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
```

```
vint16m1_t __riscv_vloxei8_tu(vint16m1_t vd, const int16_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei8_tu(vint16m2_t vd, const int16_t *rs1, vuint8m1_t rs2,
                              size_t vl);
vint16m4_t __riscv_vloxei8_tu(vint16m4_t vd, const int16_t *rs1, vuint8m2_t rs2,
                              size_t vl);
vint16m8_t __riscv_vloxei8_tu(vint16m8_t vd, const int16_t *rs1, vuint8m4_t rs2,
                              size_t vl);
vint16mf4_t __riscv_vloxei16_tu(vint16mf4_t vd, const int16_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei16_tu(vint16mf2_t vd, const int16_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vint16m1_t __riscv_vloxei16_tu(vint16m1_t vd, const int16_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint16m2_t __riscv_vloxei16_tu(vint16m2_t vd, const int16_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vint16m4_t __riscv_vloxei16_tu(vint16m4_t vd, const int16_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vloxei16_tu(vint16m8_t vd, const int16_t *rs1,
                               vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei32_tu(vint16mf4_t vd, const int16_t *rs1,
                                vuint32mf2_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei32_tu(vint16mf2_t vd, const int16_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vint16m1_t __riscv_vloxei32_tu(vint16m1_t vd, const int16_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei32_tu(vint16m2_t vd, const int16_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vloxei32_tu(vint16m4_t vd, const int16_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei64_tu(vint16mf4_t vd, const int16_t *rs1,
                                vuint64m1_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei64_tu(vint16mf2_t vd, const int16_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vint16m1_t __riscv_vloxei64_tu(vint16m1_t vd, const int16_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint16m2_t __riscv_vloxei64_tu(vint16m2_t vd, const int16_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei8_tu(vint32mf2_t vd, const int32_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint32m1_t __riscv_vloxei8_tu(vint32m1_t vd, const int32_t *rs1,
                              vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vloxei8_tu(vint32m2_t vd, const int32_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei8_tu(vint32m4_t vd, const int32_t *rs1, vuint8m1_t rs2,
                              size_t vl);
vint32m8_t __riscv_vloxei8_tu(vint32m8_t vd, const int32_t *rs1, vuint8m2_t rs2,
                              size_t vl);
vint32mf2_t __riscv_vloxei16_tu(vint32mf2_t vd, const int32_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vint32m1_t __riscv_vloxei16_tu(vint32m1_t vd, const int32_t *rs1,
                               vuint16mf2_t rs2, size_t vl);
vint32m2_t __riscv_vloxei16_tu(vint32m2_t vd, const int32_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint32m4_t __riscv_vloxei16_tu(vint32m4_t vd, const int32_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vint32m8_t __riscv_vloxei16_tu(vint32m8_t vd, const int32_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei32_tu(vint32mf2_t vd, const int32_t *rs1,
                                vuint32mf2_t rs2, size_t vl);
vint32m1_t __riscv_vloxei32_tu(vint32m1_t vd, const int32_t *rs1,
                               vuint32m1_t rs2, size_t vl);
vint32m2_t __riscv_vloxei32_tu(vint32m2_t vd, const int32_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei32_tu(vint32m4_t vd, const int32_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vloxei32_tu(vint32m8_t vd, const int32_t *rs1,
```

```
                                vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei64_tu(vint32mf2_t vd, const int32_t *rs1,
                                 vuint64m1_t rs2, size_t vl);
vint32m1_t __riscv_vloxei64_tu(vint32m1_t vd, const int32_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vint32m2_t __riscv_vloxei64_tu(vint32m2_t vd, const int32_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vint32m4_t __riscv_vloxei64_tu(vint32m4_t vd, const int32_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vloxei8_tu(vint64m1_t vd, const int64_t *rs1,
                              vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vloxei8_tu(vint64m2_t vd, const int64_t *rs1,
                              vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vloxei8_tu(vint64m4_t vd, const int64_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vloxei8_tu(vint64m8_t vd, const int64_t *rs1, vuint8m1_t rs2,
                              size_t vl);
vint64m1_t __riscv_vloxei16_tu(vint64m1_t vd, const int64_t *rs1,
                               vuint16mf4_t rs2, size_t vl);
vint64m2_t __riscv_vloxei16_tu(vint64m2_t vd, const int64_t *rs1,
                               vuint16mf2_t rs2, size_t vl);
vint64m4_t __riscv_vloxei16_tu(vint64m4_t vd, const int64_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint64m8_t __riscv_vloxei16_tu(vint64m8_t vd, const int64_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vloxei32_tu(vint64m1_t vd, const int64_t *rs1,
                               vuint32mf2_t rs2, size_t vl);
vint64m2_t __riscv_vloxei32_tu(vint64m2_t vd, const int64_t *rs1,
                               vuint32m1_t rs2, size_t vl);
vint64m4_t __riscv_vloxei32_tu(vint64m4_t vd, const int64_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint64m8_t __riscv_vloxei32_tu(vint64m8_t vd, const int64_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint64m1_t __riscv_vloxei64_tu(vint64m1_t vd, const int64_t *rs1,
                               vuint64m1_t rs2, size_t vl);
vint64m2_t __riscv_vloxei64_tu(vint64m2_t vd, const int64_t *rs1,
                               vuint64m2_t rs2, size_t vl);
vint64m4_t __riscv_vloxei64_tu(vint64m4_t vd, const int64_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint64m8_t __riscv_vloxei64_tu(vint64m8_t vd, const int64_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei8_tu(vint8mf8_t vd, const int8_t *rs1, vuint8mf8_t rs2,
                              size_t vl);
vint8mf4_t __riscv_vluxei8_tu(vint8mf4_t vd, const int8_t *rs1, vuint8mf4_t rs2,
                              size_t vl);
vint8mf2_t __riscv_vluxei8_tu(vint8mf2_t vd, const int8_t *rs1, vuint8mf2_t rs2,
                              size_t vl);
vint8m1_t __riscv_vluxei8_tu(vint8m1_t vd, const int8_t *rs1, vuint8m1_t rs2,
                             size_t vl);
vint8m2_t __riscv_vluxei8_tu(vint8m2_t vd, const int8_t *rs1, vuint8m2_t rs2,
                             size_t vl);
vint8m4_t __riscv_vluxei8_tu(vint8m4_t vd, const int8_t *rs1, vuint8m4_t rs2,
                             size_t vl);
vint8m8_t __riscv_vluxei8_tu(vint8m8_t vd, const int8_t *rs1, vuint8m8_t rs2,
                             size_t vl);
vint8mf8_t __riscv_vluxei16_tu(vint8mf8_t vd, const int8_t *rs1,
                               vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei16_tu(vint8mf4_t vd, const int8_t *rs1,
                               vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei16_tu(vint8mf2_t vd, const int8_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vluxei16_tu(vint8m1_t vd, const int8_t *rs1, vuint16m2_t rs2,
                              size_t vl);
vint8m2_t __riscv_vluxei16_tu(vint8m2_t vd, const int8_t *rs1, vuint16m4_t rs2,
                              size_t vl);
vint8m4_t __riscv_vluxei16_tu(vint8m4_t vd, const int8_t *rs1, vuint16m8_t rs2,
                              size_t vl);
```

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vint8mf8_t __riscv_vluxei32_tu(vint8mf8_t vd, const int8_t *rs1,
                               vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei32_tu(vint8mf4_t vd, const int8_t *rs1,
                               vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei32_tu(vint8mf2_t vd, const int8_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vluxei32_tu(vint8m1_t vd, const int8_t *rs1, vuint32m4_t rs2,
                              size_t vl);
vint8m2_t __riscv_vluxei32_tu(vint8m2_t vd, const int8_t *rs1, vuint32m8_t rs2,
                              size_t vl);
vint8mf8_t __riscv_vluxei64_tu(vint8mf8_t vd, const int8_t *rs1,
                               vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei64_tu(vint8mf4_t vd, const int8_t *rs1,
                               vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei64_tu(vint8mf2_t vd, const int8_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vluxei64_tu(vint8m1_t vd, const int8_t *rs1, vuint64m8_t rs2,
                              size_t vl);
vint16mf4_t __riscv_vluxei8_tu(vint16mf4_t vd, const int16_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei8_tu(vint16mf2_t vd, const int16_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vint16m1_t __riscv_vluxei8_tu(vint16m1_t vd, const int16_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vluxei8_tu(vint16m2_t vd, const int16_t *rs1, vuint8m1_t rs2,
                              size_t vl);
vint16m4_t __riscv_vluxei8_tu(vint16m4_t vd, const int16_t *rs1, vuint8m2_t rs2,
                              size_t vl);
vint16m8_t __riscv_vluxei8_tu(vint16m8_t vd, const int16_t *rs1, vuint8m4_t rs2,
                              size_t vl);
vint16mf4_t __riscv_vluxei16_tu(vint16mf4_t vd, const int16_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei16_tu(vint16mf2_t vd, const int16_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vint16m1_t __riscv_vluxei16_tu(vint16m1_t vd, const int16_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint16m2_t __riscv_vluxei16_tu(vint16m2_t vd, const int16_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vint16m4_t __riscv_vluxei16_tu(vint16m4_t vd, const int16_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vluxei16_tu(vint16m8_t vd, const int16_t *rs1,
                               vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei32_tu(vint16mf4_t vd, const int16_t *rs1,
                                vuint32mf2_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei32_tu(vint16mf2_t vd, const int16_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vint16m1_t __riscv_vluxei32_tu(vint16m1_t vd, const int16_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint16m2_t __riscv_vluxei32_tu(vint16m2_t vd, const int16_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vluxei32_tu(vint16m4_t vd, const int16_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei64_tu(vint16mf4_t vd, const int16_t *rs1,
                                vuint64m1_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei64_tu(vint16mf2_t vd, const int16_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vint16m1_t __riscv_vluxei64_tu(vint16m1_t vd, const int16_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint16m2_t __riscv_vluxei64_tu(vint16m2_t vd, const int16_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei8_tu(vint32mf2_t vd, const int32_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint32m1_t __riscv_vluxei8_tu(vint32m1_t vd, const int32_t *rs1,
                              vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vluxei8_tu(vint32m2_t vd, const int32_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vluxei8_tu(vint32m4_t vd, const int32_t *rs1, vuint8m1_t rs2,
```

```
                                size_t vl);
vint32m8_t __riscv_vluxei8_tu(vint32m8_t vd, const int32_t *rs1, vuint8m2_t rs2,
                                size_t vl);
vint32mf2_t __riscv_vluxei16_tu(vint32mf2_t vd, const int32_t *rs1,
                                 vuint16mf4_t rs2, size_t vl);
vint32m1_t __riscv_vluxei16_tu(vint32m1_t vd, const int32_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vint32m2_t __riscv_vluxei16_tu(vint32m2_t vd, const int32_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vint32m4_t __riscv_vluxei16_tu(vint32m4_t vd, const int32_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vint32m8_t __riscv_vluxei16_tu(vint32m8_t vd, const int32_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei32_tu(vint32mf2_t vd, const int32_t *rs1,
                                 vuint32mf2_t rs2, size_t vl);
vint32m1_t __riscv_vluxei32_tu(vint32m1_t vd, const int32_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vint32m2_t __riscv_vluxei32_tu(vint32m2_t vd, const int32_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vint32m4_t __riscv_vluxei32_tu(vint32m4_t vd, const int32_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vluxei32_tu(vint32m8_t vd, const int32_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei64_tu(vint32mf2_t vd, const int32_t *rs1,
                                 vuint64m1_t rs2, size_t vl);
vint32m1_t __riscv_vluxei64_tu(vint32m1_t vd, const int32_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vint32m2_t __riscv_vluxei64_tu(vint32m2_t vd, const int32_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vint32m4_t __riscv_vluxei64_tu(vint32m4_t vd, const int32_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vluxei8_tu(vint64m1_t vd, const int64_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vluxei8_tu(vint64m2_t vd, const int64_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vluxei8_tu(vint64m4_t vd, const int64_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vluxei8_tu(vint64m8_t vd, const int64_t *rs1, vuint8m1_t rs2,
                               size_t vl);
vint64m1_t __riscv_vluxei16_tu(vint64m1_t vd, const int64_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vint64m2_t __riscv_vluxei16_tu(vint64m2_t vd, const int64_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vint64m4_t __riscv_vluxei16_tu(vint64m4_t vd, const int64_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vint64m8_t __riscv_vluxei16_tu(vint64m8_t vd, const int64_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vluxei32_tu(vint64m1_t vd, const int64_t *rs1,
                                vuint32mf2_t rs2, size_t vl);
vint64m2_t __riscv_vluxei32_tu(vint64m2_t vd, const int64_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vint64m4_t __riscv_vluxei32_tu(vint64m4_t vd, const int64_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vint64m8_t __riscv_vluxei32_tu(vint64m8_t vd, const int64_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vint64m1_t __riscv_vluxei64_tu(vint64m1_t vd, const int64_t *rs1,
                                vuint64m1_t rs2, size_t vl);
vint64m2_t __riscv_vluxei64_tu(vint64m2_t vd, const int64_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vint64m4_t __riscv_vluxei64_tu(vint64m4_t vd, const int64_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vint64m8_t __riscv_vluxei64_tu(vint64m8_t vd, const int64_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei8_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei8_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                vuint8mf4_t rs2, size_t vl);
```

```
vuint8mf2_t __riscv_vloxei8_tu(vuint8mf2_t vd, const uint8_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei8_tu(vuint8m1_t vd, const uint8_t *rs1, vuint8m1_t rs2,
                              size_t vl);
vuint8m2_t __riscv_vloxei8_tu(vuint8m2_t vd, const uint8_t *rs1, vuint8m2_t rs2,
                              size_t vl);
vuint8m4_t __riscv_vloxei8_tu(vuint8m4_t vd, const uint8_t *rs1, vuint8m4_t rs2,
                              size_t vl);
vuint8m8_t __riscv_vloxei8_tu(vuint8m8_t vd, const uint8_t *rs1, vuint8m8_t rs2,
                              size_t vl);
vuint8mf8_t __riscv_vloxei16_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei16_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei16_tu(vuint8mf2_t vd, const uint8_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei16_tu(vuint8m1_t vd, const uint8_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei16_tu(vuint8m2_t vd, const uint8_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vloxei16_tu(vuint8m4_t vd, const uint8_t *rs1,
                               vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei32_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                vuint32mf2_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei32_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei32_tu(vuint8mf2_t vd, const uint8_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei32_tu(vuint8m1_t vd, const uint8_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei32_tu(vuint8m2_t vd, const uint8_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei64_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                vuint64m1_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei64_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei64_tu(vuint8mf2_t vd, const uint8_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei64_tu(vuint8m1_t vd, const uint8_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei8_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                vuint8mf8_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei8_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                vuint8mf4_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei8_tu(vuint16m1_t vd, const uint16_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei8_tu(vuint16m2_t vd, const uint16_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint16m4_t __riscv_vloxei8_tu(vuint16m4_t vd, const uint16_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vloxei8_tu(vuint16m8_t vd, const uint16_t *rs1,
                               vuint8m4_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei16_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                 vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei16_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                 vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei16_tu(vuint16m1_t vd, const uint16_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei16_tu(vuint16m2_t vd, const uint16_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vuint16m4_t __riscv_vloxei16_tu(vuint16m4_t vd, const uint16_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vuint16m8_t __riscv_vloxei16_tu(vuint16m8_t vd, const uint16_t *rs1,
                                vuint16m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei32_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                 vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei32_tu(vuint16mf2_t vd, const uint16_t *rs1,
```

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                                vuint32m1_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei32_tu(vuint16m1_t vd, const uint16_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei32_tu(vuint16m2_t vd, const uint16_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vuint16m4_t __riscv_vloxei32_tu(vuint16m4_t vd, const uint16_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei64_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                 vuint64m1_t rs2, size_t vl);
vuint16mf2_t __riscv_vloxei64_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                 vuint64m2_t rs2, size_t vl);
vuint16m1_t __riscv_vloxei64_tu(vuint16m1_t vd, const uint16_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei64_tu(vuint16m2_t vd, const uint16_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei8_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                vuint8mf8_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei8_tu(vuint32m1_t vd, const uint32_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei8_tu(vuint32m2_t vd, const uint32_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei8_tu(vuint32m4_t vd, const uint32_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint32m8_t __riscv_vloxei8_tu(vuint32m8_t vd, const uint32_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei16_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                 vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei16_tu(vuint32m1_t vd, const uint32_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei16_tu(vuint32m2_t vd, const uint32_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei16_tu(vuint32m4_t vd, const uint32_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vuint32m8_t __riscv_vloxei16_tu(vuint32m8_t vd, const uint32_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei32_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                 vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei32_tu(vuint32m1_t vd, const uint32_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei32_tu(vuint32m2_t vd, const uint32_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei32_tu(vuint32m4_t vd, const uint32_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vuint32m8_t __riscv_vloxei32_tu(vuint32m8_t vd, const uint32_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei64_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                 vuint64m1_t rs2, size_t vl);
vuint32m1_t __riscv_vloxei64_tu(vuint32m1_t vd, const uint32_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei64_tu(vuint32m2_t vd, const uint32_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei64_tu(vuint32m4_t vd, const uint32_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei8_tu(vuint64m1_t vd, const uint64_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei8_tu(vuint64m2_t vd, const uint64_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei8_tu(vuint64m4_t vd, const uint64_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vuint64m8_t __riscv_vloxei8_tu(vuint64m8_t vd, const uint64_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei16_tu(vuint64m1_t vd, const uint64_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei16_tu(vuint64m2_t vd, const uint64_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei16_tu(vuint64m4_t vd, const uint64_t *rs1,
                                vuint16m1_t rs2, size_t vl);
```

```
vuint64m8_t __riscv_vloxei16_tu(vuint64m8_t vd, const uint64_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei32_tu(vuint64m1_t vd, const uint64_t *rs1,
                                vuint32mf2_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei32_tu(vuint64m2_t vd, const uint64_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei32_tu(vuint64m4_t vd, const uint64_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vuint64m8_t __riscv_vloxei32_tu(vuint64m8_t vd, const uint64_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei64_tu(vuint64m1_t vd, const uint64_t *rs1,
                                vuint64m1_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei64_tu(vuint64m2_t vd, const uint64_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei64_tu(vuint64m4_t vd, const uint64_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vuint64m8_t __riscv_vloxei64_tu(vuint64m8_t vd, const uint64_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei8_tu(vuint8mf8_t vd, const uint8_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei8_tu(vuint8mf4_t vd, const uint8_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei8_tu(vuint8mf2_t vd, const uint8_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei8_tu(vuint8m1_t vd, const uint8_t *rs1, vuint8m1_t rs2,
                              size_t vl);
vuint8m2_t __riscv_vluxei8_tu(vuint8m2_t vd, const uint8_t *rs1, vuint8m2_t rs2,
                              size_t vl);
vuint8m4_t __riscv_vluxei8_tu(vuint8m4_t vd, const uint8_t *rs1, vuint8m4_t rs2,
                              size_t vl);
vuint8m8_t __riscv_vluxei8_tu(vuint8m8_t vd, const uint8_t *rs1, vuint8m8_t rs2,
                              size_t vl);
vuint8mf8_t __riscv_vluxei16_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei16_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei16_tu(vuint8mf2_t vd, const uint8_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei16_tu(vuint8m1_t vd, const uint8_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei16_tu(vuint8m2_t vd, const uint8_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vluxei16_tu(vuint8m4_t vd, const uint8_t *rs1,
                               vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei32_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                vuint32mf2_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei32_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei32_tu(vuint8mf2_t vd, const uint8_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei32_tu(vuint8m1_t vd, const uint8_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei32_tu(vuint8m2_t vd, const uint8_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei64_tu(vuint8mf8_t vd, const uint8_t *rs1,
                                vuint64m1_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei64_tu(vuint8mf4_t vd, const uint8_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei64_tu(vuint8mf2_t vd, const uint8_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei64_tu(vuint8m1_t vd, const uint8_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei8_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                vuint8mf8_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei8_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                vuint8mf4_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei8_tu(vuint16m1_t vd, const uint16_t *rs1,
```

```
                                vuint8mf2_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei8_tu(vuint16m2_t vd, const uint16_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei8_tu(vuint16m4_t vd, const uint16_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vluxei8_tu(vuint16m8_t vd, const uint16_t *rs1,
                               vuint8m4_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei16_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                 vuint16mf4_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei16_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                 vuint16mf2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei16_tu(vuint16m1_t vd, const uint16_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei16_tu(vuint16m2_t vd, const uint16_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei16_tu(vuint16m4_t vd, const uint16_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vuint16m8_t __riscv_vluxei16_tu(vuint16m8_t vd, const uint16_t *rs1,
                                vuint16m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei32_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                 vuint32mf2_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei32_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                 vuint32m1_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei32_tu(vuint16m1_t vd, const uint16_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei32_tu(vuint16m2_t vd, const uint16_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei32_tu(vuint16m4_t vd, const uint16_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei64_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                 vuint64m1_t rs2, size_t vl);
vuint16mf2_t __riscv_vluxei64_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                 vuint64m2_t rs2, size_t vl);
vuint16m1_t __riscv_vluxei64_tu(vuint16m1_t vd, const uint16_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei64_tu(vuint16m2_t vd, const uint16_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei8_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                vuint8mf8_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei8_tu(vuint32m1_t vd, const uint32_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei8_tu(vuint32m2_t vd, const uint32_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei8_tu(vuint32m4_t vd, const uint32_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei8_tu(vuint32m8_t vd, const uint32_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei16_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                 vuint16mf4_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei16_tu(vuint32m1_t vd, const uint32_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei16_tu(vuint32m2_t vd, const uint32_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei16_tu(vuint32m4_t vd, const uint32_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei16_tu(vuint32m8_t vd, const uint32_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei32_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                 vuint32mf2_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei32_tu(vuint32m1_t vd, const uint32_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei32_tu(vuint32m2_t vd, const uint32_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei32_tu(vuint32m4_t vd, const uint32_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei32_tu(vuint32m8_t vd, const uint32_t *rs1,
                                vuint32m8_t rs2, size_t vl);
```

```
vuint32mf2_t __riscv_vluxei64_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                 vuint64m1_t rs2, size_t vl);
vuint32m1_t __riscv_vluxei64_tu(vuint32m1_t vd, const uint32_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei64_tu(vuint32m2_t vd, const uint32_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei64_tu(vuint32m4_t vd, const uint32_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei8_tu(vuint64m1_t vd, const uint64_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei8_tu(vuint64m2_t vd, const uint64_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei8_tu(vuint64m4_t vd, const uint64_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei8_tu(vuint64m8_t vd, const uint64_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei16_tu(vuint64m1_t vd, const uint64_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei16_tu(vuint64m2_t vd, const uint64_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei16_tu(vuint64m4_t vd, const uint64_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei16_tu(vuint64m8_t vd, const uint64_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei32_tu(vuint64m1_t vd, const uint64_t *rs1,
                                vuint32mf2_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei32_tu(vuint64m2_t vd, const uint64_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei32_tu(vuint64m4_t vd, const uint64_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei32_tu(vuint64m8_t vd, const uint64_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei64_tu(vuint64m1_t vd, const uint64_t *rs1,
                                vuint64m1_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei64_tu(vuint64m2_t vd, const uint64_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei64_tu(vuint64m4_t vd, const uint64_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei64_tu(vuint64m8_t vd, const uint64_t *rs1,
                                vuint64m8_t rs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vloxei8_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vloxei8_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vloxei8_tum(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vloxei8_tum(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint8m1_t rs2,
                                 size_t vl);
vfloat16m4_t __riscv_vloxei8_tum(vbool4_t vm, vfloat16m4_t vd,
                                 const _Float16 *rs1, vuint8m2_t rs2,
                                 size_t vl);
vfloat16m8_t __riscv_vloxei8_tum(vbool2_t vm, vfloat16m8_t vd,
                                 const _Float16 *rs1, vuint8m4_t rs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vloxei16_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   const _Float16 *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vfloat16mf2_t __riscv_vloxei16_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   const _Float16 *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vfloat16m1_t __riscv_vloxei16_tum(vbool16_t vm, vfloat16m1_t vd,
                                  const _Float16 *rs1, vuint16m1_t rs2,
```

```
                                  size_t vl);
vfloat16m2_t __riscv_vloxei16_tum(vbool8_t vm, vfloat16m2_t vd,
                                  const _Float16 *rs1, vuint16m2_t rs2,
                                  size_t vl);
vfloat16m4_t __riscv_vloxei16_tum(vbool4_t vm, vfloat16m4_t vd,
                                  const _Float16 *rs1, vuint16m4_t rs2,
                                  size_t vl);
vfloat16m8_t __riscv_vloxei16_tum(vbool2_t vm, vfloat16m8_t vd,
                                  const _Float16 *rs1, vuint16m8_t rs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vloxei32_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   const _Float16 *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vfloat16mf2_t __riscv_vloxei32_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   const _Float16 *rs1, vuint32m1_t rs2,
                                   size_t vl);
vfloat16m1_t __riscv_vloxei32_tum(vbool16_t vm, vfloat16m1_t vd,
                                  const _Float16 *rs1, vuint32m2_t rs2,
                                  size_t vl);
vfloat16m2_t __riscv_vloxei32_tum(vbool8_t vm, vfloat16m2_t vd,
                                  const _Float16 *rs1, vuint32m4_t rs2,
                                  size_t vl);
vfloat16m4_t __riscv_vloxei32_tum(vbool4_t vm, vfloat16m4_t vd,
                                  const _Float16 *rs1, vuint32m8_t rs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vloxei64_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   const _Float16 *rs1, vuint64m1_t rs2,
                                   size_t vl);
vfloat16mf2_t __riscv_vloxei64_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   const _Float16 *rs1, vuint64m2_t rs2,
                                   size_t vl);
vfloat16m1_t __riscv_vloxei64_tum(vbool16_t vm, vfloat16m1_t vd,
                                  const _Float16 *rs1, vuint64m4_t rs2,
                                  size_t vl);
vfloat16m2_t __riscv_vloxei64_tum(vbool8_t vm, vfloat16m2_t vd,
                                  const _Float16 *rs1, vuint64m8_t rs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vloxei8_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  const float *rs1, vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei8_tum(vbool32_t vm, vfloat32m1_t vd,
                                 const float *rs1, vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei8_tum(vbool16_t vm, vfloat32m2_t vd,
                                 const float *rs1, vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei8_tum(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                 vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei8_tum(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                 vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei16_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   const float *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vfloat32m1_t __riscv_vloxei16_tum(vbool32_t vm, vfloat32m1_t vd,
                                  const float *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vfloat32m2_t __riscv_vloxei16_tum(vbool16_t vm, vfloat32m2_t vd,
                                  const float *rs1, vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei16_tum(vbool8_t vm, vfloat32m4_t vd,
                                  const float *rs1, vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei16_tum(vbool4_t vm, vfloat32m8_t vd,
                                  const float *rs1, vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei32_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   const float *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vfloat32m1_t __riscv_vloxei32_tum(vbool32_t vm, vfloat32m1_t vd,
                                  const float *rs1, vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei32_tum(vbool16_t vm, vfloat32m2_t vd,
                                  const float *rs1, vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei32_tum(vbool8_t vm, vfloat32m4_t vd,
```

```
                                  const float *rs1, vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei32_tum(vbool4_t vm, vfloat32m8_t vd,
                                  const float *rs1, vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei64_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   const float *rs1, vuint64m1_t rs2,
                                   size_t vl);
vfloat32m1_t __riscv_vloxei64_tum(vbool32_t vm, vfloat32m1_t vd,
                                  const float *rs1, vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei64_tum(vbool16_t vm, vfloat32m2_t vd,
                                  const float *rs1, vuint64m4_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei64_tum(vbool8_t vm, vfloat32m4_t vd,
                                  const float *rs1, vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei8_tum(vbool64_t vm, vfloat64m1_t vd,
                                 const double *rs1, vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei8_tum(vbool32_t vm, vfloat64m2_t vd,
                                 const double *rs1, vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei8_tum(vbool16_t vm, vfloat64m4_t vd,
                                 const double *rs1, vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei8_tum(vbool8_t vm, vfloat64m8_t vd,
                                 const double *rs1, vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei16_tum(vbool64_t vm, vfloat64m1_t vd,
                                  const double *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vfloat64m2_t __riscv_vloxei16_tum(vbool32_t vm, vfloat64m2_t vd,
                                  const double *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vfloat64m4_t __riscv_vloxei16_tum(vbool16_t vm, vfloat64m4_t vd,
                                  const double *rs1, vuint16m1_t rs2,
                                  size_t vl);
vfloat64m8_t __riscv_vloxei16_tum(vbool8_t vm, vfloat64m8_t vd,
                                  const double *rs1, vuint16m2_t rs2,
                                  size_t vl);
vfloat64m1_t __riscv_vloxei32_tum(vbool64_t vm, vfloat64m1_t vd,
                                  const double *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vfloat64m2_t __riscv_vloxei32_tum(vbool32_t vm, vfloat64m2_t vd,
                                  const double *rs1, vuint32m1_t rs2,
                                  size_t vl);
vfloat64m4_t __riscv_vloxei32_tum(vbool16_t vm, vfloat64m4_t vd,
                                  const double *rs1, vuint32m2_t rs2,
                                  size_t vl);
vfloat64m8_t __riscv_vloxei32_tum(vbool8_t vm, vfloat64m8_t vd,
                                  const double *rs1, vuint32m4_t rs2,
                                  size_t vl);
vfloat64m1_t __riscv_vloxei64_tum(vbool64_t vm, vfloat64m1_t vd,
                                  const double *rs1, vuint64m1_t rs2,
                                  size_t vl);
vfloat64m2_t __riscv_vloxei64_tum(vbool32_t vm, vfloat64m2_t vd,
                                  const double *rs1, vuint64m2_t rs2,
                                  size_t vl);
vfloat64m4_t __riscv_vloxei64_tum(vbool16_t vm, vfloat64m4_t vd,
                                  const double *rs1, vuint64m4_t rs2,
                                  size_t vl);
vfloat64m8_t __riscv_vloxei64_tum(vbool8_t vm, vfloat64m8_t vd,
                                  const double *rs1, vuint64m8_t rs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vluxei8_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vluxei8_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vluxei8_tum(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vluxei8_tum(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint8m1_t rs2,
```

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                                size_t vl);
vfloat16m4_t __riscv_vluxei8_tum(vbool4_t vm, vfloat16m4_t vd,
                                const _Float16 *rs1, vuint8m2_t rs2,
                                size_t vl);
vfloat16m8_t __riscv_vluxei8_tum(vbool2_t vm, vfloat16m8_t vd,
                                const _Float16 *rs1, vuint8m4_t rs2,
                                size_t vl);
vfloat16mf4_t __riscv_vluxei16_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vluxei16_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vluxei16_tum(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint16m1_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vluxei16_tum(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint16m2_t rs2,
                                 size_t vl);
vfloat16m4_t __riscv_vluxei16_tum(vbool4_t vm, vfloat16m4_t vd,
                                 const _Float16 *rs1, vuint16m4_t rs2,
                                 size_t vl);
vfloat16m8_t __riscv_vluxei16_tum(vbool2_t vm, vfloat16m8_t vd,
                                 const _Float16 *rs1, vuint16m8_t rs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vluxei32_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vluxei32_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint32m1_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vluxei32_tum(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint32m2_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vluxei32_tum(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint32m4_t rs2,
                                 size_t vl);
vfloat16m4_t __riscv_vluxei32_tum(vbool4_t vm, vfloat16m4_t vd,
                                 const _Float16 *rs1, vuint32m8_t rs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vluxei64_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint64m1_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vluxei64_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint64m2_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vluxei64_tum(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint64m4_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vluxei64_tum(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint64m8_t rs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vluxei8_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 const float *rs1, vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei8_tum(vbool32_t vm, vfloat32m1_t vd,
                                const float *rs1, vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei8_tum(vbool16_t vm, vfloat32m2_t vd,
                                const float *rs1, vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei8_tum(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei8_tum(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei16_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  const float *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vfloat32m1_t __riscv_vluxei16_tum(vbool32_t vm, vfloat32m1_t vd,
                                 const float *rs1, vuint16mf2_t rs2,
```

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                                  size_t vl);
vfloat32m2_t __riscv_vluxei16_tum(vbool16_t vm, vfloat32m2_t vd,
                                  const float *rs1, vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei16_tum(vbool8_t vm, vfloat32m4_t vd,
                                  const float *rs1, vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei16_tum(vbool4_t vm, vfloat32m8_t vd,
                                  const float *rs1, vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei32_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   const float *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vfloat32m1_t __riscv_vluxei32_tum(vbool32_t vm, vfloat32m1_t vd,
                                  const float *rs1, vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei32_tum(vbool16_t vm, vfloat32m2_t vd,
                                  const float *rs1, vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei32_tum(vbool8_t vm, vfloat32m4_t vd,
                                  const float *rs1, vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei32_tum(vbool4_t vm, vfloat32m8_t vd,
                                  const float *rs1, vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei64_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   const float *rs1, vuint64m1_t rs2,
                                   size_t vl);
vfloat32m1_t __riscv_vluxei64_tum(vbool32_t vm, vfloat32m1_t vd,
                                  const float *rs1, vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei64_tum(vbool16_t vm, vfloat32m2_t vd,
                                  const float *rs1, vuint64m4_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei64_tum(vbool8_t vm, vfloat32m4_t vd,
                                  const float *rs1, vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei8_tum(vbool64_t vm, vfloat64m1_t vd,
                                 const double *rs1, vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei8_tum(vbool32_t vm, vfloat64m2_t vd,
                                 const double *rs1, vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei8_tum(vbool16_t vm, vfloat64m4_t vd,
                                 const double *rs1, vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei8_tum(vbool8_t vm, vfloat64m8_t vd,
                                 const double *rs1, vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei16_tum(vbool64_t vm, vfloat64m1_t vd,
                                  const double *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vfloat64m2_t __riscv_vluxei16_tum(vbool32_t vm, vfloat64m2_t vd,
                                  const double *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vfloat64m4_t __riscv_vluxei16_tum(vbool16_t vm, vfloat64m4_t vd,
                                  const double *rs1, vuint16m1_t rs2,
                                  size_t vl);
vfloat64m8_t __riscv_vluxei16_tum(vbool8_t vm, vfloat64m8_t vd,
                                  const double *rs1, vuint16m2_t rs2,
                                  size_t vl);
vfloat64m1_t __riscv_vluxei32_tum(vbool64_t vm, vfloat64m1_t vd,
                                  const double *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vfloat64m2_t __riscv_vluxei32_tum(vbool32_t vm, vfloat64m2_t vd,
                                  const double *rs1, vuint32m1_t rs2,
                                  size_t vl);
vfloat64m4_t __riscv_vluxei32_tum(vbool16_t vm, vfloat64m4_t vd,
                                  const double *rs1, vuint32m2_t rs2,
                                  size_t vl);
vfloat64m8_t __riscv_vluxei32_tum(vbool8_t vm, vfloat64m8_t vd,
                                  const double *rs1, vuint32m4_t rs2,
                                  size_t vl);
vfloat64m1_t __riscv_vluxei64_tum(vbool64_t vm, vfloat64m1_t vd,
                                  const double *rs1, vuint64m1_t rs2,
                                  size_t vl);
vfloat64m2_t __riscv_vluxei64_tum(vbool32_t vm, vfloat64m2_t vd,
                                  const double *rs1, vuint64m2_t rs2,
                                  size_t vl);
vfloat64m4_t __riscv_vluxei64_tum(vbool16_t vm, vfloat64m4_t vd,
                                  const double *rs1, vuint64m4_t rs2,
```

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                                  size_t vl);
vfloat64m8_t __riscv_vluxei64_tum(vbool8_t vm, vfloat64m8_t vd,
                                  const double *rs1, vuint64m8_t rs2,
                                  size_t vl);
vint8mf8_t __riscv_vloxei8_tum(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei8_tum(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei8_tum(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei8_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                              vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vloxei8_tum(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                              vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vloxei8_tum(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                              vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vloxei8_tum(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                              vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei16_tum(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei16_tum(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei16_tum(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vloxei16_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vint8m2_t __riscv_vloxei16_tum(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vint8m4_t __riscv_vloxei16_tum(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                               vuint16m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei32_tum(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei32_tum(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei32_tum(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei32_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint8m2_t __riscv_vloxei32_tum(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei64_tum(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei64_tum(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei64_tum(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vloxei64_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei8_tum(vbool64_t vm, vint16mf4_t vd,
                                const int16_t *rs1, vuint8mf8_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei8_tum(vbool32_t vm, vint16mf2_t vd,
                                const int16_t *rs1, vuint8mf4_t rs2, size_t vl);
vint16m1_t __riscv_vloxei8_tum(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei8_tum(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vint16m4_t __riscv_vloxei8_tum(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vint16m8_t __riscv_vloxei8_tum(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                               vuint8m4_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei16_tum(vbool64_t vm, vint16mf4_t vd,
                                 const int16_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vint16mf2_t __riscv_vloxei16_tum(vbool32_t vm, vint16mf2_t vd,
                                 const int16_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vint16m1_t __riscv_vloxei16_tum(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
```

```
                                vuint16m1_t rs2, size_t vl);
vint16m2_t __riscv_vloxei16_tum(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vint16m4_t __riscv_vloxei16_tum(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vloxei16_tum(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                                vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei32_tum(vbool64_t vm, vint16mf4_t vd,
                                 const int16_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vint16mf2_t __riscv_vloxei32_tum(vbool32_t vm, vint16mf2_t vd,
                                 const int16_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vint16m1_t __riscv_vloxei32_tum(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei32_tum(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vloxei32_tum(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei64_tum(vbool64_t vm, vint16mf4_t vd,
                                 const int16_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vint16mf2_t __riscv_vloxei64_tum(vbool32_t vm, vint16mf2_t vd,
                                 const int16_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vint16m1_t __riscv_vloxei64_tum(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vint16m2_t __riscv_vloxei64_tum(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei8_tum(vbool64_t vm, vint32mf2_t vd,
                                const int32_t *rs1, vuint8mf8_t rs2, size_t vl);
vint32m1_t __riscv_vloxei8_tum(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vloxei8_tum(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei8_tum(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vint32m8_t __riscv_vloxei8_tum(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei16_tum(vbool64_t vm, vint32mf2_t vd,
                                 const int32_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vint32m1_t __riscv_vloxei16_tum(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vint32m2_t __riscv_vloxei16_tum(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vint32m4_t __riscv_vloxei16_tum(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vint32m8_t __riscv_vloxei16_tum(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei32_tum(vbool64_t vm, vint32mf2_t vd,
                                 const int32_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vint32m1_t __riscv_vloxei32_tum(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vint32m2_t __riscv_vloxei32_tum(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei32_tum(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vloxei32_tum(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei64_tum(vbool64_t vm, vint32mf2_t vd,
                                 const int32_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vint32m1_t __riscv_vloxei64_tum(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vint32m2_t __riscv_vloxei64_tum(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
```

```
                                vuint64m4_t rs2, size_t vl);
vint32m4_t __riscv_vloxei64_tum(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vloxei8_tum(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vloxei8_tum(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vloxei8_tum(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vloxei8_tum(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vint64m1_t __riscv_vloxei16_tum(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vint64m2_t __riscv_vloxei16_tum(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vint64m4_t __riscv_vloxei16_tum(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vint64m8_t __riscv_vloxei16_tum(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vloxei32_tum(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                                vuint32mf2_t rs2, size_t vl);
vint64m2_t __riscv_vloxei32_tum(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vint64m4_t __riscv_vloxei32_tum(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vint64m8_t __riscv_vloxei32_tum(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vint64m1_t __riscv_vloxei64_tum(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                                vuint64m1_t rs2, size_t vl);
vint64m2_t __riscv_vloxei64_tum(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vint64m4_t __riscv_vloxei64_tum(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vint64m8_t __riscv_vloxei64_tum(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei8_tum(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei8_tum(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei8_tum(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vluxei8_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                              vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vluxei8_tum(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                              vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vluxei8_tum(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                              vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vluxei8_tum(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                              vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei16_tum(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei16_tum(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei16_tum(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vluxei16_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vint8m2_t __riscv_vluxei16_tum(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vint8m4_t __riscv_vluxei16_tum(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                               vuint16m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei32_tum(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei32_tum(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei32_tum(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                vuint32m2_t rs2, size_t vl);
```

```
vint8m1_t __riscv_vluxei32_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint8m2_t __riscv_vluxei32_tum(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei64_tum(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei64_tum(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei64_tum(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vluxei64_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei8_tum(vbool64_t vm, vint16mf4_t vd,
                                const int16_t *rs1, vuint8mf8_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei8_tum(vbool32_t vm, vint16mf2_t vd,
                                const int16_t *rs1, vuint8mf4_t rs2, size_t vl);
vint16m1_t __riscv_vluxei8_tum(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vluxei8_tum(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vint16m4_t __riscv_vluxei8_tum(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vint16m8_t __riscv_vluxei8_tum(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                               vuint8m4_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei16_tum(vbool64_t vm, vint16mf4_t vd,
                                 const int16_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vint16mf2_t __riscv_vluxei16_tum(vbool32_t vm, vint16mf2_t vd,
                                 const int16_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vint16m1_t __riscv_vluxei16_tum(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vint16m2_t __riscv_vluxei16_tum(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vint16m4_t __riscv_vluxei16_tum(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vluxei16_tum(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                                vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei32_tum(vbool64_t vm, vint16mf4_t vd,
                                 const int16_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vint16mf2_t __riscv_vluxei32_tum(vbool32_t vm, vint16mf2_t vd,
                                 const int16_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vint16m1_t __riscv_vluxei32_tum(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vint16m2_t __riscv_vluxei32_tum(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vluxei32_tum(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei64_tum(vbool64_t vm, vint16mf4_t vd,
                                 const int16_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vint16mf2_t __riscv_vluxei64_tum(vbool32_t vm, vint16mf2_t vd,
                                 const int16_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vint16m1_t __riscv_vluxei64_tum(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vint16m2_t __riscv_vluxei64_tum(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei8_tum(vbool64_t vm, vint32mf2_t vd,
                                const int32_t *rs1, vuint8mf8_t rs2, size_t vl);
vint32m1_t __riscv_vluxei8_tum(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vluxei8_tum(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vluxei8_tum(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
```

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                                vuint8m1_t rs2, size_t vl);
vint32m8_t __riscv_vluxei8_tum(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei16_tum(vbool64_t vm, vint32mf2_t vd,
                                 const int32_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vint32m1_t __riscv_vluxei16_tum(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vint32m2_t __riscv_vluxei16_tum(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vint32m4_t __riscv_vluxei16_tum(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vint32m8_t __riscv_vluxei16_tum(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei32_tum(vbool64_t vm, vint32mf2_t vd,
                                 const int32_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vint32m1_t __riscv_vluxei32_tum(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                                vuint32m1_t rs2, size_t vl);
vint32m2_t __riscv_vluxei32_tum(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vint32m4_t __riscv_vluxei32_tum(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vluxei32_tum(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei64_tum(vbool64_t vm, vint32mf2_t vd,
                                 const int32_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vint32m1_t __riscv_vluxei64_tum(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vint32m2_t __riscv_vluxei64_tum(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vint32m4_t __riscv_vluxei64_tum(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vluxei8_tum(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vluxei8_tum(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
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                               vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vluxei8_tum(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vint64m1_t __riscv_vluxei16_tum(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                                vuint16mf4_t rs2, size_t vl);
vint64m2_t __riscv_vluxei16_tum(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                                vuint16mf2_t rs2, size_t vl);
vint64m4_t __riscv_vluxei16_tum(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                                vuint16m1_t rs2, size_t vl);
vint64m8_t __riscv_vluxei16_tum(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                vuint16m2_t rs2, size_t vl);
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                                vuint32mf2_t rs2, size_t vl);
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                                vuint32m1_t rs2, size_t vl);
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                                vuint32m2_t rs2, size_t vl);
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                                vuint32m4_t rs2, size_t vl);
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                                vuint64m1_t rs2, size_t vl);
vint64m2_t __riscv_vluxei64_tum(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                                vuint64m2_t rs2, size_t vl);
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                                vuint64m4_t rs2, size_t vl);
vint64m8_t __riscv_vluxei64_tum(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei8_tum(vbool64_t vm, vuint8mf8_t vd,
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                                const uint8_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei8_tum(vbool32_t vm, vuint8mf4_t vd,
                                const uint8_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei8_tum(vbool16_t vm, vuint8mf2_t vd,
                                const uint8_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei8_tum(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei8_tum(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vuint8m4_t __riscv_vloxei8_tum(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                               vuint8m4_t rs2, size_t vl);
vuint8m8_t __riscv_vloxei8_tum(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                               vuint8m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei16_tum(vbool64_t vm, vuint8mf8_t vd,
                                 const uint8_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vuint8mf4_t __riscv_vloxei16_tum(vbool32_t vm, vuint8mf4_t vd,
                                 const uint8_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vuint8mf2_t __riscv_vloxei16_tum(vbool16_t vm, vuint8mf2_t vd,
                                 const uint8_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
vuint8m1_t __riscv_vloxei16_tum(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei16_tum(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vloxei16_tum(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                                vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei32_tum(vbool64_t vm, vuint8mf8_t vd,
                                 const uint8_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vuint8mf4_t __riscv_vloxei32_tum(vbool32_t vm, vuint8mf4_t vd,
                                 const uint8_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vuint8mf2_t __riscv_vloxei32_tum(vbool16_t vm, vuint8mf2_t vd,
                                 const uint8_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
vuint8m1_t __riscv_vloxei32_tum(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei32_tum(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei64_tum(vbool64_t vm, vuint8mf8_t vd,
                                 const uint8_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vuint8mf4_t __riscv_vloxei64_tum(vbool32_t vm, vuint8mf4_t vd,
                                 const uint8_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vuint8mf2_t __riscv_vloxei64_tum(vbool16_t vm, vuint8mf2_t vd,
                                 const uint8_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
vuint8m1_t __riscv_vloxei64_tum(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei8_tum(vbool64_t vm, vuint16mf4_t vd,
                                 const uint16_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vuint16mf2_t __riscv_vloxei8_tum(vbool32_t vm, vuint16mf2_t vd,
                                 const uint16_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vuint16m1_t __riscv_vloxei8_tum(vbool16_t vm, vuint16m1_t vd,
                                const uint16_t *rs1, vuint8mf2_t rs2,
                                size_t vl);
vuint16m2_t __riscv_vloxei8_tum(vbool8_t vm, vuint16m2_t vd,
                                const uint16_t *rs1, vuint8m1_t rs2, size_t vl);
vuint16m4_t __riscv_vloxei8_tum(vbool4_t vm, vuint16m4_t vd,
                                const uint16_t *rs1, vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vloxei8_tum(vbool2_t vm, vuint16m8_t vd,
                                const uint16_t *rs1, vuint8m4_t rs2, size_t vl);
```

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vuint16mf4_t __riscv_vloxei16_tum(vbool64_t vm, vuint16mf4_t vd,
                                  const uint16_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vuint16mf2_t __riscv_vloxei16_tum(vbool32_t vm, vuint16mf2_t vd,
                                  const uint16_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vuint16m1_t __riscv_vloxei16_tum(vbool16_t vm, vuint16m1_t vd,
                                 const uint16_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
vuint16m2_t __riscv_vloxei16_tum(vbool8_t vm, vuint16m2_t vd,
                                 const uint16_t *rs1, vuint16m2_t rs2,
                                 size_t vl);
vuint16m4_t __riscv_vloxei16_tum(vbool4_t vm, vuint16m4_t vd,
                                 const uint16_t *rs1, vuint16m4_t rs2,
                                 size_t vl);
vuint16m8_t __riscv_vloxei16_tum(vbool2_t vm, vuint16m8_t vd,
                                 const uint16_t *rs1, vuint16m8_t rs2,
                                 size_t vl);
vuint16mf4_t __riscv_vloxei32_tum(vbool64_t vm, vuint16mf4_t vd,
                                  const uint16_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vuint16mf2_t __riscv_vloxei32_tum(vbool32_t vm, vuint16mf2_t vd,
                                  const uint16_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vuint16m1_t __riscv_vloxei32_tum(vbool16_t vm, vuint16m1_t vd,
                                 const uint16_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
vuint16m2_t __riscv_vloxei32_tum(vbool8_t vm, vuint16m2_t vd,
                                 const uint16_t *rs1, vuint32m4_t rs2,
                                 size_t vl);
vuint16m4_t __riscv_vloxei32_tum(vbool4_t vm, vuint16m4_t vd,
                                 const uint16_t *rs1, vuint32m8_t rs2,
                                 size_t vl);
vuint16mf4_t __riscv_vloxei64_tum(vbool64_t vm, vuint16mf4_t vd,
                                  const uint16_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vuint16mf2_t __riscv_vloxei64_tum(vbool32_t vm, vuint16mf2_t vd,
                                  const uint16_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vuint16m1_t __riscv_vloxei64_tum(vbool16_t vm, vuint16m1_t vd,
                                 const uint16_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
vuint16m2_t __riscv_vloxei64_tum(vbool8_t vm, vuint16m2_t vd,
                                 const uint16_t *rs1, vuint64m8_t rs2,
                                 size_t vl);
vuint32mf2_t __riscv_vloxei8_tum(vbool64_t vm, vuint32mf2_t vd,
                                 const uint32_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vuint32m1_t __riscv_vloxei8_tum(vbool32_t vm, vuint32m1_t vd,
                                const uint32_t *rs1, vuint8mf4_t rs2,
                                size_t vl);
vuint32m2_t __riscv_vloxei8_tum(vbool16_t vm, vuint32m2_t vd,
                                const uint32_t *rs1, vuint8mf2_t rs2,
                                size_t vl);
vuint32m4_t __riscv_vloxei8_tum(vbool8_t vm, vuint32m4_t vd,
                                const uint32_t *rs1, vuint8m1_t rs2, size_t vl);
vuint32m8_t __riscv_vloxei8_tum(vbool4_t vm, vuint32m8_t vd,
                                const uint32_t *rs1, vuint8m2_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei16_tum(vbool64_t vm, vuint32mf2_t vd,
                                  const uint32_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vuint32m1_t __riscv_vloxei16_tum(vbool32_t vm, vuint32m1_t vd,
                                 const uint32_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vuint32m2_t __riscv_vloxei16_tum(vbool16_t vm, vuint32m2_t vd,
                                 const uint32_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
```

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vuint32m4_t __riscv_vloxei16_tum(vbool8_t vm, vuint32m4_t vd,
                                 const uint32_t *rs1, vuint16m2_t rs2,
                                 size_t vl);
vuint32m8_t __riscv_vloxei16_tum(vbool4_t vm, vuint32m8_t vd,
                                 const uint32_t *rs1, vuint16m4_t rs2,
                                 size_t vl);
vuint32mf2_t __riscv_vloxei32_tum(vbool64_t vm, vuint32mf2_t vd,
                                  const uint32_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vuint32m1_t __riscv_vloxei32_tum(vbool32_t vm, vuint32m1_t vd,
                                 const uint32_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vuint32m2_t __riscv_vloxei32_tum(vbool16_t vm, vuint32m2_t vd,
                                 const uint32_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
vuint32m4_t __riscv_vloxei32_tum(vbool8_t vm, vuint32m4_t vd,
                                 const uint32_t *rs1, vuint32m4_t rs2,
                                 size_t vl);
vuint32m8_t __riscv_vloxei32_tum(vbool4_t vm, vuint32m8_t vd,
                                 const uint32_t *rs1, vuint32m8_t rs2,
                                 size_t vl);
vuint32mf2_t __riscv_vloxei64_tum(vbool64_t vm, vuint32mf2_t vd,
                                  const uint32_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vuint32m1_t __riscv_vloxei64_tum(vbool32_t vm, vuint32m1_t vd,
                                 const uint32_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vuint32m2_t __riscv_vloxei64_tum(vbool16_t vm, vuint32m2_t vd,
                                 const uint32_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
vuint32m4_t __riscv_vloxei64_tum(vbool8_t vm, vuint32m4_t vd,
                                 const uint32_t *rs1, vuint64m8_t rs2,
                                 size_t vl);
vuint64m1_t __riscv_vloxei8_tum(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, vuint8mf8_t rs2,
                                size_t vl);
vuint64m2_t __riscv_vloxei8_tum(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, vuint8mf4_t rs2,
                                size_t vl);
vuint64m4_t __riscv_vloxei8_tum(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, vuint8mf2_t rs2,
                                size_t vl);
vuint64m8_t __riscv_vloxei8_tum(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, vuint8m1_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei16_tum(vbool64_t vm, vuint64m1_t vd,
                                 const uint64_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vuint64m2_t __riscv_vloxei16_tum(vbool32_t vm, vuint64m2_t vd,
                                 const uint64_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vuint64m4_t __riscv_vloxei16_tum(vbool16_t vm, vuint64m4_t vd,
                                 const uint64_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
vuint64m8_t __riscv_vloxei16_tum(vbool8_t vm, vuint64m8_t vd,
                                 const uint64_t *rs1, vuint16m2_t rs2,
                                 size_t vl);
vuint64m1_t __riscv_vloxei32_tum(vbool64_t vm, vuint64m1_t vd,
                                 const uint64_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vuint64m2_t __riscv_vloxei32_tum(vbool32_t vm, vuint64m2_t vd,
                                 const uint64_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vuint64m4_t __riscv_vloxei32_tum(vbool16_t vm, vuint64m4_t vd,
                                 const uint64_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
vuint64m8_t __riscv_vloxei32_tum(vbool8_t vm, vuint64m8_t vd,
                                 const uint64_t *rs1, vuint32m4_t rs2,
```

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                                size_t vl);
vuint64m1_t __riscv_vloxei64_tum(vbool64_t vm, vuint64m1_t vd,
                                 const uint64_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vuint64m2_t __riscv_vloxei64_tum(vbool32_t vm, vuint64m2_t vd,
                                 const uint64_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vuint64m4_t __riscv_vloxei64_tum(vbool16_t vm, vuint64m4_t vd,
                                 const uint64_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
vuint64m8_t __riscv_vloxei64_tum(vbool8_t vm, vuint64m8_t vd,
                                 const uint64_t *rs1, vuint64m8_t rs2,
                                 size_t vl);
vuint8mf8_t __riscv_vluxei8_tum(vbool64_t vm, vuint8mf8_t vd,
                                const uint8_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei8_tum(vbool32_t vm, vuint8mf4_t vd,
                                const uint8_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei8_tum(vbool16_t vm, vuint8mf2_t vd,
                                const uint8_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei8_tum(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei8_tum(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vuint8m4_t __riscv_vluxei8_tum(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                               vuint8m4_t rs2, size_t vl);
vuint8m8_t __riscv_vluxei8_tum(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                               vuint8m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei16_tum(vbool64_t vm, vuint8mf8_t vd,
                                 const uint8_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vuint8mf4_t __riscv_vluxei16_tum(vbool32_t vm, vuint8mf4_t vd,
                                 const uint8_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vuint8mf2_t __riscv_vluxei16_tum(vbool16_t vm, vuint8mf2_t vd,
                                 const uint8_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
vuint8m1_t __riscv_vluxei16_tum(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei16_tum(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vluxei16_tum(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                                vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei32_tum(vbool64_t vm, vuint8mf8_t vd,
                                 const uint8_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vuint8mf4_t __riscv_vluxei32_tum(vbool32_t vm, vuint8mf4_t vd,
                                 const uint8_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vuint8mf2_t __riscv_vluxei32_tum(vbool16_t vm, vuint8mf2_t vd,
                                 const uint8_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
vuint8m1_t __riscv_vluxei32_tum(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei32_tum(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei64_tum(vbool64_t vm, vuint8mf8_t vd,
                                 const uint8_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vuint8mf4_t __riscv_vluxei64_tum(vbool32_t vm, vuint8mf4_t vd,
                                 const uint8_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vuint8mf2_t __riscv_vluxei64_tum(vbool16_t vm, vuint8mf2_t vd,
                                 const uint8_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
vuint8m1_t __riscv_vluxei64_tum(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei8_tum(vbool64_t vm, vuint16mf4_t vd,
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                                const uint16_t *rs1, vuint8mf8_t rs2,
                                size_t vl);
vuint16mf2_t __riscv_vluxei8_tum(vbool32_t vm, vuint16mf2_t vd,
                                 const uint16_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vuint16m1_t __riscv_vluxei8_tum(vbool16_t vm, vuint16m1_t vd,
                                const uint16_t *rs1, vuint8mf2_t rs2,
                                size_t vl);
vuint16m2_t __riscv_vluxei8_tum(vbool8_t vm, vuint16m2_t vd,
                                const uint16_t *rs1, vuint8m1_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei8_tum(vbool4_t vm, vuint16m4_t vd,
                                const uint16_t *rs1, vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vluxei8_tum(vbool2_t vm, vuint16m8_t vd,
                                const uint16_t *rs1, vuint8m4_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei16_tum(vbool64_t vm, vuint16mf4_t vd,
                                  const uint16_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vuint16mf2_t __riscv_vluxei16_tum(vbool32_t vm, vuint16mf2_t vd,
                                  const uint16_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vuint16m1_t __riscv_vluxei16_tum(vbool16_t vm, vuint16m1_t vd,
                                 const uint16_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
vuint16m2_t __riscv_vluxei16_tum(vbool8_t vm, vuint16m2_t vd,
                                 const uint16_t *rs1, vuint16m2_t rs2,
                                 size_t vl);
vuint16m4_t __riscv_vluxei16_tum(vbool4_t vm, vuint16m4_t vd,
                                 const uint16_t *rs1, vuint16m4_t rs2,
                                 size_t vl);
vuint16m8_t __riscv_vluxei16_tum(vbool2_t vm, vuint16m8_t vd,
                                 const uint16_t *rs1, vuint16m8_t rs2,
                                 size_t vl);
vuint16mf4_t __riscv_vluxei32_tum(vbool64_t vm, vuint16mf4_t vd,
                                  const uint16_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vuint16mf2_t __riscv_vluxei32_tum(vbool32_t vm, vuint16mf2_t vd,
                                  const uint16_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vuint16m1_t __riscv_vluxei32_tum(vbool16_t vm, vuint16m1_t vd,
                                 const uint16_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
vuint16m2_t __riscv_vluxei32_tum(vbool8_t vm, vuint16m2_t vd,
                                 const uint16_t *rs1, vuint32m4_t rs2,
                                 size_t vl);
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                                 const uint16_t *rs1, vuint32m8_t rs2,
                                 size_t vl);
vuint16mf4_t __riscv_vluxei64_tum(vbool64_t vm, vuint16mf4_t vd,
                                  const uint16_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vuint16mf2_t __riscv_vluxei64_tum(vbool32_t vm, vuint16mf2_t vd,
                                  const uint16_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vuint16m1_t __riscv_vluxei64_tum(vbool16_t vm, vuint16m1_t vd,
                                 const uint16_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
vuint16m2_t __riscv_vluxei64_tum(vbool8_t vm, vuint16m2_t vd,
                                 const uint16_t *rs1, vuint64m8_t rs2,
                                 size_t vl);
vuint32mf2_t __riscv_vluxei8_tum(vbool64_t vm, vuint32mf2_t vd,
                                 const uint32_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vuint32m1_t __riscv_vluxei8_tum(vbool32_t vm, vuint32m1_t vd,
                                const uint32_t *rs1, vuint8mf4_t rs2,
                                size_t vl);
vuint32m2_t __riscv_vluxei8_tum(vbool16_t vm, vuint32m2_t vd,
                                const uint32_t *rs1, vuint8mf2_t rs2,
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                                size_t vl);
vuint32m4_t __riscv_vluxei8_tum(vbool8_t vm, vuint32m4_t vd,
                                const uint32_t *rs1, vuint8m1_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei8_tum(vbool4_t vm, vuint32m8_t vd,
                                const uint32_t *rs1, vuint8m2_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei16_tum(vbool64_t vm, vuint32mf2_t vd,
                                  const uint32_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vuint32m1_t __riscv_vluxei16_tum(vbool32_t vm, vuint32m1_t vd,
                                 const uint32_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
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                                 const uint32_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
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                                 const uint32_t *rs1, vuint16m2_t rs2,
                                 size_t vl);
vuint32m8_t __riscv_vluxei16_tum(vbool4_t vm, vuint32m8_t vd,
                                 const uint32_t *rs1, vuint16m4_t rs2,
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                                  const uint32_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
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                                 const uint32_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
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                                 const uint32_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
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                                 const uint32_t *rs1, vuint32m4_t rs2,
                                 size_t vl);
vuint32m8_t __riscv_vluxei32_tum(vbool4_t vm, vuint32m8_t vd,
                                 const uint32_t *rs1, vuint32m8_t rs2,
                                 size_t vl);
vuint32mf2_t __riscv_vluxei64_tum(vbool64_t vm, vuint32mf2_t vd,
                                  const uint32_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vuint32m1_t __riscv_vluxei64_tum(vbool32_t vm, vuint32m1_t vd,
                                 const uint32_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vuint32m2_t __riscv_vluxei64_tum(vbool16_t vm, vuint32m2_t vd,
                                 const uint32_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
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                                 const uint32_t *rs1, vuint64m8_t rs2,
                                 size_t vl);
vuint64m1_t __riscv_vluxei8_tum(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, vuint8mf8_t rs2,
                                size_t vl);
vuint64m2_t __riscv_vluxei8_tum(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, vuint8mf4_t rs2,
                                size_t vl);
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                                const uint64_t *rs1, vuint8mf2_t rs2,
                                size_t vl);
vuint64m8_t __riscv_vluxei8_tum(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, vuint8m1_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei16_tum(vbool64_t vm, vuint64m1_t vd,
                                 const uint64_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vuint64m2_t __riscv_vluxei16_tum(vbool32_t vm, vuint64m2_t vd,
                                 const uint64_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vuint64m4_t __riscv_vluxei16_tum(vbool16_t vm, vuint64m4_t vd,
                                 const uint64_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
```

```
vuint64m8_t __riscv_vluxei16_tum(vbool8_t vm, vuint64m8_t vd,
                                 const uint64_t *rs1, vuint16m2_t rs2,
                                 size_t vl);
vuint64m1_t __riscv_vluxei32_tum(vbool64_t vm, vuint64m1_t vd,
                                 const uint64_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vuint64m2_t __riscv_vluxei32_tum(vbool32_t vm, vuint64m2_t vd,
                                 const uint64_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vuint64m4_t __riscv_vluxei32_tum(vbool16_t vm, vuint64m4_t vd,
                                 const uint64_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
vuint64m8_t __riscv_vluxei32_tum(vbool8_t vm, vuint64m8_t vd,
                                 const uint64_t *rs1, vuint32m4_t rs2,
                                 size_t vl);
vuint64m1_t __riscv_vluxei64_tum(vbool64_t vm, vuint64m1_t vd,
                                 const uint64_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vuint64m2_t __riscv_vluxei64_tum(vbool32_t vm, vuint64m2_t vd,
                                 const uint64_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vuint64m4_t __riscv_vluxei64_tum(vbool16_t vm, vuint64m4_t vd,
                                 const uint64_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
vuint64m8_t __riscv_vluxei64_tum(vbool8_t vm, vuint64m8_t vd,
                                 const uint64_t *rs1, vuint64m8_t rs2,
                                 size_t vl);
// masked functions
vfloat16mf4_t __riscv_vloxei8_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   const _Float16 *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat16mf2_t __riscv_vloxei8_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   const _Float16 *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat16m1_t __riscv_vloxei8_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  const _Float16 *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vfloat16m2_t __riscv_vloxei8_tumu(vbool8_t vm, vfloat16m2_t vd,
                                  const _Float16 *rs1, vuint8m1_t rs2,
                                  size_t vl);
vfloat16m4_t __riscv_vloxei8_tumu(vbool4_t vm, vfloat16m4_t vd,
                                  const _Float16 *rs1, vuint8m2_t rs2,
                                  size_t vl);
vfloat16m8_t __riscv_vloxei8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                  const _Float16 *rs1, vuint8m4_t rs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vloxei16_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    const _Float16 *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat16mf2_t __riscv_vloxei16_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    const _Float16 *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vfloat16m1_t __riscv_vloxei16_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   const _Float16 *rs1, vuint16m1_t rs2,
                                   size_t vl);
vfloat16m2_t __riscv_vloxei16_tumu(vbool8_t vm, vfloat16m2_t vd,
                                   const _Float16 *rs1, vuint16m2_t rs2,
                                   size_t vl);
vfloat16m4_t __riscv_vloxei16_tumu(vbool4_t vm, vfloat16m4_t vd,
                                   const _Float16 *rs1, vuint16m4_t rs2,
                                   size_t vl);
vfloat16m8_t __riscv_vloxei16_tumu(vbool2_t vm, vfloat16m8_t vd,
                                   const _Float16 *rs1, vuint16m8_t rs2,
                                   size_t vl);
vfloat16mf4_t __riscv_vloxei32_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    const _Float16 *rs1, vuint32mf2_t rs2,
                                    size_t vl);
```

```
vfloat16mf2_t __riscv_vloxei32_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    const _Float16 *rs1, vuint32m1_t rs2,
                                    size_t vl);
vfloat16m1_t __riscv_vloxei32_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   const _Float16 *rs1, vuint32m2_t rs2,
                                   size_t vl);
vfloat16m2_t __riscv_vloxei32_tumu(vbool8_t vm, vfloat16m2_t vd,
                                   const _Float16 *rs1, vuint32m4_t rs2,
                                   size_t vl);
vfloat16m4_t __riscv_vloxei32_tumu(vbool4_t vm, vfloat16m4_t vd,
                                   const _Float16 *rs1, vuint32m8_t rs2,
                                   size_t vl);
vfloat16mf4_t __riscv_vloxei64_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    const _Float16 *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat16mf2_t __riscv_vloxei64_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    const _Float16 *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat16m1_t __riscv_vloxei64_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   const _Float16 *rs1, vuint64m4_t rs2,
                                   size_t vl);
vfloat16m2_t __riscv_vloxei64_tumu(vbool8_t vm, vfloat16m2_t vd,
                                   const _Float16 *rs1, vuint64m8_t rs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vloxei8_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   const float *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat32m1_t __riscv_vloxei8_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  const float *rs1, vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei8_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  const float *rs1, vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei8_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  const float *rs1, vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                  const float *rs1, vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei16_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    const float *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vfloat32m1_t __riscv_vloxei16_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   const float *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vfloat32m2_t __riscv_vloxei16_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   const float *rs1, vuint16m1_t rs2,
                                   size_t vl);
vfloat32m4_t __riscv_vloxei16_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   const float *rs1, vuint16m2_t rs2,
                                   size_t vl);
vfloat32m8_t __riscv_vloxei16_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   const float *rs1, vuint16m4_t rs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vloxei32_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    const float *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat32m1_t __riscv_vloxei32_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   const float *rs1, vuint32m1_t rs2,
                                   size_t vl);
vfloat32m2_t __riscv_vloxei32_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   const float *rs1, vuint32m2_t rs2,
                                   size_t vl);
vfloat32m4_t __riscv_vloxei32_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   const float *rs1, vuint32m4_t rs2,
                                   size_t vl);
vfloat32m8_t __riscv_vloxei32_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   const float *rs1, vuint32m8_t rs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vloxei64_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    const float *rs1, vuint64m1_t rs2,
```

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                                     size_t vl);
vfloat32m1_t __riscv_vloxei64_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   const float *rs1, vuint64m2_t rs2,
                                   size_t vl);
vfloat32m2_t __riscv_vloxei64_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   const float *rs1, vuint64m4_t rs2,
                                   size_t vl);
vfloat32m4_t __riscv_vloxei64_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   const float *rs1, vuint64m8_t rs2,
                                   size_t vl);
vfloat64m1_t __riscv_vloxei8_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  const double *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vfloat64m2_t __riscv_vloxei8_tumu(vbool32_t vm, vfloat64m2_t vd,
                                  const double *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vfloat64m4_t __riscv_vloxei8_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  const double *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vfloat64m8_t __riscv_vloxei8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  const double *rs1, vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei16_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   const double *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vfloat64m2_t __riscv_vloxei16_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   const double *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vfloat64m4_t __riscv_vloxei16_tumu(vbool16_t vm, vfloat64m4_t vd,
                                   const double *rs1, vuint16m1_t rs2,
                                   size_t vl);
vfloat64m8_t __riscv_vloxei16_tumu(vbool8_t vm, vfloat64m8_t vd,
                                   const double *rs1, vuint16m2_t rs2,
                                   size_t vl);
vfloat64m1_t __riscv_vloxei32_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   const double *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vfloat64m2_t __riscv_vloxei32_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   const double *rs1, vuint32m1_t rs2,
                                   size_t vl);
vfloat64m4_t __riscv_vloxei32_tumu(vbool16_t vm, vfloat64m4_t vd,
                                   const double *rs1, vuint32m2_t rs2,
                                   size_t vl);
vfloat64m8_t __riscv_vloxei32_tumu(vbool8_t vm, vfloat64m8_t vd,
                                   const double *rs1, vuint32m4_t rs2,
                                   size_t vl);
vfloat64m1_t __riscv_vloxei64_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   const double *rs1, vuint64m1_t rs2,
                                   size_t vl);
vfloat64m2_t __riscv_vloxei64_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   const double *rs1, vuint64m2_t rs2,
                                   size_t vl);
vfloat64m4_t __riscv_vloxei64_tumu(vbool16_t vm, vfloat64m4_t vd,
                                   const double *rs1, vuint64m4_t rs2,
                                   size_t vl);
vfloat64m8_t __riscv_vloxei64_tumu(vbool8_t vm, vfloat64m8_t vd,
                                   const double *rs1, vuint64m8_t rs2,
                                   size_t vl);
vfloat16mf4_t __riscv_vluxei8_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   const _Float16 *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vfloat16mf2_t __riscv_vluxei8_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   const _Float16 *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vfloat16m1_t __riscv_vluxei8_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  const _Float16 *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vfloat16m2_t __riscv_vluxei8_tumu(vbool8_t vm, vfloat16m2_t vd,
```

```
                                const _Float16 *rs1, vuint8m1_t rs2,
                                size_t vl);
vfloat16m4_t __riscv_vluxei8_tumu(vbool4_t vm, vfloat16m4_t vd,
                                const _Float16 *rs1, vuint8m2_t rs2,
                                size_t vl);
vfloat16m8_t __riscv_vluxei8_tumu(vbool2_t vm, vfloat16m8_t vd,
                                const _Float16 *rs1, vuint8m4_t rs2,
                                size_t vl);
vfloat16mf4_t __riscv_vluxei16_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vluxei16_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vluxei16_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint16m1_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vluxei16_tumu(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint16m2_t rs2,
                                 size_t vl);
vfloat16m4_t __riscv_vluxei16_tumu(vbool4_t vm, vfloat16m4_t vd,
                                 const _Float16 *rs1, vuint16m4_t rs2,
                                 size_t vl);
vfloat16m8_t __riscv_vluxei16_tumu(vbool2_t vm, vfloat16m8_t vd,
                                 const _Float16 *rs1, vuint16m8_t rs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vluxei32_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vluxei32_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint32m1_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vluxei32_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint32m2_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vluxei32_tumu(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint32m4_t rs2,
                                 size_t vl);
vfloat16m4_t __riscv_vluxei32_tumu(vbool4_t vm, vfloat16m4_t vd,
                                 const _Float16 *rs1, vuint32m8_t rs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vluxei64_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint64m1_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vluxei64_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint64m2_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vluxei64_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint64m4_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vluxei64_tumu(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint64m8_t rs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vluxei8_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 const float *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vfloat32m1_t __riscv_vluxei8_tumu(vbool32_t vm, vfloat32m1_t vd,
                                const float *rs1, vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei8_tumu(vbool16_t vm, vfloat32m2_t vd,
                                const float *rs1, vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei8_tumu(vbool8_t vm, vfloat32m4_t vd,
                                const float *rs1, vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei8_tumu(vbool4_t vm, vfloat32m8_t vd,
                                const float *rs1, vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei16_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  const float *rs1, vuint16mf4_t rs2,
                                  size_t vl);
```

```
vfloat32m1_t __riscv_vluxei16_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   const float *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vfloat32m2_t __riscv_vluxei16_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   const float *rs1, vuint16m1_t rs2,
                                   size_t vl);
vfloat32m4_t __riscv_vluxei16_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   const float *rs1, vuint16m2_t rs2,
                                   size_t vl);
vfloat32m8_t __riscv_vluxei16_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   const float *rs1, vuint16m4_t rs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vluxei32_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    const float *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vfloat32m1_t __riscv_vluxei32_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   const float *rs1, vuint32m1_t rs2,
                                   size_t vl);
vfloat32m2_t __riscv_vluxei32_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   const float *rs1, vuint32m2_t rs2,
                                   size_t vl);
vfloat32m4_t __riscv_vluxei32_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   const float *rs1, vuint32m4_t rs2,
                                   size_t vl);
vfloat32m8_t __riscv_vluxei32_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   const float *rs1, vuint32m8_t rs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vluxei64_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    const float *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat32m1_t __riscv_vluxei64_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   const float *rs1, vuint64m2_t rs2,
                                   size_t vl);
vfloat32m2_t __riscv_vluxei64_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   const float *rs1, vuint64m4_t rs2,
                                   size_t vl);
vfloat32m4_t __riscv_vluxei64_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   const float *rs1, vuint64m8_t rs2,
                                   size_t vl);
vfloat64m1_t __riscv_vluxei8_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  const double *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vfloat64m2_t __riscv_vluxei8_tumu(vbool32_t vm, vfloat64m2_t vd,
                                  const double *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vfloat64m4_t __riscv_vluxei8_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  const double *rs1, vuint8mf2_t rs2,
                                  size_t vl);
vfloat64m8_t __riscv_vluxei8_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  const double *rs1, vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei16_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   const double *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vfloat64m2_t __riscv_vluxei16_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   const double *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vfloat64m4_t __riscv_vluxei16_tumu(vbool16_t vm, vfloat64m4_t vd,
                                   const double *rs1, vuint16m1_t rs2,
                                   size_t vl);
vfloat64m8_t __riscv_vluxei16_tumu(vbool8_t vm, vfloat64m8_t vd,
                                   const double *rs1, vuint16m2_t rs2,
                                   size_t vl);
vfloat64m1_t __riscv_vluxei32_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   const double *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vfloat64m2_t __riscv_vluxei32_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   const double *rs1, vuint32m1_t rs2,
```

```
                                    size_t vl);
vfloat64m4_t __riscv_vluxei32_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    const double *rs1, vuint32m2_t rs2,
                                    size_t vl);
vfloat64m8_t __riscv_vluxei32_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    const double *rs1, vuint32m4_t rs2,
                                    size_t vl);
vfloat64m1_t __riscv_vluxei64_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    const double *rs1, vuint64m1_t rs2,
                                    size_t vl);
vfloat64m2_t __riscv_vluxei64_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    const double *rs1, vuint64m2_t rs2,
                                    size_t vl);
vfloat64m4_t __riscv_vluxei64_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    const double *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat64m8_t __riscv_vluxei64_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    const double *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint8mf8_t __riscv_vloxei8_tumu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                vuint8mf8_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei8_tumu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei8_tumu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei8_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vloxei8_tumu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vloxei8_tumu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                               vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vloxei8_tumu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                               vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei16_tumu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                 vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei16_tumu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                 vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei16_tumu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                 vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vloxei16_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vint8m2_t __riscv_vloxei16_tumu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vint8m4_t __riscv_vloxei16_tumu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                                vuint16m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei32_tumu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                 vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei32_tumu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                 vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei32_tumu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                 vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei32_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vint8m2_t __riscv_vloxei32_tumu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei64_tumu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                 vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei64_tumu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                 vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei64_tumu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                 vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vloxei64_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei8_tumu(vbool64_t vm, vint16mf4_t vd,
                                 const int16_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint16mf2_t __riscv_vloxei8_tumu(vbool32_t vm, vint16mf2_t vd,
```

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                                const int16_t *rs1, vuint8mf4_t rs2,
                                size_t vl);
vint16m1_t __riscv_vloxei8_tumu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                                vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei8_tumu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                vuint8m1_t rs2, size_t vl);
vint16m4_t __riscv_vloxei8_tumu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                                vuint8m2_t rs2, size_t vl);
vint16m8_t __riscv_vloxei8_tumu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                                vuint8m4_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei16_tumu(vbool64_t vm, vint16mf4_t vd,
                                  const int16_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint16mf2_t __riscv_vloxei16_tumu(vbool32_t vm, vint16mf2_t vd,
                                  const int16_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vint16m1_t __riscv_vloxei16_tumu(vbool16_t vm, vint16m1_t vd,
                                 const int16_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
vint16m2_t __riscv_vloxei16_tumu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                 vuint16m2_t rs2, size_t vl);
vint16m4_t __riscv_vloxei16_tumu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                                 vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vloxei16_tumu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                                 vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei32_tumu(vbool64_t vm, vint16mf4_t vd,
                                  const int16_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint16mf2_t __riscv_vloxei32_tumu(vbool32_t vm, vint16mf2_t vd,
                                  const int16_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint16m1_t __riscv_vloxei32_tumu(vbool16_t vm, vint16m1_t vd,
                                 const int16_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
vint16m2_t __riscv_vloxei32_tumu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vloxei32_tumu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                                 vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei64_tumu(vbool64_t vm, vint16mf4_t vd,
                                  const int16_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint16mf2_t __riscv_vloxei64_tumu(vbool32_t vm, vint16mf2_t vd,
                                  const int16_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint16m1_t __riscv_vloxei64_tumu(vbool16_t vm, vint16m1_t vd,
                                 const int16_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
vint16m2_t __riscv_vloxei64_tumu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                 vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei8_tumu(vbool64_t vm, vint32mf2_t vd,
                                 const int32_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint32m1_t __riscv_vloxei8_tumu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                                vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vloxei8_tumu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                                vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei8_tumu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                vuint8m1_t rs2, size_t vl);
vint32m8_t __riscv_vloxei8_tumu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                                vuint8m2_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei16_tumu(vbool64_t vm, vint32mf2_t vd,
                                  const int32_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint32m1_t __riscv_vloxei16_tumu(vbool32_t vm, vint32m1_t vd,
                                 const int32_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vint32m2_t __riscv_vloxei16_tumu(vbool16_t vm, vint32m2_t vd,
```

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                                const int32_t *rs1, vuint16m1_t rs2,
                                size_t vl);
vint32m4_t __riscv_vloxei16_tumu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vint32m8_t __riscv_vloxei16_tumu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei32_tumu(vbool64_t vm, vint32mf2_t vd,
                                 const int32_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vint32m1_t __riscv_vloxei32_tumu(vbool32_t vm, vint32m1_t vd,
                                const int32_t *rs1, vuint32m1_t rs2,
                                size_t vl);
vint32m2_t __riscv_vloxei32_tumu(vbool16_t vm, vint32m2_t vd,
                                const int32_t *rs1, vuint32m2_t rs2,
                                size_t vl);
vint32m4_t __riscv_vloxei32_tumu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vloxei32_tumu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei64_tumu(vbool64_t vm, vint32mf2_t vd,
                                 const int32_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vint32m1_t __riscv_vloxei64_tumu(vbool32_t vm, vint32m1_t vd,
                                const int32_t *rs1, vuint64m2_t rs2,
                                size_t vl);
vint32m2_t __riscv_vloxei64_tumu(vbool16_t vm, vint32m2_t vd,
                                const int32_t *rs1, vuint64m4_t rs2,
                                size_t vl);
vint32m4_t __riscv_vloxei64_tumu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vloxei8_tumu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vloxei8_tumu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vloxei8_tumu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vloxei8_tumu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vint64m1_t __riscv_vloxei16_tumu(vbool64_t vm, vint64m1_t vd,
                                 const int64_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vint64m2_t __riscv_vloxei16_tumu(vbool32_t vm, vint64m2_t vd,
                                 const int64_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vint64m4_t __riscv_vloxei16_tumu(vbool16_t vm, vint64m4_t vd,
                                 const int64_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
vint64m8_t __riscv_vloxei16_tumu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                 vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vloxei32_tumu(vbool64_t vm, vint64m1_t vd,
                                 const int64_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vint64m2_t __riscv_vloxei32_tumu(vbool32_t vm, vint64m2_t vd,
                                 const int64_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vint64m4_t __riscv_vloxei32_tumu(vbool16_t vm, vint64m4_t vd,
                                 const int64_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
vint64m8_t __riscv_vloxei32_tumu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint64m1_t __riscv_vloxei64_tumu(vbool64_t vm, vint64m1_t vd,
                                 const int64_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vint64m2_t __riscv_vloxei64_tumu(vbool32_t vm, vint64m2_t vd,
                                 const int64_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vint64m4_t __riscv_vloxei64_tumu(vbool16_t vm, vint64m4_t vd,
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                                const int64_t *rs1, vuint64m4_t rs2,
                                size_t vl);
vint64m8_t __riscv_vloxei64_tumu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                 vuint64m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei8_tumu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                vuint8mf8_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei8_tumu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei8_tumu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vluxei8_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vluxei8_tumu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vluxei8_tumu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                               vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vluxei8_tumu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                               vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei16_tumu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                 vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei16_tumu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                 vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei16_tumu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                 vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vluxei16_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                vuint16m2_t rs2, size_t vl);
vint8m2_t __riscv_vluxei16_tumu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                                vuint16m4_t rs2, size_t vl);
vint8m4_t __riscv_vluxei16_tumu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                                vuint16m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei32_tumu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                 vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei32_tumu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                 vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei32_tumu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                 vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vluxei32_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                vuint32m4_t rs2, size_t vl);
vint8m2_t __riscv_vluxei32_tumu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                                vuint32m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei64_tumu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                 vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei64_tumu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                 vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei64_tumu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                 vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vluxei64_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                                vuint64m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei8_tumu(vbool64_t vm, vint16mf4_t vd,
                                 const int16_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint16mf2_t __riscv_vluxei8_tumu(vbool32_t vm, vint16mf2_t vd,
                                 const int16_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vint16m1_t __riscv_vluxei8_tumu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                                vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vluxei8_tumu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                vuint8m1_t rs2, size_t vl);
vint16m4_t __riscv_vluxei8_tumu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                                vuint8m2_t rs2, size_t vl);
vint16m8_t __riscv_vluxei8_tumu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                                vuint8m4_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei16_tumu(vbool64_t vm, vint16mf4_t vd,
                                  const int16_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint16mf2_t __riscv_vluxei16_tumu(vbool32_t vm, vint16mf2_t vd,
                                  const int16_t *rs1, vuint16mf2_t rs2,
```

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                                  size_t vl);
vint16m1_t __riscv_vluxei16_tumu(vbool16_t vm, vint16m1_t vd,
                                 const int16_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
vint16m2_t __riscv_vluxei16_tumu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                 vuint16m2_t rs2, size_t vl);
vint16m4_t __riscv_vluxei16_tumu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                                 vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vluxei16_tumu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                                 vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei32_tumu(vbool64_t vm, vint16mf4_t vd,
                                  const int16_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint16mf2_t __riscv_vluxei32_tumu(vbool32_t vm, vint16mf2_t vd,
                                  const int16_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vint16m1_t __riscv_vluxei32_tumu(vbool16_t vm, vint16m1_t vd,
                                 const int16_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
vint16m2_t __riscv_vluxei32_tumu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vluxei32_tumu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                                 vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei64_tumu(vbool64_t vm, vint16mf4_t vd,
                                  const int16_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint16mf2_t __riscv_vluxei64_tumu(vbool32_t vm, vint16mf2_t vd,
                                  const int16_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vint16m1_t __riscv_vluxei64_tumu(vbool16_t vm, vint16m1_t vd,
                                 const int16_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
vint16m2_t __riscv_vluxei64_tumu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                 vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei8_tumu(vbool64_t vm, vint32mf2_t vd,
                                 const int32_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vint32m1_t __riscv_vluxei8_tumu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                                vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vluxei8_tumu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                                vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vluxei8_tumu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                vuint8m1_t rs2, size_t vl);
vint32m8_t __riscv_vluxei8_tumu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                                vuint8m2_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei16_tumu(vbool64_t vm, vint32mf2_t vd,
                                  const int32_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vint32m1_t __riscv_vluxei16_tumu(vbool32_t vm, vint32m1_t vd,
                                 const int32_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vint32m2_t __riscv_vluxei16_tumu(vbool16_t vm, vint32m2_t vd,
                                 const int32_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
vint32m4_t __riscv_vluxei16_tumu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                 vuint16m2_t rs2, size_t vl);
vint32m8_t __riscv_vluxei16_tumu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                                 vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei32_tumu(vbool64_t vm, vint32mf2_t vd,
                                  const int32_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vint32m1_t __riscv_vluxei32_tumu(vbool32_t vm, vint32m1_t vd,
                                 const int32_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vint32m2_t __riscv_vluxei32_tumu(vbool16_t vm, vint32m2_t vd,
                                 const int32_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
```

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vint32m4_t __riscv_vluxei32_tumu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vluxei32_tumu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                                 vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei64_tumu(vbool64_t vm, vint32mf2_t vd,
                                  const int32_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vint32m1_t __riscv_vluxei64_tumu(vbool32_t vm, vint32m1_t vd,
                                 const int32_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vint32m2_t __riscv_vluxei64_tumu(vbool16_t vm, vint32m2_t vd,
                                 const int32_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
vint32m4_t __riscv_vluxei64_tumu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                 vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vluxei8_tumu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                                vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vluxei8_tumu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                                vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vluxei8_tumu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                                vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vluxei8_tumu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                vuint8m1_t rs2, size_t vl);
vint64m1_t __riscv_vluxei16_tumu(vbool64_t vm, vint64m1_t vd,
                                 const int64_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vint64m2_t __riscv_vluxei16_tumu(vbool32_t vm, vint64m2_t vd,
                                 const int64_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vint64m4_t __riscv_vluxei16_tumu(vbool16_t vm, vint64m4_t vd,
                                 const int64_t *rs1, vuint16m1_t rs2,
                                 size_t vl);
vint64m8_t __riscv_vluxei16_tumu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                 vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vluxei32_tumu(vbool64_t vm, vint64m1_t vd,
                                 const int64_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vint64m2_t __riscv_vluxei32_tumu(vbool32_t vm, vint64m2_t vd,
                                 const int64_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vint64m4_t __riscv_vluxei32_tumu(vbool16_t vm, vint64m4_t vd,
                                 const int64_t *rs1, vuint32m2_t rs2,
                                 size_t vl);
vint64m8_t __riscv_vluxei32_tumu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vint64m1_t __riscv_vluxei64_tumu(vbool64_t vm, vint64m1_t vd,
                                 const int64_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vint64m2_t __riscv_vluxei64_tumu(vbool32_t vm, vint64m2_t vd,
                                 const int64_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vint64m4_t __riscv_vluxei64_tumu(vbool16_t vm, vint64m4_t vd,
                                 const int64_t *rs1, vuint64m4_t rs2,
                                 size_t vl);
vint64m8_t __riscv_vluxei64_tumu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                 vuint64m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                 const uint8_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vuint8mf4_t __riscv_vloxei8_tumu(vbool32_t vm, vuint8mf4_t vd,
                                 const uint8_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vuint8mf2_t __riscv_vloxei8_tumu(vbool16_t vm, vuint8mf2_t vd,
                                 const uint8_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vuint8m1_t __riscv_vloxei8_tumu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                vuint8m1_t rs2, size_t vl);
```

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vuint8m2_t __riscv_vloxei8_tumu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                                vuint8m2_t rs2, size_t vl);
vuint8m4_t __riscv_vloxei8_tumu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                                vuint8m4_t rs2, size_t vl);
vuint8m8_t __riscv_vloxei8_tumu(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                                vuint8m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei16_tumu(vbool64_t vm, vuint8mf8_t vd,
                                  const uint8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vuint8mf4_t __riscv_vloxei16_tumu(vbool32_t vm, vuint8mf4_t vd,
                                  const uint8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vuint8mf2_t __riscv_vloxei16_tumu(vbool16_t vm, vuint8mf2_t vd,
                                  const uint8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vuint8m1_t __riscv_vloxei16_tumu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                 vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei16_tumu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                                 vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vloxei16_tumu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                                 vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei32_tumu(vbool64_t vm, vuint8mf8_t vd,
                                  const uint8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vuint8mf4_t __riscv_vloxei32_tumu(vbool32_t vm, vuint8mf4_t vd,
                                  const uint8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vuint8mf2_t __riscv_vloxei32_tumu(vbool16_t vm, vuint8mf2_t vd,
                                  const uint8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vuint8m1_t __riscv_vloxei32_tumu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei32_tumu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                                 vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei64_tumu(vbool64_t vm, vuint8mf8_t vd,
                                  const uint8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vuint8mf4_t __riscv_vloxei64_tumu(vbool32_t vm, vuint8mf4_t vd,
                                  const uint8_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vuint8mf2_t __riscv_vloxei64_tumu(vbool16_t vm, vuint8mf2_t vd,
                                  const uint8_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vuint8m1_t __riscv_vloxei64_tumu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                 vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei8_tumu(vbool64_t vm, vuint16mf4_t vd,
                                  const uint16_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint16mf2_t __riscv_vloxei8_tumu(vbool32_t vm, vuint16mf2_t vd,
                                  const uint16_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint16m1_t __riscv_vloxei8_tumu(vbool16_t vm, vuint16m1_t vd,
                                 const uint16_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vuint16m2_t __riscv_vloxei8_tumu(vbool8_t vm, vuint16m2_t vd,
                                 const uint16_t *rs1, vuint8m1_t rs2,
                                 size_t vl);
vuint16m4_t __riscv_vloxei8_tumu(vbool4_t vm, vuint16m4_t vd,
                                 const uint16_t *rs1, vuint8m2_t rs2,
                                 size_t vl);
vuint16m8_t __riscv_vloxei8_tumu(vbool2_t vm, vuint16m8_t vd,
                                 const uint16_t *rs1, vuint8m4_t rs2,
                                 size_t vl);
vuint16mf4_t __riscv_vloxei16_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   const uint16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint16mf2_t __riscv_vloxei16_tumu(vbool32_t vm, vuint16mf2_t vd,
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                                  const uint16_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vuint16m1_t __riscv_vloxei16_tumu(vbool16_t vm, vuint16m1_t vd,
                                  const uint16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vuint16m2_t __riscv_vloxei16_tumu(vbool8_t vm, vuint16m2_t vd,
                                  const uint16_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vuint16m4_t __riscv_vloxei16_tumu(vbool4_t vm, vuint16m4_t vd,
                                  const uint16_t *rs1, vuint16m4_t rs2,
                                  size_t vl);
vuint16m8_t __riscv_vloxei16_tumu(vbool2_t vm, vuint16m8_t vd,
                                  const uint16_t *rs1, vuint16m8_t rs2,
                                  size_t vl);
vuint16mf4_t __riscv_vloxei32_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   const uint16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint16mf2_t __riscv_vloxei32_tumu(vbool32_t vm, vuint16mf2_t vd,
                                   const uint16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint16m1_t __riscv_vloxei32_tumu(vbool16_t vm, vuint16m1_t vd,
                                  const uint16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vuint16m2_t __riscv_vloxei32_tumu(vbool8_t vm, vuint16m2_t vd,
                                  const uint16_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vuint16m4_t __riscv_vloxei32_tumu(vbool4_t vm, vuint16m4_t vd,
                                  const uint16_t *rs1, vuint32m8_t rs2,
                                  size_t vl);
vuint16mf4_t __riscv_vloxei64_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   const uint16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint16mf2_t __riscv_vloxei64_tumu(vbool32_t vm, vuint16mf2_t vd,
                                   const uint16_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint16m1_t __riscv_vloxei64_tumu(vbool16_t vm, vuint16m1_t vd,
                                  const uint16_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vuint16m2_t __riscv_vloxei64_tumu(vbool8_t vm, vuint16m2_t vd,
                                  const uint16_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint32mf2_t __riscv_vloxei8_tumu(vbool64_t vm, vuint32mf2_t vd,
                                  const uint32_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint32m1_t __riscv_vloxei8_tumu(vbool32_t vm, vuint32m1_t vd,
                                 const uint32_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vuint32m2_t __riscv_vloxei8_tumu(vbool16_t vm, vuint32m2_t vd,
                                 const uint32_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vuint32m4_t __riscv_vloxei8_tumu(vbool8_t vm, vuint32m4_t vd,
                                 const uint32_t *rs1, vuint8m1_t rs2,
                                 size_t vl);
vuint32m8_t __riscv_vloxei8_tumu(vbool4_t vm, vuint32m8_t vd,
                                 const uint32_t *rs1, vuint8m2_t rs2,
                                 size_t vl);
vuint32mf2_t __riscv_vloxei16_tumu(vbool64_t vm, vuint32mf2_t vd,
                                   const uint32_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint32m1_t __riscv_vloxei16_tumu(vbool32_t vm, vuint32m1_t vd,
                                  const uint32_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vuint32m2_t __riscv_vloxei16_tumu(vbool16_t vm, vuint32m2_t vd,
                                  const uint32_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vuint32m4_t __riscv_vloxei16_tumu(vbool8_t vm, vuint32m4_t vd,
                                  const uint32_t *rs1, vuint16m2_t rs2,
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                                  size_t vl);
vuint32m8_t __riscv_vloxei16_tumu(vbool4_t vm, vuint32m8_t vd,
                                  const uint32_t *rs1, vuint16m4_t rs2,
                                  size_t vl);
vuint32mf2_t __riscv_vloxei32_tumu(vbool64_t vm, vuint32mf2_t vd,
                                   const uint32_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint32m1_t __riscv_vloxei32_tumu(vbool32_t vm, vuint32m1_t vd,
                                  const uint32_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vuint32m2_t __riscv_vloxei32_tumu(vbool16_t vm, vuint32m2_t vd,
                                  const uint32_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vuint32m4_t __riscv_vloxei32_tumu(vbool8_t vm, vuint32m4_t vd,
                                  const uint32_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
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                                  const uint32_t *rs1, vuint32m8_t rs2,
                                  size_t vl);
vuint32mf2_t __riscv_vloxei64_tumu(vbool64_t vm, vuint32mf2_t vd,
                                   const uint32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint32m1_t __riscv_vloxei64_tumu(vbool32_t vm, vuint32m1_t vd,
                                  const uint32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vuint32m2_t __riscv_vloxei64_tumu(vbool16_t vm, vuint32m2_t vd,
                                  const uint32_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vuint32m4_t __riscv_vloxei64_tumu(vbool8_t vm, vuint32m4_t vd,
                                  const uint32_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint64m1_t __riscv_vloxei8_tumu(vbool64_t vm, vuint64m1_t vd,
                                 const uint64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vuint64m2_t __riscv_vloxei8_tumu(vbool32_t vm, vuint64m2_t vd,
                                 const uint64_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vuint64m4_t __riscv_vloxei8_tumu(vbool16_t vm, vuint64m4_t vd,
                                 const uint64_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vuint64m8_t __riscv_vloxei8_tumu(vbool8_t vm, vuint64m8_t vd,
                                 const uint64_t *rs1, vuint8m1_t rs2,
                                 size_t vl);
vuint64m1_t __riscv_vloxei16_tumu(vbool64_t vm, vuint64m1_t vd,
                                  const uint64_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vuint64m2_t __riscv_vloxei16_tumu(vbool32_t vm, vuint64m2_t vd,
                                  const uint64_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vuint64m4_t __riscv_vloxei16_tumu(vbool16_t vm, vuint64m4_t vd,
                                  const uint64_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vuint64m8_t __riscv_vloxei16_tumu(vbool8_t vm, vuint64m8_t vd,
                                  const uint64_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vuint64m1_t __riscv_vloxei32_tumu(vbool64_t vm, vuint64m1_t vd,
                                  const uint64_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vuint64m2_t __riscv_vloxei32_tumu(vbool32_t vm, vuint64m2_t vd,
                                  const uint64_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vuint64m4_t __riscv_vloxei32_tumu(vbool16_t vm, vuint64m4_t vd,
                                  const uint64_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vuint64m8_t __riscv_vloxei32_tumu(vbool8_t vm, vuint64m8_t vd,
                                  const uint64_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
```

```
vuint64m1_t __riscv_vloxei64_tumu(vbool64_t vm, vuint64m1_t vd,
                                  const uint64_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vuint64m2_t __riscv_vloxei64_tumu(vbool32_t vm, vuint64m2_t vd,
                                  const uint64_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vuint64m4_t __riscv_vloxei64_tumu(vbool16_t vm, vuint64m4_t vd,
                                  const uint64_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vuint64m8_t __riscv_vloxei64_tumu(vbool8_t vm, vuint64m8_t vd,
                                  const uint64_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint8mf8_t __riscv_vluxei8_tumu(vbool64_t vm, vuint8mf8_t vd,
                                 const uint8_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vuint8mf4_t __riscv_vluxei8_tumu(vbool32_t vm, vuint8mf4_t vd,
                                 const uint8_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vuint8mf2_t __riscv_vluxei8_tumu(vbool16_t vm, vuint8mf2_t vd,
                                 const uint8_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vuint8m1_t __riscv_vluxei8_tumu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                vuint8m1_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei8_tumu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                                vuint8m2_t rs2, size_t vl);
vuint8m4_t __riscv_vluxei8_tumu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                                vuint8m4_t rs2, size_t vl);
vuint8m8_t __riscv_vluxei8_tumu(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                                vuint8m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei16_tumu(vbool64_t vm, vuint8mf8_t vd,
                                  const uint8_t *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vuint8mf4_t __riscv_vluxei16_tumu(vbool32_t vm, vuint8mf4_t vd,
                                  const uint8_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vuint8mf2_t __riscv_vluxei16_tumu(vbool16_t vm, vuint8mf2_t vd,
                                  const uint8_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vuint8m1_t __riscv_vluxei16_tumu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                 vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei16_tumu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                                 vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vluxei16_tumu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                                 vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei32_tumu(vbool64_t vm, vuint8mf8_t vd,
                                  const uint8_t *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vuint8mf4_t __riscv_vluxei32_tumu(vbool32_t vm, vuint8mf4_t vd,
                                  const uint8_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vuint8mf2_t __riscv_vluxei32_tumu(vbool16_t vm, vuint8mf2_t vd,
                                  const uint8_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vuint8m1_t __riscv_vluxei32_tumu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                                 vuint32m4_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei32_tumu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                                 vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei64_tumu(vbool64_t vm, vuint8mf8_t vd,
                                  const uint8_t *rs1, vuint64m1_t rs2,
                                  size_t vl);
vuint8mf4_t __riscv_vluxei64_tumu(vbool32_t vm, vuint8mf4_t vd,
                                  const uint8_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vuint8mf2_t __riscv_vluxei64_tumu(vbool16_t vm, vuint8mf2_t vd,
                                  const uint8_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vuint8m1_t __riscv_vluxei64_tumu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
```

```
                                vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei8_tumu(vbool64_t vm, vuint16mf4_t vd,
                                  const uint16_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
vuint16mf2_t __riscv_vluxei8_tumu(vbool32_t vm, vuint16mf2_t vd,
                                  const uint16_t *rs1, vuint8mf4_t rs2,
                                  size_t vl);
vuint16m1_t __riscv_vluxei8_tumu(vbool16_t vm, vuint16m1_t vd,
                                 const uint16_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vuint16m2_t __riscv_vluxei8_tumu(vbool8_t vm, vuint16m2_t vd,
                                 const uint16_t *rs1, vuint8m1_t rs2,
                                 size_t vl);
vuint16m4_t __riscv_vluxei8_tumu(vbool4_t vm, vuint16m4_t vd,
                                 const uint16_t *rs1, vuint8m2_t rs2,
                                 size_t vl);
vuint16m8_t __riscv_vluxei8_tumu(vbool2_t vm, vuint16m8_t vd,
                                 const uint16_t *rs1, vuint8m4_t rs2,
                                 size_t vl);
vuint16mf4_t __riscv_vluxei16_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   const uint16_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint16mf2_t __riscv_vluxei16_tumu(vbool32_t vm, vuint16mf2_t vd,
                                   const uint16_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vuint16m1_t __riscv_vluxei16_tumu(vbool16_t vm, vuint16m1_t vd,
                                  const uint16_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vuint16m2_t __riscv_vluxei16_tumu(vbool8_t vm, vuint16m2_t vd,
                                  const uint16_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vuint16m4_t __riscv_vluxei16_tumu(vbool4_t vm, vuint16m4_t vd,
                                  const uint16_t *rs1, vuint16m4_t rs2,
                                  size_t vl);
vuint16m8_t __riscv_vluxei16_tumu(vbool2_t vm, vuint16m8_t vd,
                                  const uint16_t *rs1, vuint16m8_t rs2,
                                  size_t vl);
vuint16mf4_t __riscv_vluxei32_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   const uint16_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint16mf2_t __riscv_vluxei32_tumu(vbool32_t vm, vuint16mf2_t vd,
                                   const uint16_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vuint16m1_t __riscv_vluxei32_tumu(vbool16_t vm, vuint16m1_t vd,
                                  const uint16_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vuint16m2_t __riscv_vluxei32_tumu(vbool8_t vm, vuint16m2_t vd,
                                  const uint16_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vuint16m4_t __riscv_vluxei32_tumu(vbool4_t vm, vuint16m4_t vd,
                                  const uint16_t *rs1, vuint32m8_t rs2,
                                  size_t vl);
vuint16mf4_t __riscv_vluxei64_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   const uint16_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint16mf2_t __riscv_vluxei64_tumu(vbool32_t vm, vuint16mf2_t vd,
                                   const uint16_t *rs1, vuint64m2_t rs2,
                                   size_t vl);
vuint16m1_t __riscv_vluxei64_tumu(vbool16_t vm, vuint16m1_t vd,
                                  const uint16_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vuint16m2_t __riscv_vluxei64_tumu(vbool8_t vm, vuint16m2_t vd,
                                  const uint16_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint32mf2_t __riscv_vluxei8_tumu(vbool64_t vm, vuint32mf2_t vd,
                                  const uint32_t *rs1, vuint8mf8_t rs2,
                                  size_t vl);
```

```
vuint32m1_t __riscv_vluxei8_tumu(vbool32_t vm, vuint32m1_t vd,
                                 const uint32_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vuint32m2_t __riscv_vluxei8_tumu(vbool16_t vm, vuint32m2_t vd,
                                 const uint32_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vuint32m4_t __riscv_vluxei8_tumu(vbool8_t vm, vuint32m4_t vd,
                                 const uint32_t *rs1, vuint8m1_t rs2,
                                 size_t vl);
vuint32m8_t __riscv_vluxei8_tumu(vbool4_t vm, vuint32m8_t vd,
                                 const uint32_t *rs1, vuint8m2_t rs2,
                                 size_t vl);
vuint32mf2_t __riscv_vluxei16_tumu(vbool64_t vm, vuint32mf2_t vd,
                                   const uint32_t *rs1, vuint16mf4_t rs2,
                                   size_t vl);
vuint32m1_t __riscv_vluxei16_tumu(vbool32_t vm, vuint32m1_t vd,
                                  const uint32_t *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vuint32m2_t __riscv_vluxei16_tumu(vbool16_t vm, vuint32m2_t vd,
                                  const uint32_t *rs1, vuint16m1_t rs2,
                                  size_t vl);
vuint32m4_t __riscv_vluxei16_tumu(vbool8_t vm, vuint32m4_t vd,
                                  const uint32_t *rs1, vuint16m2_t rs2,
                                  size_t vl);
vuint32m8_t __riscv_vluxei16_tumu(vbool4_t vm, vuint32m8_t vd,
                                  const uint32_t *rs1, vuint16m4_t rs2,
                                  size_t vl);
vuint32mf2_t __riscv_vluxei32_tumu(vbool64_t vm, vuint32mf2_t vd,
                                   const uint32_t *rs1, vuint32mf2_t rs2,
                                   size_t vl);
vuint32m1_t __riscv_vluxei32_tumu(vbool32_t vm, vuint32m1_t vd,
                                  const uint32_t *rs1, vuint32m1_t rs2,
                                  size_t vl);
vuint32m2_t __riscv_vluxei32_tumu(vbool16_t vm, vuint32m2_t vd,
                                  const uint32_t *rs1, vuint32m2_t rs2,
                                  size_t vl);
vuint32m4_t __riscv_vluxei32_tumu(vbool8_t vm, vuint32m4_t vd,
                                  const uint32_t *rs1, vuint32m4_t rs2,
                                  size_t vl);
vuint32m8_t __riscv_vluxei32_tumu(vbool4_t vm, vuint32m8_t vd,
                                  const uint32_t *rs1, vuint32m8_t rs2,
                                  size_t vl);
vuint32mf2_t __riscv_vluxei64_tumu(vbool64_t vm, vuint32mf2_t vd,
                                   const uint32_t *rs1, vuint64m1_t rs2,
                                   size_t vl);
vuint32m1_t __riscv_vluxei64_tumu(vbool32_t vm, vuint32m1_t vd,
                                  const uint32_t *rs1, vuint64m2_t rs2,
                                  size_t vl);
vuint32m2_t __riscv_vluxei64_tumu(vbool16_t vm, vuint32m2_t vd,
                                  const uint32_t *rs1, vuint64m4_t rs2,
                                  size_t vl);
vuint32m4_t __riscv_vluxei64_tumu(vbool8_t vm, vuint32m4_t vd,
                                  const uint32_t *rs1, vuint64m8_t rs2,
                                  size_t vl);
vuint64m1_t __riscv_vluxei8_tumu(vbool64_t vm, vuint64m1_t vd,
                                 const uint64_t *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vuint64m2_t __riscv_vluxei8_tumu(vbool32_t vm, vuint64m2_t vd,
                                 const uint64_t *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vuint64m4_t __riscv_vluxei8_tumu(vbool16_t vm, vuint64m4_t vd,
                                 const uint64_t *rs1, vuint8mf2_t rs2,
                                 size_t vl);
vuint64m8_t __riscv_vluxei8_tumu(vbool8_t vm, vuint64m8_t vd,
                                 const uint64_t *rs1, vuint8m1_t rs2,
                                 size_t vl);
vuint64m1_t __riscv_vluxei16_tumu(vbool64_t vm, vuint64m1_t vd,
```

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                                const uint64_t *rs1, vuint16mf4_t rs2,
                                size_t vl);
vuint64m2_t __riscv_vluxei16_tumu(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, vuint16mf2_t rs2,
                                size_t vl);
vuint64m4_t __riscv_vluxei16_tumu(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, vuint16m1_t rs2,
                                size_t vl);
vuint64m8_t __riscv_vluxei16_tumu(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, vuint16m2_t rs2,
                                size_t vl);
vuint64m1_t __riscv_vluxei32_tumu(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, vuint32mf2_t rs2,
                                size_t vl);
vuint64m2_t __riscv_vluxei32_tumu(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, vuint32m1_t rs2,
                                size_t vl);
vuint64m4_t __riscv_vluxei32_tumu(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, vuint32m2_t rs2,
                                size_t vl);
vuint64m8_t __riscv_vluxei32_tumu(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, vuint32m4_t rs2,
                                size_t vl);
vuint64m1_t __riscv_vluxei64_tumu(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, vuint64m1_t rs2,
                                size_t vl);
vuint64m2_t __riscv_vluxei64_tumu(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, vuint64m2_t rs2,
                                size_t vl);
vuint64m4_t __riscv_vluxei64_tumu(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, vuint64m4_t rs2,
                                size_t vl);
vuint64m8_t __riscv_vluxei64_tumu(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, vuint64m8_t rs2,
                                size_t vl);
// masked functions
vfloat16mf4_t __riscv_vloxei8_mu(vbool64_t vm, vfloat16mf4_t vd,
                               const _Float16 *rs1, vuint8mf8_t rs2,
                               size_t vl);
vfloat16mf2_t __riscv_vloxei8_mu(vbool32_t vm, vfloat16mf2_t vd,
                               const _Float16 *rs1, vuint8mf4_t rs2,
                               size_t vl);
vfloat16m1_t __riscv_vloxei8_mu(vbool16_t vm, vfloat16m1_t vd,
                              const _Float16 *rs1, vuint8mf2_t rs2,
                              size_t vl);
vfloat16m2_t __riscv_vloxei8_mu(vbool8_t vm, vfloat16m2_t vd,
                              const _Float16 *rs1, vuint8m1_t rs2, size_t vl);
vfloat16m4_t __riscv_vloxei8_mu(vbool4_t vm, vfloat16m4_t vd,
                              const _Float16 *rs1, vuint8m2_t rs2, size_t vl);
vfloat16m8_t __riscv_vloxei8_mu(vbool2_t vm, vfloat16m8_t vd,
                              const _Float16 *rs1, vuint8m4_t rs2, size_t vl);
vfloat16mf4_t __riscv_vloxei16_mu(vbool64_t vm, vfloat16mf4_t vd,
                                const _Float16 *rs1, vuint16mf4_t rs2,
                                size_t vl);
vfloat16mf2_t __riscv_vloxei16_mu(vbool32_t vm, vfloat16mf2_t vd,
                                const _Float16 *rs1, vuint16mf2_t rs2,
                                size_t vl);
vfloat16m1_t __riscv_vloxei16_mu(vbool16_t vm, vfloat16m1_t vd,
                               const _Float16 *rs1, vuint16m1_t rs2,
                               size_t vl);
vfloat16m2_t __riscv_vloxei16_mu(vbool8_t vm, vfloat16m2_t vd,
                               const _Float16 *rs1, vuint16m2_t rs2,
                               size_t vl);
vfloat16m4_t __riscv_vloxei16_mu(vbool4_t vm, vfloat16m4_t vd,
                               const _Float16 *rs1, vuint16m4_t rs2,
                               size_t vl);
vfloat16m8_t __riscv_vloxei16_mu(vbool2_t vm, vfloat16m8_t vd,
```

```
                                const _Float16 *rs1, vuint16m8_t rs2,
                                size_t vl);
vfloat16mf4_t __riscv_vloxei32_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vloxei32_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint32m1_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vloxei32_mu(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint32m2_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vloxei32_mu(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint32m4_t rs2,
                                 size_t vl);
vfloat16m4_t __riscv_vloxei32_mu(vbool4_t vm, vfloat16m4_t vd,
                                 const _Float16 *rs1, vuint32m8_t rs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vloxei64_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint64m1_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vloxei64_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint64m2_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vloxei64_mu(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint64m4_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vloxei64_mu(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint64m8_t rs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vloxei8_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 const float *rs1, vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei8_mu(vbool32_t vm, vfloat32m1_t vd, const float *rs1,
                                vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei8_mu(vbool16_t vm, vfloat32m2_t vd, const float *rs1,
                                vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei8_mu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei8_mu(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei16_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  const float *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vfloat32m1_t __riscv_vloxei16_mu(vbool32_t vm, vfloat32m1_t vd,
                                 const float *rs1, vuint16mf2_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei16_mu(vbool16_t vm, vfloat32m2_t vd,
                                 const float *rs1, vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei16_mu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                 vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei16_mu(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                 vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei32_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  const float *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vfloat32m1_t __riscv_vloxei32_mu(vbool32_t vm, vfloat32m1_t vd,
                                 const float *rs1, vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei32_mu(vbool16_t vm, vfloat32m2_t vd,
                                 const float *rs1, vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vloxei32_mu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                 vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vloxei32_mu(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                 vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vloxei64_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  const float *rs1, vuint64m1_t rs2, size_t vl);
vfloat32m1_t __riscv_vloxei64_mu(vbool32_t vm, vfloat32m1_t vd,
                                 const float *rs1, vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vloxei64_mu(vbool16_t vm, vfloat32m2_t vd,
                                 const float *rs1, vuint64m4_t rs2, size_t vl);
```

```
vfloat32m4_t __riscv_vloxei64_mu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                 vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei8_mu(vbool64_t vm, vfloat64m1_t vd,
                                const double *rs1, vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei8_mu(vbool32_t vm, vfloat64m2_t vd,
                                const double *rs1, vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei8_mu(vbool16_t vm, vfloat64m4_t vd,
                                const double *rs1, vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei8_mu(vbool8_t vm, vfloat64m8_t vd, const double *rs1,
                                vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei16_mu(vbool64_t vm, vfloat64m1_t vd,
                                 const double *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vfloat64m2_t __riscv_vloxei16_mu(vbool32_t vm, vfloat64m2_t vd,
                                 const double *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vfloat64m4_t __riscv_vloxei16_mu(vbool16_t vm, vfloat64m4_t vd,
                                 const double *rs1, vuint16m1_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei16_mu(vbool8_t vm, vfloat64m8_t vd,
                                 const double *rs1, vuint16m2_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei32_mu(vbool64_t vm, vfloat64m1_t vd,
                                 const double *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vfloat64m2_t __riscv_vloxei32_mu(vbool32_t vm, vfloat64m2_t vd,
                                 const double *rs1, vuint32m1_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei32_mu(vbool16_t vm, vfloat64m4_t vd,
                                 const double *rs1, vuint32m2_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei32_mu(vbool8_t vm, vfloat64m8_t vd,
                                 const double *rs1, vuint32m4_t rs2, size_t vl);
vfloat64m1_t __riscv_vloxei64_mu(vbool64_t vm, vfloat64m1_t vd,
                                 const double *rs1, vuint64m1_t rs2, size_t vl);
vfloat64m2_t __riscv_vloxei64_mu(vbool32_t vm, vfloat64m2_t vd,
                                 const double *rs1, vuint64m2_t rs2, size_t vl);
vfloat64m4_t __riscv_vloxei64_mu(vbool16_t vm, vfloat64m4_t vd,
                                 const double *rs1, vuint64m4_t rs2, size_t vl);
vfloat64m8_t __riscv_vloxei64_mu(vbool8_t vm, vfloat64m8_t vd,
                                 const double *rs1, vuint64m8_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei8_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 const _Float16 *rs1, vuint8mf8_t rs2,
                                 size_t vl);
vfloat16mf2_t __riscv_vluxei8_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 const _Float16 *rs1, vuint8mf4_t rs2,
                                 size_t vl);
vfloat16m1_t __riscv_vluxei8_mu(vbool16_t vm, vfloat16m1_t vd,
                                const _Float16 *rs1, vuint8mf2_t rs2,
                                size_t vl);
vfloat16m2_t __riscv_vluxei8_mu(vbool8_t vm, vfloat16m2_t vd,
                                const _Float16 *rs1, vuint8m1_t rs2, size_t vl);
vfloat16m4_t __riscv_vluxei8_mu(vbool4_t vm, vfloat16m4_t vd,
                                const _Float16 *rs1, vuint8m2_t rs2, size_t vl);
vfloat16m8_t __riscv_vluxei8_mu(vbool2_t vm, vfloat16m8_t vd,
                                const _Float16 *rs1, vuint8m4_t rs2, size_t vl);
vfloat16mf4_t __riscv_vluxei16_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vluxei16_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint16mf2_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vluxei16_mu(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint16m1_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vluxei16_mu(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint16m2_t rs2,
                                 size_t vl);
vfloat16m4_t __riscv_vluxei16_mu(vbool4_t vm, vfloat16m4_t vd,
                                 const _Float16 *rs1, vuint16m4_t rs2,
                                 size_t vl);
```

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vfloat16m8_t __riscv_vluxei16_mu(vbool2_t vm, vfloat16m8_t vd,
                                 const _Float16 *rs1, vuint16m8_t rs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vluxei32_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vluxei32_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint32m1_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vluxei32_mu(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint32m2_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vluxei32_mu(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint32m4_t rs2,
                                 size_t vl);
vfloat16m4_t __riscv_vluxei32_mu(vbool4_t vm, vfloat16m4_t vd,
                                 const _Float16 *rs1, vuint32m8_t rs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vluxei64_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, vuint64m1_t rs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vluxei64_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, vuint64m2_t rs2,
                                  size_t vl);
vfloat16m1_t __riscv_vluxei64_mu(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, vuint64m4_t rs2,
                                 size_t vl);
vfloat16m2_t __riscv_vluxei64_mu(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, vuint64m8_t rs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vluxei8_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 const float *rs1, vuint8mf8_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei8_mu(vbool32_t vm, vfloat32m1_t vd, const float *rs1,
                                vuint8mf4_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei8_mu(vbool16_t vm, vfloat32m2_t vd, const float *rs1,
                                vuint8mf2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei8_mu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                vuint8m1_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei8_mu(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                vuint8m2_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei16_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  const float *rs1, vuint16mf4_t rs2,
                                  size_t vl);
vfloat32m1_t __riscv_vluxei16_mu(vbool32_t vm, vfloat32m1_t vd,
                                 const float *rs1, vuint16mf2_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei16_mu(vbool16_t vm, vfloat32m2_t vd,
                                 const float *rs1, vuint16m1_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei16_mu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                 vuint16m2_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei16_mu(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                 vuint16m4_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei32_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  const float *rs1, vuint32mf2_t rs2,
                                  size_t vl);
vfloat32m1_t __riscv_vluxei32_mu(vbool32_t vm, vfloat32m1_t vd,
                                 const float *rs1, vuint32m1_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei32_mu(vbool16_t vm, vfloat32m2_t vd,
                                 const float *rs1, vuint32m2_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei32_mu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                 vuint32m4_t rs2, size_t vl);
vfloat32m8_t __riscv_vluxei32_mu(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                 vuint32m8_t rs2, size_t vl);
vfloat32mf2_t __riscv_vluxei64_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  const float *rs1, vuint64m1_t rs2, size_t vl);
vfloat32m1_t __riscv_vluxei64_mu(vbool32_t vm, vfloat32m1_t vd,
                                 const float *rs1, vuint64m2_t rs2, size_t vl);
vfloat32m2_t __riscv_vluxei64_mu(vbool16_t vm, vfloat32m2_t vd,
```

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                                const float *rs1, vuint64m4_t rs2, size_t vl);
vfloat32m4_t __riscv_vluxei64_mu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                 vuint64m8_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei8_mu(vbool64_t vm, vfloat64m1_t vd,
                                const double *rs1, vuint8mf8_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei8_mu(vbool32_t vm, vfloat64m2_t vd,
                                const double *rs1, vuint8mf4_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei8_mu(vbool16_t vm, vfloat64m4_t vd,
                                const double *rs1, vuint8mf2_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei8_mu(vbool8_t vm, vfloat64m8_t vd, const double *rs1,
                                vuint8m1_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei16_mu(vbool64_t vm, vfloat64m1_t vd,
                                 const double *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vfloat64m2_t __riscv_vluxei16_mu(vbool32_t vm, vfloat64m2_t vd,
                                 const double *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vfloat64m4_t __riscv_vluxei16_mu(vbool16_t vm, vfloat64m4_t vd,
                                 const double *rs1, vuint16m1_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei16_mu(vbool8_t vm, vfloat64m8_t vd,
                                 const double *rs1, vuint16m2_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei32_mu(vbool64_t vm, vfloat64m1_t vd,
                                 const double *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vfloat64m2_t __riscv_vluxei32_mu(vbool32_t vm, vfloat64m2_t vd,
                                 const double *rs1, vuint32m1_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei32_mu(vbool16_t vm, vfloat64m4_t vd,
                                 const double *rs1, vuint32m2_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei32_mu(vbool8_t vm, vfloat64m8_t vd,
                                 const double *rs1, vuint32m4_t rs2, size_t vl);
vfloat64m1_t __riscv_vluxei64_mu(vbool64_t vm, vfloat64m1_t vd,
                                 const double *rs1, vuint64m1_t rs2, size_t vl);
vfloat64m2_t __riscv_vluxei64_mu(vbool32_t vm, vfloat64m2_t vd,
                                 const double *rs1, vuint64m2_t rs2, size_t vl);
vfloat64m4_t __riscv_vluxei64_mu(vbool16_t vm, vfloat64m4_t vd,
                                 const double *rs1, vuint64m4_t rs2, size_t vl);
vfloat64m8_t __riscv_vluxei64_mu(vbool8_t vm, vfloat64m8_t vd,
                                 const double *rs1, vuint64m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei8_mu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                              vuint8mf8_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei8_mu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                              vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei8_mu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei8_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                             vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vloxei8_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                             vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vloxei8_mu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                             vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vloxei8_mu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                             vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei16_mu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                               vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei16_mu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                               vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei16_mu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vloxei16_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                              vuint16m2_t rs2, size_t vl);
vint8m2_t __riscv_vloxei16_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                              vuint16m4_t rs2, size_t vl);
vint8m4_t __riscv_vloxei16_mu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                              vuint16m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei32_mu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                               vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei32_mu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
```

```
                                vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei32_mu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vloxei32_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint8m2_t __riscv_vloxei32_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vint8mf8_t __riscv_vloxei64_mu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                                vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vloxei64_mu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                                vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vloxei64_mu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                                vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vloxei64_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei8_mu(vbool64_t vm, vint16mf4_t vd, const int16_t *rs1,
                                vuint8mf8_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei8_mu(vbool32_t vm, vint16mf2_t vd, const int16_t *rs1,
                                vuint8mf4_t rs2, size_t vl);
vint16m1_t __riscv_vloxei8_mu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei8_mu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vint16m4_t __riscv_vloxei8_mu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vint16m8_t __riscv_vloxei8_mu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                               vuint8m4_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei16_mu(vbool64_t vm, vint16mf4_t vd,
                                const int16_t *rs1, vuint16mf4_t rs2,
                                size_t vl);
vint16mf2_t __riscv_vloxei16_mu(vbool32_t vm, vint16mf2_t vd,
                                const int16_t *rs1, vuint16mf2_t rs2,
                                size_t vl);
vint16m1_t __riscv_vloxei16_mu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint16m2_t __riscv_vloxei16_mu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vint16m4_t __riscv_vloxei16_mu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vloxei16_mu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                               vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei32_mu(vbool64_t vm, vint16mf4_t vd,
                                const int16_t *rs1, vuint32mf2_t rs2,
                                size_t vl);
vint16mf2_t __riscv_vloxei32_mu(vbool32_t vm, vint16mf2_t vd,
                                const int16_t *rs1, vuint32m1_t rs2, size_t vl);
vint16m1_t __riscv_vloxei32_mu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint16m2_t __riscv_vloxei32_mu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vloxei32_mu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vloxei64_mu(vbool64_t vm, vint16mf4_t vd,
                                const int16_t *rs1, vuint64m1_t rs2, size_t vl);
vint16mf2_t __riscv_vloxei64_mu(vbool32_t vm, vint16mf2_t vd,
                                const int16_t *rs1, vuint64m2_t rs2, size_t vl);
vint16m1_t __riscv_vloxei64_mu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint16m2_t __riscv_vloxei64_mu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei8_mu(vbool64_t vm, vint32mf2_t vd, const int32_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint32m1_t __riscv_vloxei8_mu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                              vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vloxei8_mu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei8_mu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
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                              vuint8m1_t rs2, size_t vl);
vint32m8_t __riscv_vloxei8_mu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                              vuint8m2_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei16_mu(vbool64_t vm, vint32mf2_t vd,
                                const int32_t *rs1, vuint16mf4_t rs2,
                                size_t vl);
vint32m1_t __riscv_vloxei16_mu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                               vuint16mf2_t rs2, size_t vl);
vint32m2_t __riscv_vloxei16_mu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint32m4_t __riscv_vloxei16_mu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vint32m8_t __riscv_vloxei16_mu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei32_mu(vbool64_t vm, vint32mf2_t vd,
                                const int32_t *rs1, vuint32mf2_t rs2,
                                size_t vl);
vint32m1_t __riscv_vloxei32_mu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                               vuint32m1_t rs2, size_t vl);
vint32m2_t __riscv_vloxei32_mu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint32m4_t __riscv_vloxei32_mu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vloxei32_mu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vloxei64_mu(vbool64_t vm, vint32mf2_t vd,
                                const int32_t *rs1, vuint64m1_t rs2, size_t vl);
vint32m1_t __riscv_vloxei64_mu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                               vuint64m2_t rs2, size_t vl);
vint32m2_t __riscv_vloxei64_mu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint32m4_t __riscv_vloxei64_mu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vloxei8_mu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                              vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vloxei8_mu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                              vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vloxei8_mu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vloxei8_mu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                              vuint8m1_t rs2, size_t vl);
vint64m1_t __riscv_vloxei16_mu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                               vuint16mf4_t rs2, size_t vl);
vint64m2_t __riscv_vloxei16_mu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                               vuint16mf2_t rs2, size_t vl);
vint64m4_t __riscv_vloxei16_mu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint64m8_t __riscv_vloxei16_mu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vloxei32_mu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                               vuint32mf2_t rs2, size_t vl);
vint64m2_t __riscv_vloxei32_mu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                               vuint32m1_t rs2, size_t vl);
vint64m4_t __riscv_vloxei32_mu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint64m8_t __riscv_vloxei32_mu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint64m1_t __riscv_vloxei64_mu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                               vuint64m1_t rs2, size_t vl);
vint64m2_t __riscv_vloxei64_mu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                               vuint64m2_t rs2, size_t vl);
vint64m4_t __riscv_vloxei64_mu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint64m8_t __riscv_vloxei64_mu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei8_mu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                              vuint8mf8_t rs2, size_t vl);
```

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vint8mf4_t __riscv_vluxei8_mu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                              vuint8mf4_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei8_mu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint8m1_t __riscv_vluxei8_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                             vuint8m1_t rs2, size_t vl);
vint8m2_t __riscv_vluxei8_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                             vuint8m2_t rs2, size_t vl);
vint8m4_t __riscv_vluxei8_mu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                             vuint8m4_t rs2, size_t vl);
vint8m8_t __riscv_vluxei8_mu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                             vuint8m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei16_mu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                               vuint16mf4_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei16_mu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                               vuint16mf2_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei16_mu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint8m1_t __riscv_vluxei16_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                              vuint16m2_t rs2, size_t vl);
vint8m2_t __riscv_vluxei16_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                              vuint16m4_t rs2, size_t vl);
vint8m4_t __riscv_vluxei16_mu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                              vuint16m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei32_mu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                               vuint32mf2_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei32_mu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                               vuint32m1_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei32_mu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint8m1_t __riscv_vluxei32_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                              vuint32m4_t rs2, size_t vl);
vint8m2_t __riscv_vluxei32_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                              vuint32m8_t rs2, size_t vl);
vint8mf8_t __riscv_vluxei64_mu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                               vuint64m1_t rs2, size_t vl);
vint8mf4_t __riscv_vluxei64_mu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                               vuint64m2_t rs2, size_t vl);
vint8mf2_t __riscv_vluxei64_mu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint8m1_t __riscv_vluxei64_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                              vuint64m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei8_mu(vbool64_t vm, vint16mf4_t vd, const int16_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei8_mu(vbool32_t vm, vint16mf2_t vd, const int16_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vint16m1_t __riscv_vluxei8_mu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint16m2_t __riscv_vluxei8_mu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                              vuint8m1_t rs2, size_t vl);
vint16m4_t __riscv_vluxei8_mu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                              vuint8m2_t rs2, size_t vl);
vint16m8_t __riscv_vluxei8_mu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                              vuint8m4_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei16_mu(vbool64_t vm, vint16mf4_t vd,
                                const int16_t *rs1, vuint16mf4_t rs2,
                                size_t vl);
vint16mf2_t __riscv_vluxei16_mu(vbool32_t vm, vint16mf2_t vd,
                                const int16_t *rs1, vuint16mf2_t rs2,
                                size_t vl);
vint16m1_t __riscv_vluxei16_mu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint16m2_t __riscv_vluxei16_mu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vint16m4_t __riscv_vluxei16_mu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vint16m8_t __riscv_vluxei16_mu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
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                                vuint16m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei32_mu(vbool64_t vm, vint16mf4_t vd,
                                const int16_t *rs1, vuint32mf2_t rs2,
                                size_t vl);
vint16mf2_t __riscv_vluxei32_mu(vbool32_t vm, vint16mf2_t vd,
                                const int16_t *rs1, vuint32m1_t rs2, size_t vl);
vint16m1_t __riscv_vluxei32_mu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint16m2_t __riscv_vluxei32_mu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint16m4_t __riscv_vluxei32_mu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vint16mf4_t __riscv_vluxei64_mu(vbool64_t vm, vint16mf4_t vd,
                                const int16_t *rs1, vuint64m1_t rs2, size_t vl);
vint16mf2_t __riscv_vluxei64_mu(vbool32_t vm, vint16mf2_t vd,
                                const int16_t *rs1, vuint64m2_t rs2, size_t vl);
vint16m1_t __riscv_vluxei64_mu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint16m2_t __riscv_vluxei64_mu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei8_mu(vbool64_t vm, vint32mf2_t vd, const int32_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vint32m1_t __riscv_vluxei8_mu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                              vuint8mf4_t rs2, size_t vl);
vint32m2_t __riscv_vluxei8_mu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint32m4_t __riscv_vluxei8_mu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                              vuint8m1_t rs2, size_t vl);
vint32m8_t __riscv_vluxei8_mu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                              vuint8m2_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei16_mu(vbool64_t vm, vint32mf2_t vd,
                                const int32_t *rs1, vuint16mf4_t rs2,
                                size_t vl);
vint32m1_t __riscv_vluxei16_mu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                               vuint16mf2_t rs2, size_t vl);
vint32m2_t __riscv_vluxei16_mu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                               vuint16m1_t rs2, size_t vl);
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                               vuint16m2_t rs2, size_t vl);
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                               vuint16m4_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei32_mu(vbool64_t vm, vint32mf2_t vd,
                                const int32_t *rs1, vuint32mf2_t rs2,
                                size_t vl);
vint32m1_t __riscv_vluxei32_mu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                               vuint32m1_t rs2, size_t vl);
vint32m2_t __riscv_vluxei32_mu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                               vuint32m2_t rs2, size_t vl);
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                               vuint32m4_t rs2, size_t vl);
vint32m8_t __riscv_vluxei32_mu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vint32mf2_t __riscv_vluxei64_mu(vbool64_t vm, vint32mf2_t vd,
                                const int32_t *rs1, vuint64m1_t rs2, size_t vl);
vint32m1_t __riscv_vluxei64_mu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                               vuint64m2_t rs2, size_t vl);
vint32m2_t __riscv_vluxei64_mu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint32m4_t __riscv_vluxei64_mu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vint64m1_t __riscv_vluxei8_mu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                              vuint8mf8_t rs2, size_t vl);
vint64m2_t __riscv_vluxei8_mu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                              vuint8mf4_t rs2, size_t vl);
vint64m4_t __riscv_vluxei8_mu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                              vuint8mf2_t rs2, size_t vl);
vint64m8_t __riscv_vluxei8_mu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
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                              vuint8m1_t rs2, size_t vl);
vint64m1_t __riscv_vluxei16_mu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                               vuint16mf4_t rs2, size_t vl);
vint64m2_t __riscv_vluxei16_mu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                               vuint16mf2_t rs2, size_t vl);
vint64m4_t __riscv_vluxei16_mu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                               vuint16m1_t rs2, size_t vl);
vint64m8_t __riscv_vluxei16_mu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vint64m1_t __riscv_vluxei32_mu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                               vuint32mf2_t rs2, size_t vl);
vint64m2_t __riscv_vluxei32_mu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                               vuint32m1_t rs2, size_t vl);
vint64m4_t __riscv_vluxei32_mu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                               vuint32m2_t rs2, size_t vl);
vint64m8_t __riscv_vluxei32_mu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vint64m1_t __riscv_vluxei64_mu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                               vuint64m1_t rs2, size_t vl);
vint64m2_t __riscv_vluxei64_mu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                               vuint64m2_t rs2, size_t vl);
vint64m4_t __riscv_vluxei64_mu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                               vuint64m4_t rs2, size_t vl);
vint64m8_t __riscv_vluxei64_mu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei8_mu(vbool64_t vm, vuint8mf8_t vd, const uint8_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei8_mu(vbool32_t vm, vuint8mf4_t vd, const uint8_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei8_mu(vbool16_t vm, vuint8mf2_t vd, const uint8_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei8_mu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                              vuint8m1_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei8_mu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                              vuint8m2_t rs2, size_t vl);
vuint8m4_t __riscv_vloxei8_mu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                              vuint8m4_t rs2, size_t vl);
vuint8m8_t __riscv_vloxei8_mu(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                              vuint8m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei16_mu(vbool64_t vm, vuint8mf8_t vd,
                                const uint8_t *rs1, vuint16mf4_t rs2,
                                size_t vl);
vuint8mf4_t __riscv_vloxei16_mu(vbool32_t vm, vuint8mf4_t vd,
                                const uint8_t *rs1, vuint16mf2_t rs2,
                                size_t vl);
vuint8mf2_t __riscv_vloxei16_mu(vbool16_t vm, vuint8mf2_t vd,
                                const uint8_t *rs1, vuint16m1_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei16_mu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei16_mu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vloxei16_mu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                               vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei32_mu(vbool64_t vm, vuint8mf8_t vd,
                                const uint8_t *rs1, vuint32mf2_t rs2,
                                size_t vl);
vuint8mf4_t __riscv_vloxei32_mu(vbool32_t vm, vuint8mf4_t vd,
                                const uint8_t *rs1, vuint32m1_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei32_mu(vbool16_t vm, vuint8mf2_t vd,
                                const uint8_t *rs1, vuint32m2_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei32_mu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                               vuint32m4_t rs2, size_t vl);
vuint8m2_t __riscv_vloxei32_mu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                               vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vloxei64_mu(vbool64_t vm, vuint8mf8_t vd,
                                const uint8_t *rs1, vuint64m1_t rs2, size_t vl);
vuint8mf4_t __riscv_vloxei64_mu(vbool32_t vm, vuint8mf4_t vd,
```

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                                const uint8_t *rs1, vuint64m2_t rs2, size_t vl);
vuint8mf2_t __riscv_vloxei64_mu(vbool16_t vm, vuint8mf2_t vd,
                                const uint8_t *rs1, vuint64m4_t rs2, size_t vl);
vuint8m1_t __riscv_vloxei64_mu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei8_mu(vbool64_t vm, vuint16mf4_t vd,
                                const uint16_t *rs1, vuint8mf8_t rs2,
                                size_t vl);
vuint16mf2_t __riscv_vloxei8_mu(vbool32_t vm, vuint16mf2_t vd,
                                const uint16_t *rs1, vuint8mf4_t rs2,
                                size_t vl);
vuint16m1_t __riscv_vloxei8_mu(vbool16_t vm, vuint16m1_t vd,
                               const uint16_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint16m2_t __riscv_vloxei8_mu(vbool8_t vm, vuint16m2_t vd, const uint16_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint16m4_t __riscv_vloxei8_mu(vbool4_t vm, vuint16m4_t vd, const uint16_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vloxei8_mu(vbool2_t vm, vuint16m8_t vd, const uint16_t *rs1,
                               vuint8m4_t rs2, size_t vl);
vuint16mf4_t __riscv_vloxei16_mu(vbool64_t vm, vuint16mf4_t vd,
                                 const uint16_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vuint16mf2_t __riscv_vloxei16_mu(vbool32_t vm, vuint16mf2_t vd,
                                 const uint16_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vuint16m1_t __riscv_vloxei16_mu(vbool16_t vm, vuint16m1_t vd,
                                const uint16_t *rs1, vuint16m1_t rs2,
                                size_t vl);
vuint16m2_t __riscv_vloxei16_mu(vbool8_t vm, vuint16m2_t vd,
                                const uint16_t *rs1, vuint16m2_t rs2,
                                size_t vl);
vuint16m4_t __riscv_vloxei16_mu(vbool4_t vm, vuint16m4_t vd,
                                const uint16_t *rs1, vuint16m4_t rs2,
                                size_t vl);
vuint16m8_t __riscv_vloxei16_mu(vbool2_t vm, vuint16m8_t vd,
                                const uint16_t *rs1, vuint16m8_t rs2,
                                size_t vl);
vuint16mf4_t __riscv_vloxei32_mu(vbool64_t vm, vuint16mf4_t vd,
                                 const uint16_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vuint16mf2_t __riscv_vloxei32_mu(vbool32_t vm, vuint16mf2_t vd,
                                 const uint16_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vuint16m1_t __riscv_vloxei32_mu(vbool16_t vm, vuint16m1_t vd,
                                const uint16_t *rs1, vuint32m2_t rs2,
                                size_t vl);
vuint16m2_t __riscv_vloxei32_mu(vbool8_t vm, vuint16m2_t vd,
                                const uint16_t *rs1, vuint32m4_t rs2,
                                size_t vl);
vuint16m4_t __riscv_vloxei32_mu(vbool4_t vm, vuint16m4_t vd,
                                const uint16_t *rs1, vuint32m8_t rs2,
                                size_t vl);
vuint16mf4_t __riscv_vloxei64_mu(vbool64_t vm, vuint16mf4_t vd,
                                 const uint16_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vuint16mf2_t __riscv_vloxei64_mu(vbool32_t vm, vuint16mf2_t vd,
                                 const uint16_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vuint16m1_t __riscv_vloxei64_mu(vbool16_t vm, vuint16m1_t vd,
                                const uint16_t *rs1, vuint64m4_t rs2,
                                size_t vl);
vuint16m2_t __riscv_vloxei64_mu(vbool8_t vm, vuint16m2_t vd,
                                const uint16_t *rs1, vuint64m8_t rs2,
                                size_t vl);
vuint32mf2_t __riscv_vloxei8_mu(vbool64_t vm, vuint32mf2_t vd,
                                const uint32_t *rs1, vuint8mf8_t rs2,
                                size_t vl);
```

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vuint32m1_t __riscv_vloxei8_mu(vbool32_t vm, vuint32m1_t vd,
                               const uint32_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint32m2_t __riscv_vloxei8_mu(vbool16_t vm, vuint32m2_t vd,
                               const uint32_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint32m4_t __riscv_vloxei8_mu(vbool8_t vm, vuint32m4_t vd, const uint32_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint32m8_t __riscv_vloxei8_mu(vbool4_t vm, vuint32m8_t vd, const uint32_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vuint32mf2_t __riscv_vloxei16_mu(vbool64_t vm, vuint32mf2_t vd,
                                 const uint32_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vuint32m1_t __riscv_vloxei16_mu(vbool32_t vm, vuint32m1_t vd,
                                const uint32_t *rs1, vuint16mf2_t rs2,
                                size_t vl);
vuint32m2_t __riscv_vloxei16_mu(vbool16_t vm, vuint32m2_t vd,
                                const uint32_t *rs1, vuint16m1_t rs2,
                                size_t vl);
vuint32m4_t __riscv_vloxei16_mu(vbool8_t vm, vuint32m4_t vd,
                                const uint32_t *rs1, vuint16m2_t rs2,
                                size_t vl);
vuint32m8_t __riscv_vloxei16_mu(vbool4_t vm, vuint32m8_t vd,
                                const uint32_t *rs1, vuint16m4_t rs2,
                                size_t vl);
vuint32mf2_t __riscv_vloxei32_mu(vbool64_t vm, vuint32mf2_t vd,
                                 const uint32_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vuint32m1_t __riscv_vloxei32_mu(vbool32_t vm, vuint32m1_t vd,
                                const uint32_t *rs1, vuint32m1_t rs2,
                                size_t vl);
vuint32m2_t __riscv_vloxei32_mu(vbool16_t vm, vuint32m2_t vd,
                                const uint32_t *rs1, vuint32m2_t rs2,
                                size_t vl);
vuint32m4_t __riscv_vloxei32_mu(vbool8_t vm, vuint32m4_t vd,
                                const uint32_t *rs1, vuint32m4_t rs2,
                                size_t vl);
vuint32m8_t __riscv_vloxei32_mu(vbool4_t vm, vuint32m8_t vd,
                                const uint32_t *rs1, vuint32m8_t rs2,
                                size_t vl);
vuint32mf2_t __riscv_vloxei64_mu(vbool64_t vm, vuint32mf2_t vd,
                                 const uint32_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vuint32m1_t __riscv_vloxei64_mu(vbool32_t vm, vuint32m1_t vd,
                                const uint32_t *rs1, vuint64m2_t rs2,
                                size_t vl);
vuint32m2_t __riscv_vloxei64_mu(vbool16_t vm, vuint32m2_t vd,
                                const uint32_t *rs1, vuint64m4_t rs2,
                                size_t vl);
vuint32m4_t __riscv_vloxei64_mu(vbool8_t vm, vuint32m4_t vd,
                                const uint32_t *rs1, vuint64m8_t rs2,
                                size_t vl);
vuint64m1_t __riscv_vloxei8_mu(vbool64_t vm, vuint64m1_t vd,
                               const uint64_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint64m2_t __riscv_vloxei8_mu(vbool32_t vm, vuint64m2_t vd,
                               const uint64_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint64m4_t __riscv_vloxei8_mu(vbool16_t vm, vuint64m4_t vd,
                               const uint64_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint64m8_t __riscv_vloxei8_mu(vbool8_t vm, vuint64m8_t vd, const uint64_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint64m1_t __riscv_vloxei16_mu(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, vuint16mf4_t rs2,
                                size_t vl);
vuint64m2_t __riscv_vloxei16_mu(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, vuint16mf2_t rs2,
                                size_t vl);
vuint64m4_t __riscv_vloxei16_mu(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, vuint16m1_t rs2,
                                size_t vl);
```

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vuint64m8_t __riscv_vloxei16_mu(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, vuint16m2_t rs2,
                                size_t vl);
vuint64m1_t __riscv_vloxei32_mu(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, vuint32mf2_t rs2,
                                size_t vl);
vuint64m2_t __riscv_vloxei32_mu(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, vuint32m1_t rs2,
                                size_t vl);
vuint64m4_t __riscv_vloxei32_mu(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, vuint32m2_t rs2,
                                size_t vl);
vuint64m8_t __riscv_vloxei32_mu(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, vuint32m4_t rs2,
                                size_t vl);
vuint64m1_t __riscv_vloxei64_mu(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, vuint64m1_t rs2,
                                size_t vl);
vuint64m2_t __riscv_vloxei64_mu(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, vuint64m2_t rs2,
                                size_t vl);
vuint64m4_t __riscv_vloxei64_mu(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, vuint64m4_t rs2,
                                size_t vl);
vuint64m8_t __riscv_vloxei64_mu(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, vuint64m8_t rs2,
                                size_t vl);
vuint8mf8_t __riscv_vluxei8_mu(vbool64_t vm, vuint8mf8_t vd, const uint8_t *rs1,
                               vuint8mf8_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei8_mu(vbool32_t vm, vuint8mf4_t vd, const uint8_t *rs1,
                               vuint8mf4_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei8_mu(vbool16_t vm, vuint8mf2_t vd, const uint8_t *rs1,
                               vuint8mf2_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei8_mu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                              vuint8m1_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei8_mu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                              vuint8m2_t rs2, size_t vl);
vuint8m4_t __riscv_vluxei8_mu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                              vuint8m4_t rs2, size_t vl);
vuint8m8_t __riscv_vluxei8_mu(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                              vuint8m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei16_mu(vbool64_t vm, vuint8mf8_t vd,
                                const uint8_t *rs1, vuint16mf4_t rs2,
                                size_t vl);
vuint8mf4_t __riscv_vluxei16_mu(vbool32_t vm, vuint8mf4_t vd,
                                const uint8_t *rs1, vuint16mf2_t rs2,
                                size_t vl);
vuint8mf2_t __riscv_vluxei16_mu(vbool16_t vm, vuint8mf2_t vd,
                                const uint8_t *rs1, vuint16m1_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei16_mu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                               vuint16m2_t rs2, size_t vl);
vuint8m2_t __riscv_vluxei16_mu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                               vuint16m4_t rs2, size_t vl);
vuint8m4_t __riscv_vluxei16_mu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                               vuint16m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei32_mu(vbool64_t vm, vuint8mf8_t vd,
                                const uint8_t *rs1, vuint32mf2_t rs2,
                                size_t vl);
vuint8mf4_t __riscv_vluxei32_mu(vbool32_t vm, vuint8mf4_t vd,
                                const uint8_t *rs1, vuint32m1_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei32_mu(vbool16_t vm, vuint8mf2_t vd,
                                const uint8_t *rs1, vuint32m2_t rs2, size_t vl);
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                               vuint32m4_t rs2, size_t vl);
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                               vuint32m8_t rs2, size_t vl);
vuint8mf8_t __riscv_vluxei64_mu(vbool64_t vm, vuint8mf8_t vd,
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                                const uint8_t *rs1, vuint64m1_t rs2, size_t vl);
vuint8mf4_t __riscv_vluxei64_mu(vbool32_t vm, vuint8mf4_t vd,
                                const uint8_t *rs1, vuint64m2_t rs2, size_t vl);
vuint8mf2_t __riscv_vluxei64_mu(vbool16_t vm, vuint8mf2_t vd,
                                const uint8_t *rs1, vuint64m4_t rs2, size_t vl);
vuint8m1_t __riscv_vluxei64_mu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                               vuint64m8_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei8_mu(vbool64_t vm, vuint16mf4_t vd,
                                const uint16_t *rs1, vuint8mf8_t rs2,
                                size_t vl);
vuint16mf2_t __riscv_vluxei8_mu(vbool32_t vm, vuint16mf2_t vd,
                                const uint16_t *rs1, vuint8mf4_t rs2,
                                size_t vl);
vuint16m1_t __riscv_vluxei8_mu(vbool16_t vm, vuint16m1_t vd,
                               const uint16_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint16m2_t __riscv_vluxei8_mu(vbool8_t vm, vuint16m2_t vd, const uint16_t *rs1,
                               vuint8m1_t rs2, size_t vl);
vuint16m4_t __riscv_vluxei8_mu(vbool4_t vm, vuint16m4_t vd, const uint16_t *rs1,
                               vuint8m2_t rs2, size_t vl);
vuint16m8_t __riscv_vluxei8_mu(vbool2_t vm, vuint16m8_t vd, const uint16_t *rs1,
                               vuint8m4_t rs2, size_t vl);
vuint16mf4_t __riscv_vluxei16_mu(vbool64_t vm, vuint16mf4_t vd,
                                 const uint16_t *rs1, vuint16mf4_t rs2,
                                 size_t vl);
vuint16mf2_t __riscv_vluxei16_mu(vbool32_t vm, vuint16mf2_t vd,
                                 const uint16_t *rs1, vuint16mf2_t rs2,
                                 size_t vl);
vuint16m1_t __riscv_vluxei16_mu(vbool16_t vm, vuint16m1_t vd,
                                const uint16_t *rs1, vuint16m1_t rs2,
                                size_t vl);
vuint16m2_t __riscv_vluxei16_mu(vbool8_t vm, vuint16m2_t vd,
                                const uint16_t *rs1, vuint16m2_t rs2,
                                size_t vl);
vuint16m4_t __riscv_vluxei16_mu(vbool4_t vm, vuint16m4_t vd,
                                const uint16_t *rs1, vuint16m4_t rs2,
                                size_t vl);
vuint16m8_t __riscv_vluxei16_mu(vbool2_t vm, vuint16m8_t vd,
                                const uint16_t *rs1, vuint16m8_t rs2,
                                size_t vl);
vuint16mf4_t __riscv_vluxei32_mu(vbool64_t vm, vuint16mf4_t vd,
                                 const uint16_t *rs1, vuint32mf2_t rs2,
                                 size_t vl);
vuint16mf2_t __riscv_vluxei32_mu(vbool32_t vm, vuint16mf2_t vd,
                                 const uint16_t *rs1, vuint32m1_t rs2,
                                 size_t vl);
vuint16m1_t __riscv_vluxei32_mu(vbool16_t vm, vuint16m1_t vd,
                                const uint16_t *rs1, vuint32m2_t rs2,
                                size_t vl);
vuint16m2_t __riscv_vluxei32_mu(vbool8_t vm, vuint16m2_t vd,
                                const uint16_t *rs1, vuint32m4_t rs2,
                                size_t vl);
vuint16m4_t __riscv_vluxei32_mu(vbool4_t vm, vuint16m4_t vd,
                                const uint16_t *rs1, vuint32m8_t rs2,
                                size_t vl);
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                                 const uint16_t *rs1, vuint64m1_t rs2,
                                 size_t vl);
vuint16mf2_t __riscv_vluxei64_mu(vbool32_t vm, vuint16mf2_t vd,
                                 const uint16_t *rs1, vuint64m2_t rs2,
                                 size_t vl);
vuint16m1_t __riscv_vluxei64_mu(vbool16_t vm, vuint16m1_t vd,
                                const uint16_t *rs1, vuint64m4_t rs2,
                                size_t vl);
vuint16m2_t __riscv_vluxei64_mu(vbool8_t vm, vuint16m2_t vd,
                                const uint16_t *rs1, vuint64m8_t rs2,
                                size_t vl);
vuint32mf2_t __riscv_vluxei8_mu(vbool64_t vm, vuint32mf2_t vd,
```

```
                              const uint32_t *rs1, vuint8mf8_t rs2,
                              size_t vl);
vuint32m1_t __riscv_vluxei8_mu(vbool32_t vm, vuint32m1_t vd,
                              const uint32_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint32m2_t __riscv_vluxei8_mu(vbool16_t vm, vuint32m2_t vd,
                              const uint32_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint32m4_t __riscv_vluxei8_mu(vbool8_t vm, vuint32m4_t vd, const uint32_t *rs1,
                              vuint8m1_t rs2, size_t vl);
vuint32m8_t __riscv_vluxei8_mu(vbool4_t vm, vuint32m8_t vd, const uint32_t *rs1,
                              vuint8m2_t rs2, size_t vl);
vuint32mf2_t __riscv_vluxei16_mu(vbool64_t vm, vuint32mf2_t vd,
                               const uint32_t *rs1, vuint16mf4_t rs2,
                               size_t vl);
vuint32m1_t __riscv_vluxei16_mu(vbool32_t vm, vuint32m1_t vd,
                              const uint32_t *rs1, vuint16mf2_t rs2,
                              size_t vl);
vuint32m2_t __riscv_vluxei16_mu(vbool16_t vm, vuint32m2_t vd,
                              const uint32_t *rs1, vuint16m1_t rs2,
                              size_t vl);
vuint32m4_t __riscv_vluxei16_mu(vbool8_t vm, vuint32m4_t vd,
                              const uint32_t *rs1, vuint16m2_t rs2,
                              size_t vl);
vuint32m8_t __riscv_vluxei16_mu(vbool4_t vm, vuint32m8_t vd,
                              const uint32_t *rs1, vuint16m4_t rs2,
                              size_t vl);
vuint32mf2_t __riscv_vluxei32_mu(vbool64_t vm, vuint32mf2_t vd,
                               const uint32_t *rs1, vuint32mf2_t rs2,
                               size_t vl);
vuint32m1_t __riscv_vluxei32_mu(vbool32_t vm, vuint32m1_t vd,
                              const uint32_t *rs1, vuint32m1_t rs2,
                              size_t vl);
vuint32m2_t __riscv_vluxei32_mu(vbool16_t vm, vuint32m2_t vd,
                              const uint32_t *rs1, vuint32m2_t rs2,
                              size_t vl);
vuint32m4_t __riscv_vluxei32_mu(vbool8_t vm, vuint32m4_t vd,
                              const uint32_t *rs1, vuint32m4_t rs2,
                              size_t vl);
vuint32m8_t __riscv_vluxei32_mu(vbool4_t vm, vuint32m8_t vd,
                              const uint32_t *rs1, vuint32m8_t rs2,
                              size_t vl);
vuint32mf2_t __riscv_vluxei64_mu(vbool64_t vm, vuint32mf2_t vd,
                               const uint32_t *rs1, vuint64m1_t rs2,
                               size_t vl);
vuint32m1_t __riscv_vluxei64_mu(vbool32_t vm, vuint32m1_t vd,
                              const uint32_t *rs1, vuint64m2_t rs2,
                              size_t vl);
vuint32m2_t __riscv_vluxei64_mu(vbool16_t vm, vuint32m2_t vd,
                              const uint32_t *rs1, vuint64m4_t rs2,
                              size_t vl);
vuint32m4_t __riscv_vluxei64_mu(vbool8_t vm, vuint32m4_t vd,
                              const uint32_t *rs1, vuint64m8_t rs2,
                              size_t vl);
vuint64m1_t __riscv_vluxei8_mu(vbool64_t vm, vuint64m1_t vd,
                              const uint64_t *rs1, vuint8mf8_t rs2, size_t vl);
vuint64m2_t __riscv_vluxei8_mu(vbool32_t vm, vuint64m2_t vd,
                              const uint64_t *rs1, vuint8mf4_t rs2, size_t vl);
vuint64m4_t __riscv_vluxei8_mu(vbool16_t vm, vuint64m4_t vd,
                              const uint64_t *rs1, vuint8mf2_t rs2, size_t vl);
vuint64m8_t __riscv_vluxei8_mu(vbool8_t vm, vuint64m8_t vd, const uint64_t *rs1,
                              vuint8m1_t rs2, size_t vl);
vuint64m1_t __riscv_vluxei16_mu(vbool64_t vm, vuint64m1_t vd,
                              const uint64_t *rs1, vuint16mf4_t rs2,
                              size_t vl);
vuint64m2_t __riscv_vluxei16_mu(vbool32_t vm, vuint64m2_t vd,
                              const uint64_t *rs1, vuint16mf2_t rs2,
                              size_t vl);
vuint64m4_t __riscv_vluxei16_mu(vbool16_t vm, vuint64m4_t vd,
```

```
                                const uint64_t *rs1, vuint16m1_t rs2,
                                size_t vl);
vuint64m8_t __riscv_vluxei16_mu(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, vuint16m2_t rs2,
                                size_t vl);
vuint64m1_t __riscv_vluxei32_mu(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, vuint32mf2_t rs2,
                                size_t vl);
vuint64m2_t __riscv_vluxei32_mu(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, vuint32m1_t rs2,
                                size_t vl);
vuint64m4_t __riscv_vluxei32_mu(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, vuint32m2_t rs2,
                                size_t vl);
vuint64m8_t __riscv_vluxei32_mu(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, vuint32m4_t rs2,
                                size_t vl);
vuint64m1_t __riscv_vluxei64_mu(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, vuint64m1_t rs2,
                                size_t vl);
vuint64m2_t __riscv_vluxei64_mu(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, vuint64m2_t rs2,
                                size_t vl);
vuint64m4_t __riscv_vluxei64_mu(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, vuint64m4_t rs2,
                                size_t vl);
vuint64m8_t __riscv_vluxei64_mu(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, vuint64m8_t rs2,
                                size_t vl);
```

D.1.7. Vector Indexed Store Intrinsics

Intrinsics here don't have a policy variant.

D.1.8. Unit-stride Fault-Only-First Loads Intrinsics

```
vfloat16mf4_t __riscv_vle16ff_tu(vfloat16mf4_t vd, const _Float16 *rs1,
                                 size_t *new_vl, size_t vl);
vfloat16mf2_t __riscv_vle16ff_tu(vfloat16mf2_t vd, const _Float16 *rs1,
                                 size_t *new_vl, size_t vl);
vfloat16m1_t __riscv_vle16ff_tu(vfloat16m1_t vd, const _Float16 *rs1,
                                size_t *new_vl, size_t vl);
vfloat16m2_t __riscv_vle16ff_tu(vfloat16m2_t vd, const _Float16 *rs1,
                                size_t *new_vl, size_t vl);
vfloat16m4_t __riscv_vle16ff_tu(vfloat16m4_t vd, const _Float16 *rs1,
                                size_t *new_vl, size_t vl);
vfloat16m8_t __riscv_vle16ff_tu(vfloat16m8_t vd, const _Float16 *rs1,
                                size_t *new_vl, size_t vl);
vfloat32mf2_t __riscv_vle32ff_tu(vfloat32mf2_t vd, const float *rs1,
                                 size_t *new_vl, size_t vl);
vfloat32m1_t __riscv_vle32ff_tu(vfloat32m1_t vd, const float *rs1,
                                size_t *new_vl, size_t vl);
vfloat32m2_t __riscv_vle32ff_tu(vfloat32m2_t vd, const float *rs1,
                                size_t *new_vl, size_t vl);
vfloat32m4_t __riscv_vle32ff_tu(vfloat32m4_t vd, const float *rs1,
                                size_t *new_vl, size_t vl);
vfloat32m8_t __riscv_vle32ff_tu(vfloat32m8_t vd, const float *rs1,
                                size_t *new_vl, size_t vl);
vfloat64m1_t __riscv_vle64ff_tu(vfloat64m1_t vd, const double *rs1,
                                size_t *new_vl, size_t vl);
vfloat64m2_t __riscv_vle64ff_tu(vfloat64m2_t vd, const double *rs1,
                                size_t *new_vl, size_t vl);
vfloat64m4_t __riscv_vle64ff_tu(vfloat64m4_t vd, const double *rs1,
                                size_t *new_vl, size_t vl);
```

```
vfloat64m8_t __riscv_vle64ff_tu(vfloat64m8_t vd, const double *rs1,
                                size_t *new_vl, size_t vl);
vint8mf8_t __riscv_vle8ff_tu(vint8mf8_t vd, const int8_t *rs1, size_t *new_vl,
                             size_t vl);
vint8mf4_t __riscv_vle8ff_tu(vint8mf4_t vd, const int8_t *rs1, size_t *new_vl,
                             size_t vl);
vint8mf2_t __riscv_vle8ff_tu(vint8mf2_t vd, const int8_t *rs1, size_t *new_vl,
                             size_t vl);
vint8m1_t __riscv_vle8ff_tu(vint8m1_t vd, const int8_t *rs1, size_t *new_vl,
                            size_t vl);
vint8m2_t __riscv_vle8ff_tu(vint8m2_t vd, const int8_t *rs1, size_t *new_vl,
                            size_t vl);
vint8m4_t __riscv_vle8ff_tu(vint8m4_t vd, const int8_t *rs1, size_t *new_vl,
                            size_t vl);
vint8m8_t __riscv_vle8ff_tu(vint8m8_t vd, const int8_t *rs1, size_t *new_vl,
                            size_t vl);
vint16mf4_t __riscv_vle16ff_tu(vint16mf4_t vd, const int16_t *rs1,
                               size_t *new_vl, size_t vl);
vint16mf2_t __riscv_vle16ff_tu(vint16mf2_t vd, const int16_t *rs1,
                               size_t *new_vl, size_t vl);
vint16m1_t __riscv_vle16ff_tu(vint16m1_t vd, const int16_t *rs1, size_t *new_vl,
                              size_t vl);
vint16m2_t __riscv_vle16ff_tu(vint16m2_t vd, const int16_t *rs1, size_t *new_vl,
                              size_t vl);
vint16m4_t __riscv_vle16ff_tu(vint16m4_t vd, const int16_t *rs1, size_t *new_vl,
                              size_t vl);
vint16m8_t __riscv_vle16ff_tu(vint16m8_t vd, const int16_t *rs1, size_t *new_vl,
                              size_t vl);
vint32mf2_t __riscv_vle32ff_tu(vint32mf2_t vd, const int32_t *rs1,
                               size_t *new_vl, size_t vl);
vint32m1_t __riscv_vle32ff_tu(vint32m1_t vd, const int32_t *rs1, size_t *new_vl,
                              size_t vl);
vint32m2_t __riscv_vle32ff_tu(vint32m2_t vd, const int32_t *rs1, size_t *new_vl,
                              size_t vl);
vint32m4_t __riscv_vle32ff_tu(vint32m4_t vd, const int32_t *rs1, size_t *new_vl,
                              size_t vl);
vint32m8_t __riscv_vle32ff_tu(vint32m8_t vd, const int32_t *rs1, size_t *new_vl,
                              size_t vl);
vint64m1_t __riscv_vle64ff_tu(vint64m1_t vd, const int64_t *rs1, size_t *new_vl,
                              size_t vl);
vint64m2_t __riscv_vle64ff_tu(vint64m2_t vd, const int64_t *rs1, size_t *new_vl,
                              size_t vl);
vint64m4_t __riscv_vle64ff_tu(vint64m4_t vd, const int64_t *rs1, size_t *new_vl,
                              size_t vl);
vint64m8_t __riscv_vle64ff_tu(vint64m8_t vd, const int64_t *rs1, size_t *new_vl,
                              size_t vl);
vuint8mf8_t __riscv_vle8ff_tu(vuint8mf8_t vd, const uint8_t *rs1,
                              size_t *new_vl, size_t vl);
vuint8mf4_t __riscv_vle8ff_tu(vuint8mf4_t vd, const uint8_t *rs1,
                              size_t *new_vl, size_t vl);
vuint8mf2_t __riscv_vle8ff_tu(vuint8mf2_t vd, const uint8_t *rs1,
                              size_t *new_vl, size_t vl);
vuint8m1_t __riscv_vle8ff_tu(vuint8m1_t vd, const uint8_t *rs1, size_t *new_vl,
                             size_t vl);
vuint8m2_t __riscv_vle8ff_tu(vuint8m2_t vd, const uint8_t *rs1, size_t *new_vl,
                             size_t vl);
vuint8m4_t __riscv_vle8ff_tu(vuint8m4_t vd, const uint8_t *rs1, size_t *new_vl,
                             size_t vl);
vuint8m8_t __riscv_vle8ff_tu(vuint8m8_t vd, const uint8_t *rs1, size_t *new_vl,
                             size_t vl);
vuint16mf4_t __riscv_vle16ff_tu(vuint16mf4_t vd, const uint16_t *rs1,
                                size_t *new_vl, size_t vl);
vuint16mf2_t __riscv_vle16ff_tu(vuint16mf2_t vd, const uint16_t *rs1,
                                size_t *new_vl, size_t vl);
vuint16m1_t __riscv_vle16ff_tu(vuint16m1_t vd, const uint16_t *rs1,
                               size_t *new_vl, size_t vl);
vuint16m2_t __riscv_vle16ff_tu(vuint16m2_t vd, const uint16_t *rs1,
```

```
                                size_t *new_vl, size_t vl);
vuint16m4_t __riscv_vle16ff_tu(vuint16m4_t vd, const uint16_t *rs1,
                               size_t *new_vl, size_t vl);
vuint16m8_t __riscv_vle16ff_tu(vuint16m8_t vd, const uint16_t *rs1,
                               size_t *new_vl, size_t vl);
vuint32mf2_t __riscv_vle32ff_tu(vuint32mf2_t vd, const uint32_t *rs1,
                                size_t *new_vl, size_t vl);
vuint32m1_t __riscv_vle32ff_tu(vuint32m1_t vd, const uint32_t *rs1,
                               size_t *new_vl, size_t vl);
vuint32m2_t __riscv_vle32ff_tu(vuint32m2_t vd, const uint32_t *rs1,
                               size_t *new_vl, size_t vl);
vuint32m4_t __riscv_vle32ff_tu(vuint32m4_t vd, const uint32_t *rs1,
                               size_t *new_vl, size_t vl);
vuint32m8_t __riscv_vle32ff_tu(vuint32m8_t vd, const uint32_t *rs1,
                               size_t *new_vl, size_t vl);
vuint64m1_t __riscv_vle64ff_tu(vuint64m1_t vd, const uint64_t *rs1,
                               size_t *new_vl, size_t vl);
vuint64m2_t __riscv_vle64ff_tu(vuint64m2_t vd, const uint64_t *rs1,
                               size_t *new_vl, size_t vl);
vuint64m4_t __riscv_vle64ff_tu(vuint64m4_t vd, const uint64_t *rs1,
                               size_t *new_vl, size_t vl);
vuint64m8_t __riscv_vle64ff_tu(vuint64m8_t vd, const uint64_t *rs1,
                               size_t *new_vl, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16ff_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  const _Float16 *rs1, size_t *new_vl,
                                  size_t vl);
vfloat16mf2_t __riscv_vle16ff_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  const _Float16 *rs1, size_t *new_vl,
                                  size_t vl);
vfloat16m1_t __riscv_vle16ff_tum(vbool16_t vm, vfloat16m1_t vd,
                                 const _Float16 *rs1, size_t *new_vl,
                                 size_t vl);
vfloat16m2_t __riscv_vle16ff_tum(vbool8_t vm, vfloat16m2_t vd,
                                 const _Float16 *rs1, size_t *new_vl,
                                 size_t vl);
vfloat16m4_t __riscv_vle16ff_tum(vbool4_t vm, vfloat16m4_t vd,
                                 const _Float16 *rs1, size_t *new_vl,
                                 size_t vl);
vfloat16m8_t __riscv_vle16ff_tum(vbool2_t vm, vfloat16m8_t vd,
                                 const _Float16 *rs1, size_t *new_vl,
                                 size_t vl);
vfloat32mf2_t __riscv_vle32ff_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  const float *rs1, size_t *new_vl, size_t vl);
vfloat32m1_t __riscv_vle32ff_tum(vbool32_t vm, vfloat32m1_t vd,
                                 const float *rs1, size_t *new_vl, size_t vl);
vfloat32m2_t __riscv_vle32ff_tum(vbool16_t vm, vfloat32m2_t vd,
                                 const float *rs1, size_t *new_vl, size_t vl);
vfloat32m4_t __riscv_vle32ff_tum(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                                 size_t *new_vl, size_t vl);
vfloat32m8_t __riscv_vle32ff_tum(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                                 size_t *new_vl, size_t vl);
vfloat64m1_t __riscv_vle64ff_tum(vbool64_t vm, vfloat64m1_t vd,
                                 const double *rs1, size_t *new_vl, size_t vl);
vfloat64m2_t __riscv_vle64ff_tum(vbool32_t vm, vfloat64m2_t vd,
                                 const double *rs1, size_t *new_vl, size_t vl);
vfloat64m4_t __riscv_vle64ff_tum(vbool16_t vm, vfloat64m4_t vd,
                                 const double *rs1, size_t *new_vl, size_t vl);
vfloat64m8_t __riscv_vle64ff_tum(vbool8_t vm, vfloat64m8_t vd,
                                 const double *rs1, size_t *new_vl, size_t vl);
vint8mf8_t __riscv_vle8ff_tum(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                              size_t *new_vl, size_t vl);
vint8mf4_t __riscv_vle8ff_tum(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                              size_t *new_vl, size_t vl);
vint8mf2_t __riscv_vle8ff_tum(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                              size_t *new_vl, size_t vl);
vint8m1_t __riscv_vle8ff_tum(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
```

```
                              size_t *new_vl, size_t vl);
vint8m2_t __riscv_vle8ff_tum(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                              size_t *new_vl, size_t vl);
vint8m4_t __riscv_vle8ff_tum(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                              size_t *new_vl, size_t vl);
vint8m8_t __riscv_vle8ff_tum(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                              size_t *new_vl, size_t vl);
vint16mf4_t __riscv_vle16ff_tum(vbool64_t vm, vint16mf4_t vd,
                                const int16_t *rs1, size_t *new_vl, size_t vl);
vint16mf2_t __riscv_vle16ff_tum(vbool32_t vm, vint16mf2_t vd,
                                const int16_t *rs1, size_t *new_vl, size_t vl);
vint16m1_t __riscv_vle16ff_tum(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                               size_t *new_vl, size_t vl);
vint16m2_t __riscv_vle16ff_tum(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                               size_t *new_vl, size_t vl);
vint16m4_t __riscv_vle16ff_tum(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                               size_t *new_vl, size_t vl);
vint16m8_t __riscv_vle16ff_tum(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                               size_t *new_vl, size_t vl);
vint32mf2_t __riscv_vle32ff_tum(vbool64_t vm, vint32mf2_t vd,
                                const int32_t *rs1, size_t *new_vl, size_t vl);
vint32m1_t __riscv_vle32ff_tum(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                               size_t *new_vl, size_t vl);
vint32m2_t __riscv_vle32ff_tum(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                               size_t *new_vl, size_t vl);
vint32m4_t __riscv_vle32ff_tum(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                               size_t *new_vl, size_t vl);
vint32m8_t __riscv_vle32ff_tum(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                               size_t *new_vl, size_t vl);
vint64m1_t __riscv_vle64ff_tum(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                               size_t *new_vl, size_t vl);
vint64m2_t __riscv_vle64ff_tum(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                               size_t *new_vl, size_t vl);
vint64m4_t __riscv_vle64ff_tum(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                               size_t *new_vl, size_t vl);
vint64m8_t __riscv_vle64ff_tum(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                               size_t *new_vl, size_t vl);
vuint8mf8_t __riscv_vle8ff_tum(vbool64_t vm, vuint8mf8_t vd, const uint8_t *rs1,
                               size_t *new_vl, size_t vl);
vuint8mf4_t __riscv_vle8ff_tum(vbool32_t vm, vuint8mf4_t vd, const uint8_t *rs1,
                               size_t *new_vl, size_t vl);
vuint8mf2_t __riscv_vle8ff_tum(vbool16_t vm, vuint8mf2_t vd, const uint8_t *rs1,
                               size_t *new_vl, size_t vl);
vuint8m1_t __riscv_vle8ff_tum(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                              size_t *new_vl, size_t vl);
vuint8m2_t __riscv_vle8ff_tum(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                              size_t *new_vl, size_t vl);
vuint8m4_t __riscv_vle8ff_tum(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                              size_t *new_vl, size_t vl);
vuint8m8_t __riscv_vle8ff_tum(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                              size_t *new_vl, size_t vl);
vuint16mf4_t __riscv_vle16ff_tum(vbool64_t vm, vuint16mf4_t vd,
                                 const uint16_t *rs1, size_t *new_vl,
                                 size_t vl);
vuint16mf2_t __riscv_vle16ff_tum(vbool32_t vm, vuint16mf2_t vd,
                                 const uint16_t *rs1, size_t *new_vl,
                                 size_t vl);
vuint16m1_t __riscv_vle16ff_tum(vbool16_t vm, vuint16m1_t vd,
                                const uint16_t *rs1, size_t *new_vl, size_t vl);
vuint16m2_t __riscv_vle16ff_tum(vbool8_t vm, vuint16m2_t vd,
                                const uint16_t *rs1, size_t *new_vl, size_t vl);
vuint16m4_t __riscv_vle16ff_tum(vbool4_t vm, vuint16m4_t vd,
                                const uint16_t *rs1, size_t *new_vl, size_t vl);
vuint16m8_t __riscv_vle16ff_tum(vbool2_t vm, vuint16m8_t vd,
                                const uint16_t *rs1, size_t *new_vl, size_t vl);
vuint32mf2_t __riscv_vle32ff_tum(vbool64_t vm, vuint32mf2_t vd,
                                 const uint32_t *rs1, size_t *new_vl,
```

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                                size_t vl);
vuint32m1_t __riscv_vle32ff_tum(vbool32_t vm, vuint32m1_t vd,
                                const uint32_t *rs1, size_t *new_vl, size_t vl);
vuint32m2_t __riscv_vle32ff_tum(vbool16_t vm, vuint32m2_t vd,
                                const uint32_t *rs1, size_t *new_vl, size_t vl);
vuint32m4_t __riscv_vle32ff_tum(vbool8_t vm, vuint32m4_t vd,
                                const uint32_t *rs1, size_t *new_vl, size_t vl);
vuint32m8_t __riscv_vle32ff_tum(vbool4_t vm, vuint32m8_t vd,
                                const uint32_t *rs1, size_t *new_vl, size_t vl);
vuint64m1_t __riscv_vle64ff_tum(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, size_t *new_vl, size_t vl);
vuint64m2_t __riscv_vle64ff_tum(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, size_t *new_vl, size_t vl);
vuint64m4_t __riscv_vle64ff_tum(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, size_t *new_vl, size_t vl);
vuint64m8_t __riscv_vle64ff_tum(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, size_t *new_vl, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16ff_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   const _Float16 *rs1, size_t *new_vl,
                                   size_t vl);
vfloat16mf2_t __riscv_vle16ff_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   const _Float16 *rs1, size_t *new_vl,
                                   size_t vl);
vfloat16m1_t __riscv_vle16ff_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  const _Float16 *rs1, size_t *new_vl,
                                  size_t vl);
vfloat16m2_t __riscv_vle16ff_tumu(vbool8_t vm, vfloat16m2_t vd,
                                  const _Float16 *rs1, size_t *new_vl,
                                  size_t vl);
vfloat16m4_t __riscv_vle16ff_tumu(vbool4_t vm, vfloat16m4_t vd,
                                  const _Float16 *rs1, size_t *new_vl,
                                  size_t vl);
vfloat16m8_t __riscv_vle16ff_tumu(vbool2_t vm, vfloat16m8_t vd,
                                  const _Float16 *rs1, size_t *new_vl,
                                  size_t vl);
vfloat32mf2_t __riscv_vle32ff_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   const float *rs1, size_t *new_vl, size_t vl);
vfloat32m1_t __riscv_vle32ff_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  const float *rs1, size_t *new_vl, size_t vl);
vfloat32m2_t __riscv_vle32ff_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  const float *rs1, size_t *new_vl, size_t vl);
vfloat32m4_t __riscv_vle32ff_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  const float *rs1, size_t *new_vl, size_t vl);
vfloat32m8_t __riscv_vle32ff_tumu(vbool4_t vm, vfloat32m8_t vd,
                                  const float *rs1, size_t *new_vl, size_t vl);
vfloat64m1_t __riscv_vle64ff_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  const double *rs1, size_t *new_vl, size_t vl);
vfloat64m2_t __riscv_vle64ff_tumu(vbool32_t vm, vfloat64m2_t vd,
                                  const double *rs1, size_t *new_vl, size_t vl);
vfloat64m4_t __riscv_vle64ff_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  const double *rs1, size_t *new_vl, size_t vl);
vfloat64m8_t __riscv_vle64ff_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  const double *rs1, size_t *new_vl, size_t vl);
vint8mf8_t __riscv_vle8ff_tumu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                               size_t *new_vl, size_t vl);
vint8mf4_t __riscv_vle8ff_tumu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                               size_t *new_vl, size_t vl);
vint8mf2_t __riscv_vle8ff_tumu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                               size_t *new_vl, size_t vl);
vint8m1_t __riscv_vle8ff_tumu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                              size_t *new_vl, size_t vl);
vint8m2_t __riscv_vle8ff_tumu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                              size_t *new_vl, size_t vl);
vint8m4_t __riscv_vle8ff_tumu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
                              size_t *new_vl, size_t vl);
vint8m8_t __riscv_vle8ff_tumu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
```

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                                size_t *new_vl, size_t vl);
vint16mf4_t __riscv_vle16ff_tumu(vbool64_t vm, vint16mf4_t vd,
                                 const int16_t *rs1, size_t *new_vl, size_t vl);
vint16mf2_t __riscv_vle16ff_tumu(vbool32_t vm, vint16mf2_t vd,
                                 const int16_t *rs1, size_t *new_vl, size_t vl);
vint16m1_t __riscv_vle16ff_tumu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                                size_t *new_vl, size_t vl);
vint16m2_t __riscv_vle16ff_tumu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                                size_t *new_vl, size_t vl);
vint16m4_t __riscv_vle16ff_tumu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                                size_t *new_vl, size_t vl);
vint16m8_t __riscv_vle16ff_tumu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                                size_t *new_vl, size_t vl);
vint32mf2_t __riscv_vle32ff_tumu(vbool64_t vm, vint32mf2_t vd,
                                 const int32_t *rs1, size_t *new_vl, size_t vl);
vint32m1_t __riscv_vle32ff_tumu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                                size_t *new_vl, size_t vl);
vint32m2_t __riscv_vle32ff_tumu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                                size_t *new_vl, size_t vl);
vint32m4_t __riscv_vle32ff_tumu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                                size_t *new_vl, size_t vl);
vint32m8_t __riscv_vle32ff_tumu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m1_t __riscv_vle64ff_tumu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m2_t __riscv_vle64ff_tumu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m4_t __riscv_vle64ff_tumu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vint64m8_t __riscv_vle64ff_tumu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                                size_t *new_vl, size_t vl);
vuint8mf8_t __riscv_vle8ff_tumu(vbool64_t vm, vuint8mf8_t vd,
                                const uint8_t *rs1, size_t *new_vl, size_t vl);
vuint8mf4_t __riscv_vle8ff_tumu(vbool32_t vm, vuint8mf4_t vd,
                                const uint8_t *rs1, size_t *new_vl, size_t vl);
vuint8mf2_t __riscv_vle8ff_tumu(vbool16_t vm, vuint8mf2_t vd,
                                const uint8_t *rs1, size_t *new_vl, size_t vl);
vuint8m1_t __riscv_vle8ff_tumu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                               size_t *new_vl, size_t vl);
vuint8m2_t __riscv_vle8ff_tumu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                               size_t *new_vl, size_t vl);
vuint8m4_t __riscv_vle8ff_tumu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                               size_t *new_vl, size_t vl);
vuint8m8_t __riscv_vle8ff_tumu(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                               size_t *new_vl, size_t vl);
vuint16mf4_t __riscv_vle16ff_tumu(vbool64_t vm, vuint16mf4_t vd,
                                  const uint16_t *rs1, size_t *new_vl,
                                  size_t vl);
vuint16mf2_t __riscv_vle16ff_tumu(vbool32_t vm, vuint16mf2_t vd,
                                  const uint16_t *rs1, size_t *new_vl,
                                  size_t vl);
vuint16m1_t __riscv_vle16ff_tumu(vbool16_t vm, vuint16m1_t vd,
                                 const uint16_t *rs1, size_t *new_vl,
                                 size_t vl);
vuint16m2_t __riscv_vle16ff_tumu(vbool8_t vm, vuint16m2_t vd,
                                 const uint16_t *rs1, size_t *new_vl,
                                 size_t vl);
vuint16m4_t __riscv_vle16ff_tumu(vbool4_t vm, vuint16m4_t vd,
                                 const uint16_t *rs1, size_t *new_vl,
                                 size_t vl);
vuint16m8_t __riscv_vle16ff_tumu(vbool2_t vm, vuint16m8_t vd,
                                 const uint16_t *rs1, size_t *new_vl,
                                 size_t vl);
vuint32mf2_t __riscv_vle32ff_tumu(vbool64_t vm, vuint32mf2_t vd,
                                  const uint32_t *rs1, size_t *new_vl,
                                  size_t vl);
vuint32m1_t __riscv_vle32ff_tumu(vbool32_t vm, vuint32m1_t vd,
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                                const uint32_t *rs1, size_t *new_vl,
                                size_t vl);
vuint32m2_t __riscv_vle32ff_tumu(vbool16_t vm, vuint32m2_t vd,
                                const uint32_t *rs1, size_t *new_vl,
                                size_t vl);
vuint32m4_t __riscv_vle32ff_tumu(vbool8_t vm, vuint32m4_t vd,
                                const uint32_t *rs1, size_t *new_vl,
                                size_t vl);
vuint32m8_t __riscv_vle32ff_tumu(vbool4_t vm, vuint32m8_t vd,
                                const uint32_t *rs1, size_t *new_vl,
                                size_t vl);
vuint64m1_t __riscv_vle64ff_tumu(vbool64_t vm, vuint64m1_t vd,
                                const uint64_t *rs1, size_t *new_vl,
                                size_t vl);
vuint64m2_t __riscv_vle64ff_tumu(vbool32_t vm, vuint64m2_t vd,
                                const uint64_t *rs1, size_t *new_vl,
                                size_t vl);
vuint64m4_t __riscv_vle64ff_tumu(vbool16_t vm, vuint64m4_t vd,
                                const uint64_t *rs1, size_t *new_vl,
                                size_t vl);
vuint64m8_t __riscv_vle64ff_tumu(vbool8_t vm, vuint64m8_t vd,
                                const uint64_t *rs1, size_t *new_vl,
                                size_t vl);
// masked functions
vfloat16mf4_t __riscv_vle16ff_mu(vbool64_t vm, vfloat16mf4_t vd,
                                const _Float16 *rs1, size_t *new_vl,
                                size_t vl);
vfloat16mf2_t __riscv_vle16ff_mu(vbool32_t vm, vfloat16mf2_t vd,
                                const _Float16 *rs1, size_t *new_vl,
                                size_t vl);
vfloat16m1_t __riscv_vle16ff_mu(vbool16_t vm, vfloat16m1_t vd,
                               const _Float16 *rs1, size_t *new_vl, size_t vl);
vfloat16m2_t __riscv_vle16ff_mu(vbool8_t vm, vfloat16m2_t vd,
                               const _Float16 *rs1, size_t *new_vl, size_t vl);
vfloat16m4_t __riscv_vle16ff_mu(vbool4_t vm, vfloat16m4_t vd,
                               const _Float16 *rs1, size_t *new_vl, size_t vl);
vfloat16m8_t __riscv_vle16ff_mu(vbool2_t vm, vfloat16m8_t vd,
                               const _Float16 *rs1, size_t *new_vl, size_t vl);
vfloat32mf2_t __riscv_vle32ff_mu(vbool64_t vm, vfloat32mf2_t vd,
                                const float *rs1, size_t *new_vl, size_t vl);
vfloat32m1_t __riscv_vle32ff_mu(vbool32_t vm, vfloat32m1_t vd, const float *rs1,
                               size_t *new_vl, size_t vl);
vfloat32m2_t __riscv_vle32ff_mu(vbool16_t vm, vfloat32m2_t vd, const float *rs1,
                               size_t *new_vl, size_t vl);
vfloat32m4_t __riscv_vle32ff_mu(vbool8_t vm, vfloat32m4_t vd, const float *rs1,
                               size_t *new_vl, size_t vl);
vfloat32m8_t __riscv_vle32ff_mu(vbool4_t vm, vfloat32m8_t vd, const float *rs1,
                               size_t *new_vl, size_t vl);
vfloat64m1_t __riscv_vle64ff_mu(vbool64_t vm, vfloat64m1_t vd,
                               const double *rs1, size_t *new_vl, size_t vl);
vfloat64m2_t __riscv_vle64ff_mu(vbool32_t vm, vfloat64m2_t vd,
                               const double *rs1, size_t *new_vl, size_t vl);
vfloat64m4_t __riscv_vle64ff_mu(vbool16_t vm, vfloat64m4_t vd,
                               const double *rs1, size_t *new_vl, size_t vl);
vfloat64m8_t __riscv_vle64ff_mu(vbool8_t vm, vfloat64m8_t vd, const double *rs1,
                               size_t *new_vl, size_t vl);
vint8mf8_t __riscv_vle8ff_mu(vbool64_t vm, vint8mf8_t vd, const int8_t *rs1,
                             size_t *new_vl, size_t vl);
vint8mf4_t __riscv_vle8ff_mu(vbool32_t vm, vint8mf4_t vd, const int8_t *rs1,
                             size_t *new_vl, size_t vl);
vint8mf2_t __riscv_vle8ff_mu(vbool16_t vm, vint8mf2_t vd, const int8_t *rs1,
                             size_t *new_vl, size_t vl);
vint8m1_t __riscv_vle8ff_mu(vbool8_t vm, vint8m1_t vd, const int8_t *rs1,
                            size_t *new_vl, size_t vl);
vint8m2_t __riscv_vle8ff_mu(vbool4_t vm, vint8m2_t vd, const int8_t *rs1,
                            size_t *new_vl, size_t vl);
vint8m4_t __riscv_vle8ff_mu(vbool2_t vm, vint8m4_t vd, const int8_t *rs1,
```

```
                              size_t *new_vl, size_t vl);
vint8m8_t __riscv_vle8ff_mu(vbool1_t vm, vint8m8_t vd, const int8_t *rs1,
                            size_t *new_vl, size_t vl);
vint16mf4_t __riscv_vle16ff_mu(vbool64_t vm, vint16mf4_t vd, const int16_t *rs1,
                               size_t *new_vl, size_t vl);
vint16mf2_t __riscv_vle16ff_mu(vbool32_t vm, vint16mf2_t vd, const int16_t *rs1,
                               size_t *new_vl, size_t vl);
vint16m1_t __riscv_vle16ff_mu(vbool16_t vm, vint16m1_t vd, const int16_t *rs1,
                              size_t *new_vl, size_t vl);
vint16m2_t __riscv_vle16ff_mu(vbool8_t vm, vint16m2_t vd, const int16_t *rs1,
                              size_t *new_vl, size_t vl);
vint16m4_t __riscv_vle16ff_mu(vbool4_t vm, vint16m4_t vd, const int16_t *rs1,
                              size_t *new_vl, size_t vl);
vint16m8_t __riscv_vle16ff_mu(vbool2_t vm, vint16m8_t vd, const int16_t *rs1,
                              size_t *new_vl, size_t vl);
vint32mf2_t __riscv_vle32ff_mu(vbool64_t vm, vint32mf2_t vd, const int32_t *rs1,
                               size_t *new_vl, size_t vl);
vint32m1_t __riscv_vle32ff_mu(vbool32_t vm, vint32m1_t vd, const int32_t *rs1,
                              size_t *new_vl, size_t vl);
vint32m2_t __riscv_vle32ff_mu(vbool16_t vm, vint32m2_t vd, const int32_t *rs1,
                              size_t *new_vl, size_t vl);
vint32m4_t __riscv_vle32ff_mu(vbool8_t vm, vint32m4_t vd, const int32_t *rs1,
                              size_t *new_vl, size_t vl);
vint32m8_t __riscv_vle32ff_mu(vbool4_t vm, vint32m8_t vd, const int32_t *rs1,
                              size_t *new_vl, size_t vl);
vint64m1_t __riscv_vle64ff_mu(vbool64_t vm, vint64m1_t vd, const int64_t *rs1,
                              size_t *new_vl, size_t vl);
vint64m2_t __riscv_vle64ff_mu(vbool32_t vm, vint64m2_t vd, const int64_t *rs1,
                              size_t *new_vl, size_t vl);
vint64m4_t __riscv_vle64ff_mu(vbool16_t vm, vint64m4_t vd, const int64_t *rs1,
                              size_t *new_vl, size_t vl);
vint64m8_t __riscv_vle64ff_mu(vbool8_t vm, vint64m8_t vd, const int64_t *rs1,
                              size_t *new_vl, size_t vl);
vuint8mf8_t __riscv_vle8ff_mu(vbool64_t vm, vuint8mf8_t vd, const uint8_t *rs1,
                              size_t *new_vl, size_t vl);
vuint8mf4_t __riscv_vle8ff_mu(vbool32_t vm, vuint8mf4_t vd, const uint8_t *rs1,
                              size_t *new_vl, size_t vl);
vuint8mf2_t __riscv_vle8ff_mu(vbool16_t vm, vuint8mf2_t vd, const uint8_t *rs1,
                              size_t *new_vl, size_t vl);
vuint8m1_t __riscv_vle8ff_mu(vbool8_t vm, vuint8m1_t vd, const uint8_t *rs1,
                             size_t *new_vl, size_t vl);
vuint8m2_t __riscv_vle8ff_mu(vbool4_t vm, vuint8m2_t vd, const uint8_t *rs1,
                             size_t *new_vl, size_t vl);
vuint8m4_t __riscv_vle8ff_mu(vbool2_t vm, vuint8m4_t vd, const uint8_t *rs1,
                             size_t *new_vl, size_t vl);
vuint8m8_t __riscv_vle8ff_mu(vbool1_t vm, vuint8m8_t vd, const uint8_t *rs1,
                             size_t *new_vl, size_t vl);
vuint16mf4_t __riscv_vle16ff_mu(vbool64_t vm, vuint16mf4_t vd,
                                const uint16_t *rs1, size_t *new_vl, size_t vl);
vuint16mf2_t __riscv_vle16ff_mu(vbool32_t vm, vuint16mf2_t vd,
                                const uint16_t *rs1, size_t *new_vl, size_t vl);
vuint16m1_t __riscv_vle16ff_mu(vbool16_t vm, vuint16m1_t vd,
                               const uint16_t *rs1, size_t *new_vl, size_t vl);
vuint16m2_t __riscv_vle16ff_mu(vbool8_t vm, vuint16m2_t vd, const uint16_t *rs1,
                               size_t *new_vl, size_t vl);
vuint16m4_t __riscv_vle16ff_mu(vbool4_t vm, vuint16m4_t vd, const uint16_t *rs1,
                               size_t *new_vl, size_t vl);
vuint16m8_t __riscv_vle16ff_mu(vbool2_t vm, vuint16m8_t vd, const uint16_t *rs1,
                               size_t *new_vl, size_t vl);
vuint32mf2_t __riscv_vle32ff_mu(vbool64_t vm, vuint32mf2_t vd,
                                const uint32_t *rs1, size_t *new_vl, size_t vl);
vuint32m1_t __riscv_vle32ff_mu(vbool32_t vm, vuint32m1_t vd,
                               const uint32_t *rs1, size_t *new_vl, size_t vl);
vuint32m2_t __riscv_vle32ff_mu(vbool16_t vm, vuint32m2_t vd,
                               const uint32_t *rs1, size_t *new_vl, size_t vl);
vuint32m4_t __riscv_vle32ff_mu(vbool8_t vm, vuint32m4_t vd, const uint32_t *rs1,
                               size_t *new_vl, size_t vl);
```

```
vuint32m8_t __riscv_vle32ff_mu(vbool4_t vm, vuint32m8_t vd, const uint32_t *rs1,
                               size_t *new_vl, size_t vl);
vuint64m1_t __riscv_vle64ff_mu(vbool64_t vm, vuint64m1_t vd,
                               const uint64_t *rs1, size_t *new_vl, size_t vl);
vuint64m2_t __riscv_vle64ff_mu(vbool32_t vm, vuint64m2_t vd,
                               const uint64_t *rs1, size_t *new_vl, size_t vl);
vuint64m4_t __riscv_vle64ff_mu(vbool16_t vm, vuint64m4_t vd,
                               const uint64_t *rs1, size_t *new_vl, size_t vl);
vuint64m8_t __riscv_vle64ff_mu(vbool8_t vm, vuint64m8_t vd, const uint64_t *rs1,
                               size_t *new_vl, size_t vl);
```

D.2. Vector Loads and Stores Segment Intrinsics

D.2.1. Vector Unit-Stride Segment Load Intrinsics

```
vfloat16mf4x2_t __riscv_vlseg2e16_tu(vfloat16mf4x2_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16_tu(vfloat16mf4x3_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16_tu(vfloat16mf4x4_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16_tu(vfloat16mf4x5_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16_tu(vfloat16mf4x6_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16_tu(vfloat16mf4x7_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16_tu(vfloat16mf4x8_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16_tu(vfloat16mf2x2_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16_tu(vfloat16mf2x3_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16_tu(vfloat16mf2x4_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16_tu(vfloat16mf2x5_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16_tu(vfloat16mf2x6_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16_tu(vfloat16mf2x7_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16_tu(vfloat16mf2x8_t vd, const _Float16 *rs1,
                                     size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16_tu(vfloat16m1x2_t vd, const _Float16 *rs1,
                                    size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16_tu(vfloat16m1x3_t vd, const _Float16 *rs1,
                                    size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16_tu(vfloat16m1x4_t vd, const _Float16 *rs1,
                                    size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16_tu(vfloat16m1x5_t vd, const _Float16 *rs1,
                                    size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16_tu(vfloat16m1x6_t vd, const _Float16 *rs1,
                                    size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16_tu(vfloat16m1x7_t vd, const _Float16 *rs1,
                                    size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16_tu(vfloat16m1x8_t vd, const _Float16 *rs1,
                                    size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16_tu(vfloat16m2x2_t vd, const _Float16 *rs1,
                                    size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16_tu(vfloat16m2x3_t vd, const _Float16 *rs1,
                                    size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16_tu(vfloat16m2x4_t vd, const _Float16 *rs1,
                                    size_t vl);
```

```
vfloat16m4x2_t __riscv_vlseg2e16_tu(vfloat16m4x2_t vd, const _Float16 *rs1,
                                    size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32_tu(vfloat32mf2x2_t vd, const float *rs1,
                                     size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32_tu(vfloat32mf2x3_t vd, const float *rs1,
                                     size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32_tu(vfloat32mf2x4_t vd, const float *rs1,
                                     size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32_tu(vfloat32mf2x5_t vd, const float *rs1,
                                     size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32_tu(vfloat32mf2x6_t vd, const float *rs1,
                                     size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32_tu(vfloat32mf2x7_t vd, const float *rs1,
                                     size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32_tu(vfloat32mf2x8_t vd, const float *rs1,
                                     size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32_tu(vfloat32m1x2_t vd, const float *rs1,
                                    size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32_tu(vfloat32m1x3_t vd, const float *rs1,
                                    size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32_tu(vfloat32m1x4_t vd, const float *rs1,
                                    size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32_tu(vfloat32m1x5_t vd, const float *rs1,
                                    size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32_tu(vfloat32m1x6_t vd, const float *rs1,
                                    size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32_tu(vfloat32m1x7_t vd, const float *rs1,
                                    size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32_tu(vfloat32m1x8_t vd, const float *rs1,
                                    size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32_tu(vfloat32m2x2_t vd, const float *rs1,
                                    size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32_tu(vfloat32m2x3_t vd, const float *rs1,
                                    size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32_tu(vfloat32m2x4_t vd, const float *rs1,
                                    size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32_tu(vfloat32m4x2_t vd, const float *rs1,
                                    size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64_tu(vfloat64m1x2_t vd, const double *rs1,
                                    size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64_tu(vfloat64m1x3_t vd, const double *rs1,
                                    size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64_tu(vfloat64m1x4_t vd, const double *rs1,
                                    size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64_tu(vfloat64m1x5_t vd, const double *rs1,
                                    size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64_tu(vfloat64m1x6_t vd, const double *rs1,
                                    size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64_tu(vfloat64m1x7_t vd, const double *rs1,
                                    size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64_tu(vfloat64m1x8_t vd, const double *rs1,
                                    size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64_tu(vfloat64m2x2_t vd, const double *rs1,
                                    size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64_tu(vfloat64m2x3_t vd, const double *rs1,
                                    size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64_tu(vfloat64m2x4_t vd, const double *rs1,
                                    size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64_tu(vfloat64m4x2_t vd, const double *rs1,
                                    size_t vl);
vfloat16mf4x2_t __riscv_vlseg2e16ff_tu(vfloat16mf4x2_t vd, const _Float16 *rs1,
                                       size_t *new_vl, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16ff_tu(vfloat16mf4x3_t vd, const _Float16 *rs1,
                                       size_t *new_vl, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16ff_tu(vfloat16mf4x4_t vd, const _Float16 *rs1,
                                       size_t *new_vl, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16ff_tu(vfloat16mf4x5_t vd, const _Float16 *rs1,
```

```
                                        size_t *new_vl, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16ff_tu(vfloat16mf4x6_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16ff_tu(vfloat16mf4x7_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16ff_tu(vfloat16mf4x8_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16ff_tu(vfloat16mf2x2_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16ff_tu(vfloat16mf2x3_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16ff_tu(vfloat16mf2x4_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16ff_tu(vfloat16mf2x5_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16ff_tu(vfloat16mf2x6_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16ff_tu(vfloat16mf2x7_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16ff_tu(vfloat16mf2x8_t vd, const _Float16 *rs1,
                                        size_t *new_vl, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16ff_tu(vfloat16m1x2_t vd, const _Float16 *rs1,
                                      size_t *new_vl, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16ff_tu(vfloat16m1x3_t vd, const _Float16 *rs1,
                                      size_t *new_vl, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16ff_tu(vfloat16m1x4_t vd, const _Float16 *rs1,
                                      size_t *new_vl, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16ff_tu(vfloat16m1x5_t vd, const _Float16 *rs1,
                                      size_t *new_vl, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16ff_tu(vfloat16m1x6_t vd, const _Float16 *rs1,
                                      size_t *new_vl, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16ff_tu(vfloat16m1x7_t vd, const _Float16 *rs1,
                                      size_t *new_vl, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16ff_tu(vfloat16m1x8_t vd, const _Float16 *rs1,
                                      size_t *new_vl, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16ff_tu(vfloat16m2x2_t vd, const _Float16 *rs1,
                                      size_t *new_vl, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16ff_tu(vfloat16m2x3_t vd, const _Float16 *rs1,
                                      size_t *new_vl, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16ff_tu(vfloat16m2x4_t vd, const _Float16 *rs1,
                                      size_t *new_vl, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16ff_tu(vfloat16m4x2_t vd, const _Float16 *rs1,
                                      size_t *new_vl, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32ff_tu(vfloat32mf2x2_t vd, const float *rs1,
                                        size_t *new_vl, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32ff_tu(vfloat32mf2x3_t vd, const float *rs1,
                                        size_t *new_vl, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32ff_tu(vfloat32mf2x4_t vd, const float *rs1,
                                        size_t *new_vl, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32ff_tu(vfloat32mf2x5_t vd, const float *rs1,
                                        size_t *new_vl, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32ff_tu(vfloat32mf2x6_t vd, const float *rs1,
                                        size_t *new_vl, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32ff_tu(vfloat32mf2x7_t vd, const float *rs1,
                                        size_t *new_vl, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32ff_tu(vfloat32mf2x8_t vd, const float *rs1,
                                        size_t *new_vl, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32ff_tu(vfloat32m1x2_t vd, const float *rs1,
                                      size_t *new_vl, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32ff_tu(vfloat32m1x3_t vd, const float *rs1,
                                      size_t *new_vl, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32ff_tu(vfloat32m1x4_t vd, const float *rs1,
                                      size_t *new_vl, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32ff_tu(vfloat32m1x5_t vd, const float *rs1,
                                      size_t *new_vl, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32ff_tu(vfloat32m1x6_t vd, const float *rs1,
                                      size_t *new_vl, size_t vl);
```

```
vfloat32m1x7_t __riscv_vlseg7e32ff_tu(vfloat32m1x7_t vd, const float *rs1,
                                      size_t *new_vl, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32ff_tu(vfloat32m1x8_t vd, const float *rs1,
                                      size_t *new_vl, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32ff_tu(vfloat32m2x2_t vd, const float *rs1,
                                      size_t *new_vl, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32ff_tu(vfloat32m2x3_t vd, const float *rs1,
                                      size_t *new_vl, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32ff_tu(vfloat32m2x4_t vd, const float *rs1,
                                      size_t *new_vl, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32ff_tu(vfloat32m4x2_t vd, const float *rs1,
                                      size_t *new_vl, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64ff_tu(vfloat64m1x2_t vd, const double *rs1,
                                      size_t *new_vl, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64ff_tu(vfloat64m1x3_t vd, const double *rs1,
                                      size_t *new_vl, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64ff_tu(vfloat64m1x4_t vd, const double *rs1,
                                      size_t *new_vl, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64ff_tu(vfloat64m1x5_t vd, const double *rs1,
                                      size_t *new_vl, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64ff_tu(vfloat64m1x6_t vd, const double *rs1,
                                      size_t *new_vl, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64ff_tu(vfloat64m1x7_t vd, const double *rs1,
                                      size_t *new_vl, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64ff_tu(vfloat64m1x8_t vd, const double *rs1,
                                      size_t *new_vl, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64ff_tu(vfloat64m2x2_t vd, const double *rs1,
                                      size_t *new_vl, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64ff_tu(vfloat64m2x3_t vd, const double *rs1,
                                      size_t *new_vl, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64ff_tu(vfloat64m2x4_t vd, const double *rs1,
                                      size_t *new_vl, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64ff_tu(vfloat64m4x2_t vd, const double *rs1,
                                      size_t *new_vl, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8_tu(vint8mf8x2_t vd, const int8_t *rs1, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8_tu(vint8mf8x3_t vd, const int8_t *rs1, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8_tu(vint8mf8x4_t vd, const int8_t *rs1, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8_tu(vint8mf8x5_t vd, const int8_t *rs1, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8_tu(vint8mf8x6_t vd, const int8_t *rs1, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8_tu(vint8mf8x7_t vd, const int8_t *rs1, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8_tu(vint8mf8x8_t vd, const int8_t *rs1, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8_tu(vint8mf4x2_t vd, const int8_t *rs1, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8_tu(vint8mf4x3_t vd, const int8_t *rs1, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8_tu(vint8mf4x4_t vd, const int8_t *rs1, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8_tu(vint8mf4x5_t vd, const int8_t *rs1, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8_tu(vint8mf4x6_t vd, const int8_t *rs1, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8_tu(vint8mf4x7_t vd, const int8_t *rs1, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8_tu(vint8mf4x8_t vd, const int8_t *rs1, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8_tu(vint8mf2x2_t vd, const int8_t *rs1, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8_tu(vint8mf2x3_t vd, const int8_t *rs1, size_t vl);
vint8mf2x4_t __riscv_vlseg4e8_tu(vint8mf2x4_t vd, const int8_t *rs1, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8_tu(vint8mf2x5_t vd, const int8_t *rs1, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8_tu(vint8mf2x6_t vd, const int8_t *rs1, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8_tu(vint8mf2x7_t vd, const int8_t *rs1, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8_tu(vint8mf2x8_t vd, const int8_t *rs1, size_t vl);
vint8m1x2_t __riscv_vlseg2e8_tu(vint8m1x2_t vd, const int8_t *rs1, size_t vl);
vint8m1x3_t __riscv_vlseg3e8_tu(vint8m1x3_t vd, const int8_t *rs1, size_t vl);
vint8m1x4_t __riscv_vlseg4e8_tu(vint8m1x4_t vd, const int8_t *rs1, size_t vl);
vint8m1x5_t __riscv_vlseg5e8_tu(vint8m1x5_t vd, const int8_t *rs1, size_t vl);
vint8m1x6_t __riscv_vlseg6e8_tu(vint8m1x6_t vd, const int8_t *rs1, size_t vl);
vint8m1x7_t __riscv_vlseg7e8_tu(vint8m1x7_t vd, const int8_t *rs1, size_t vl);
vint8m1x8_t __riscv_vlseg8e8_tu(vint8m1x8_t vd, const int8_t *rs1, size_t vl);
vint8m2x2_t __riscv_vlseg2e8_tu(vint8m2x2_t vd, const int8_t *rs1, size_t vl);
vint8m2x3_t __riscv_vlseg3e8_tu(vint8m2x3_t vd, const int8_t *rs1, size_t vl);
vint8m2x4_t __riscv_vlseg4e8_tu(vint8m2x4_t vd, const int8_t *rs1, size_t vl);
vint8m4x2_t __riscv_vlseg2e8_tu(vint8m4x2_t vd, const int8_t *rs1, size_t vl);
vint16mf4x2_t __riscv_vlseg2e16_tu(vint16mf4x2_t vd, const int16_t *rs1,
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                                    size_t vl);
vint16mf4x3_t __riscv_vlseg3e16_tu(vint16mf4x3_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf4x4_t __riscv_vlseg4e16_tu(vint16mf4x4_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf4x5_t __riscv_vlseg5e16_tu(vint16mf4x5_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf4x6_t __riscv_vlseg6e16_tu(vint16mf4x6_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf4x7_t __riscv_vlseg7e16_tu(vint16mf4x7_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf4x8_t __riscv_vlseg8e16_tu(vint16mf4x8_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf2x2_t __riscv_vlseg2e16_tu(vint16mf2x2_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf2x3_t __riscv_vlseg3e16_tu(vint16mf2x3_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf2x4_t __riscv_vlseg4e16_tu(vint16mf2x4_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf2x5_t __riscv_vlseg5e16_tu(vint16mf2x5_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf2x6_t __riscv_vlseg6e16_tu(vint16mf2x6_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf2x7_t __riscv_vlseg7e16_tu(vint16mf2x7_t vd, const int16_t *rs1,
                                    size_t vl);
vint16mf2x8_t __riscv_vlseg8e16_tu(vint16mf2x8_t vd, const int16_t *rs1,
                                    size_t vl);
vint16m1x2_t __riscv_vlseg2e16_tu(vint16m1x2_t vd, const int16_t *rs1,
                                   size_t vl);
vint16m1x3_t __riscv_vlseg3e16_tu(vint16m1x3_t vd, const int16_t *rs1,
                                   size_t vl);
vint16m1x4_t __riscv_vlseg4e16_tu(vint16m1x4_t vd, const int16_t *rs1,
                                   size_t vl);
vint16m1x5_t __riscv_vlseg5e16_tu(vint16m1x5_t vd, const int16_t *rs1,
                                   size_t vl);
vint16m1x6_t __riscv_vlseg6e16_tu(vint16m1x6_t vd, const int16_t *rs1,
                                   size_t vl);
vint16m1x7_t __riscv_vlseg7e16_tu(vint16m1x7_t vd, const int16_t *rs1,
                                   size_t vl);
vint16m1x8_t __riscv_vlseg8e16_tu(vint16m1x8_t vd, const int16_t *rs1,
                                   size_t vl);
vint16m2x2_t __riscv_vlseg2e16_tu(vint16m2x2_t vd, const int16_t *rs1,
                                   size_t vl);
vint16m2x3_t __riscv_vlseg3e16_tu(vint16m2x3_t vd, const int16_t *rs1,
                                   size_t vl);
vint16m2x4_t __riscv_vlseg4e16_tu(vint16m2x4_t vd, const int16_t *rs1,
                                   size_t vl);
vint16m4x2_t __riscv_vlseg2e16_tu(vint16m4x2_t vd, const int16_t *rs1,
                                   size_t vl);
vint32mf2x2_t __riscv_vlseg2e32_tu(vint32mf2x2_t vd, const int32_t *rs1,
                                    size_t vl);
vint32mf2x3_t __riscv_vlseg3e32_tu(vint32mf2x3_t vd, const int32_t *rs1,
                                    size_t vl);
vint32mf2x4_t __riscv_vlseg4e32_tu(vint32mf2x4_t vd, const int32_t *rs1,
                                    size_t vl);
vint32mf2x5_t __riscv_vlseg5e32_tu(vint32mf2x5_t vd, const int32_t *rs1,
                                    size_t vl);
vint32mf2x6_t __riscv_vlseg6e32_tu(vint32mf2x6_t vd, const int32_t *rs1,
                                    size_t vl);
vint32mf2x7_t __riscv_vlseg7e32_tu(vint32mf2x7_t vd, const int32_t *rs1,
                                    size_t vl);
vint32mf2x8_t __riscv_vlseg8e32_tu(vint32mf2x8_t vd, const int32_t *rs1,
                                    size_t vl);
vint32m1x2_t __riscv_vlseg2e32_tu(vint32m1x2_t vd, const int32_t *rs1,
                                   size_t vl);
vint32m1x3_t __riscv_vlseg3e32_tu(vint32m1x3_t vd, const int32_t *rs1,
                                   size_t vl);
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vint32m1x4_t __riscv_vlseg4e32_tu(vint32m1x4_t vd, const int32_t *rs1,
                                  size_t vl);
vint32m1x5_t __riscv_vlseg5e32_tu(vint32m1x5_t vd, const int32_t *rs1,
                                  size_t vl);
vint32m1x6_t __riscv_vlseg6e32_tu(vint32m1x6_t vd, const int32_t *rs1,
                                  size_t vl);
vint32m1x7_t __riscv_vlseg7e32_tu(vint32m1x7_t vd, const int32_t *rs1,
                                  size_t vl);
vint32m1x8_t __riscv_vlseg8e32_tu(vint32m1x8_t vd, const int32_t *rs1,
                                  size_t vl);
vint32m2x2_t __riscv_vlseg2e32_tu(vint32m2x2_t vd, const int32_t *rs1,
                                  size_t vl);
vint32m2x3_t __riscv_vlseg3e32_tu(vint32m2x3_t vd, const int32_t *rs1,
                                  size_t vl);
vint32m2x4_t __riscv_vlseg4e32_tu(vint32m2x4_t vd, const int32_t *rs1,
                                  size_t vl);
vint32m4x2_t __riscv_vlseg2e32_tu(vint32m4x2_t vd, const int32_t *rs1,
                                  size_t vl);
vint64m1x2_t __riscv_vlseg2e64_tu(vint64m1x2_t vd, const int64_t *rs1,
                                  size_t vl);
vint64m1x3_t __riscv_vlseg3e64_tu(vint64m1x3_t vd, const int64_t *rs1,
                                  size_t vl);
vint64m1x4_t __riscv_vlseg4e64_tu(vint64m1x4_t vd, const int64_t *rs1,
                                  size_t vl);
vint64m1x5_t __riscv_vlseg5e64_tu(vint64m1x5_t vd, const int64_t *rs1,
                                  size_t vl);
vint64m1x6_t __riscv_vlseg6e64_tu(vint64m1x6_t vd, const int64_t *rs1,
                                  size_t vl);
vint64m1x7_t __riscv_vlseg7e64_tu(vint64m1x7_t vd, const int64_t *rs1,
                                  size_t vl);
vint64m1x8_t __riscv_vlseg8e64_tu(vint64m1x8_t vd, const int64_t *rs1,
                                  size_t vl);
vint64m2x2_t __riscv_vlseg2e64_tu(vint64m2x2_t vd, const int64_t *rs1,
                                  size_t vl);
vint64m2x3_t __riscv_vlseg3e64_tu(vint64m2x3_t vd, const int64_t *rs1,
                                  size_t vl);
vint64m2x4_t __riscv_vlseg4e64_tu(vint64m2x4_t vd, const int64_t *rs1,
                                  size_t vl);
vint64m4x2_t __riscv_vlseg2e64_tu(vint64m4x2_t vd, const int64_t *rs1,
                                  size_t vl);
vint8mf8x2_t __riscv_vlseg2e8ff_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8ff_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8ff_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8ff_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8ff_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8ff_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8ff_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8ff_tu(vint8mf4x2_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8ff_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8ff_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8ff_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8ff_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8ff_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8ff_tu(vint8mf4x8_t vd, const int8_t *rs1,
```

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                                    size_t *new_vl, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8ff_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8ff_tu(vint8mf2x3_t vd, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8mf2x4_t __riscv_vlseg4e8ff_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8ff_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8ff_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8ff_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8ff_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                    size_t *new_vl, size_t vl);
vint8m1x2_t __riscv_vlseg2e8ff_tu(vint8m1x2_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m1x3_t __riscv_vlseg3e8ff_tu(vint8m1x3_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m1x4_t __riscv_vlseg4e8ff_tu(vint8m1x4_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m1x5_t __riscv_vlseg5e8ff_tu(vint8m1x5_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m1x6_t __riscv_vlseg6e8ff_tu(vint8m1x6_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m1x7_t __riscv_vlseg7e8ff_tu(vint8m1x7_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m1x8_t __riscv_vlseg8e8ff_tu(vint8m1x8_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m2x2_t __riscv_vlseg2e8ff_tu(vint8m2x2_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m2x3_t __riscv_vlseg3e8ff_tu(vint8m2x3_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m2x4_t __riscv_vlseg4e8ff_tu(vint8m2x4_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint8m4x2_t __riscv_vlseg2e8ff_tu(vint8m4x2_t vd, const int8_t *rs1,
                                   size_t *new_vl, size_t vl);
vint16mf4x2_t __riscv_vlseg2e16ff_tu(vint16mf4x2_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16ff_tu(vint16mf4x3_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16ff_tu(vint16mf4x4_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16ff_tu(vint16mf4x5_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16ff_tu(vint16mf4x6_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16ff_tu(vint16mf4x7_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16ff_tu(vint16mf4x8_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16ff_tu(vint16mf2x2_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16ff_tu(vint16mf2x3_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16ff_tu(vint16mf2x4_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16ff_tu(vint16mf2x5_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16ff_tu(vint16mf2x6_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16ff_tu(vint16mf2x7_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16ff_tu(vint16mf2x8_t vd, const int16_t *rs1,
                                     size_t *new_vl, size_t vl);
vint16m1x2_t __riscv_vlseg2e16ff_tu(vint16m1x2_t vd, const int16_t *rs1,
                                    size_t *new_vl, size_t vl);
```

```
vint16m1x3_t __riscv_vlseg3e16ff_tu(vint16m1x3_t vd, const int16_t *rs1,
                                    size_t *new_vl, size_t vl);
vint16m1x4_t __riscv_vlseg4e16ff_tu(vint16m1x4_t vd, const int16_t *rs1,
                                    size_t *new_vl, size_t vl);
vint16m1x5_t __riscv_vlseg5e16ff_tu(vint16m1x5_t vd, const int16_t *rs1,
                                    size_t *new_vl, size_t vl);
vint16m1x6_t __riscv_vlseg6e16ff_tu(vint16m1x6_t vd, const int16_t *rs1,
                                    size_t *new_vl, size_t vl);
vint16m1x7_t __riscv_vlseg7e16ff_tu(vint16m1x7_t vd, const int16_t *rs1,
                                    size_t *new_vl, size_t vl);
vint16m1x8_t __riscv_vlseg8e16ff_tu(vint16m1x8_t vd, const int16_t *rs1,
                                    size_t *new_vl, size_t vl);
vint16m2x2_t __riscv_vlseg2e16ff_tu(vint16m2x2_t vd, const int16_t *rs1,
                                    size_t *new_vl, size_t vl);
vint16m2x3_t __riscv_vlseg3e16ff_tu(vint16m2x3_t vd, const int16_t *rs1,
                                    size_t *new_vl, size_t vl);
vint16m2x4_t __riscv_vlseg4e16ff_tu(vint16m2x4_t vd, const int16_t *rs1,
                                    size_t *new_vl, size_t vl);
vint16m4x2_t __riscv_vlseg2e16ff_tu(vint16m4x2_t vd, const int16_t *rs1,
                                    size_t *new_vl, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32ff_tu(vint32mf2x2_t vd, const int32_t *rs1,
                                     size_t *new_vl, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32ff_tu(vint32mf2x3_t vd, const int32_t *rs1,
                                     size_t *new_vl, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32ff_tu(vint32mf2x4_t vd, const int32_t *rs1,
                                     size_t *new_vl, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32ff_tu(vint32mf2x5_t vd, const int32_t *rs1,
                                     size_t *new_vl, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32ff_tu(vint32mf2x6_t vd, const int32_t *rs1,
                                     size_t *new_vl, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32ff_tu(vint32mf2x7_t vd, const int32_t *rs1,
                                     size_t *new_vl, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32ff_tu(vint32mf2x8_t vd, const int32_t *rs1,
                                     size_t *new_vl, size_t vl);
vint32m1x2_t __riscv_vlseg2e32ff_tu(vint32m1x2_t vd, const int32_t *rs1,
                                    size_t *new_vl, size_t vl);
vint32m1x3_t __riscv_vlseg3e32ff_tu(vint32m1x3_t vd, const int32_t *rs1,
                                    size_t *new_vl, size_t vl);
vint32m1x4_t __riscv_vlseg4e32ff_tu(vint32m1x4_t vd, const int32_t *rs1,
                                    size_t *new_vl, size_t vl);
vint32m1x5_t __riscv_vlseg5e32ff_tu(vint32m1x5_t vd, const int32_t *rs1,
                                    size_t *new_vl, size_t vl);
vint32m1x6_t __riscv_vlseg6e32ff_tu(vint32m1x6_t vd, const int32_t *rs1,
                                    size_t *new_vl, size_t vl);
vint32m1x7_t __riscv_vlseg7e32ff_tu(vint32m1x7_t vd, const int32_t *rs1,
                                    size_t *new_vl, size_t vl);
vint32m1x8_t __riscv_vlseg8e32ff_tu(vint32m1x8_t vd, const int32_t *rs1,
                                    size_t *new_vl, size_t vl);
vint32m2x2_t __riscv_vlseg2e32ff_tu(vint32m2x2_t vd, const int32_t *rs1,
                                    size_t *new_vl, size_t vl);
vint32m2x3_t __riscv_vlseg3e32ff_tu(vint32m2x3_t vd, const int32_t *rs1,
                                    size_t *new_vl, size_t vl);
vint32m2x4_t __riscv_vlseg4e32ff_tu(vint32m2x4_t vd, const int32_t *rs1,
                                    size_t *new_vl, size_t vl);
vint32m4x2_t __riscv_vlseg2e32ff_tu(vint32m4x2_t vd, const int32_t *rs1,
                                    size_t *new_vl, size_t vl);
vint64m1x2_t __riscv_vlseg2e64ff_tu(vint64m1x2_t vd, const int64_t *rs1,
                                    size_t *new_vl, size_t vl);
vint64m1x3_t __riscv_vlseg3e64ff_tu(vint64m1x3_t vd, const int64_t *rs1,
                                    size_t *new_vl, size_t vl);
vint64m1x4_t __riscv_vlseg4e64ff_tu(vint64m1x4_t vd, const int64_t *rs1,
                                    size_t *new_vl, size_t vl);
vint64m1x5_t __riscv_vlseg5e64ff_tu(vint64m1x5_t vd, const int64_t *rs1,
                                    size_t *new_vl, size_t vl);
vint64m1x6_t __riscv_vlseg6e64ff_tu(vint64m1x6_t vd, const int64_t *rs1,
                                    size_t *new_vl, size_t vl);
vint64m1x7_t __riscv_vlseg7e64ff_tu(vint64m1x7_t vd, const int64_t *rs1,
```

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                                    size_t *new_vl, size_t vl);
vint64m1x8_t __riscv_vlseg8e64ff_tu(vint64m1x8_t vd, const int64_t *rs1,
                                    size_t *new_vl, size_t vl);
vint64m2x2_t __riscv_vlseg2e64ff_tu(vint64m2x2_t vd, const int64_t *rs1,
                                    size_t *new_vl, size_t vl);
vint64m2x3_t __riscv_vlseg3e64ff_tu(vint64m2x3_t vd, const int64_t *rs1,
                                    size_t *new_vl, size_t vl);
vint64m2x4_t __riscv_vlseg4e64ff_tu(vint64m2x4_t vd, const int64_t *rs1,
                                    size_t *new_vl, size_t vl);
vint64m4x2_t __riscv_vlseg2e64ff_tu(vint64m4x2_t vd, const int64_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8_tu(vuint8mf8x2_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8_tu(vuint8mf8x3_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8_tu(vuint8mf8x4_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8_tu(vuint8mf8x5_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8_tu(vuint8mf8x6_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8_tu(vuint8mf8x7_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8_tu(vuint8mf8x8_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8_tu(vuint8mf4x2_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8_tu(vuint8mf4x3_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8_tu(vuint8mf4x4_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8_tu(vuint8mf4x5_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8_tu(vuint8mf4x6_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8_tu(vuint8mf4x7_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8_tu(vuint8mf4x8_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8_tu(vuint8mf2x2_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8_tu(vuint8mf2x3_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8_tu(vuint8mf2x4_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8_tu(vuint8mf2x5_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8_tu(vuint8mf2x6_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8_tu(vuint8mf2x7_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8_tu(vuint8mf2x8_t vd, const uint8_t *rs1,
                                  size_t vl);
vuint8m1x2_t __riscv_vlseg2e8_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                 size_t vl);
vuint8m1x3_t __riscv_vlseg3e8_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                 size_t vl);
vuint8m1x4_t __riscv_vlseg4e8_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                 size_t vl);
vuint8m1x5_t __riscv_vlseg5e8_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                 size_t vl);
vuint8m1x6_t __riscv_vlseg6e8_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                 size_t vl);
vuint8m1x7_t __riscv_vlseg7e8_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                 size_t vl);
vuint8m1x8_t __riscv_vlseg8e8_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                 size_t vl);
```

```
vuint8m2x2_t __riscv_vlseg2e8_tu(vuint8m2x2_t vd, const uint8_t *rs1,
                                 size_t vl);
vuint8m2x3_t __riscv_vlseg3e8_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                 size_t vl);
vuint8m2x4_t __riscv_vlseg4e8_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                 size_t vl);
vuint8m4x2_t __riscv_vlseg2e8_tu(vuint8m4x2_t vd, const uint8_t *rs1,
                                 size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16_tu(vuint16mf4x2_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16_tu(vuint16mf4x3_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16_tu(vuint16mf4x4_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16_tu(vuint16mf4x5_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16_tu(vuint16mf4x6_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16_tu(vuint16mf4x7_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16_tu(vuint16mf4x8_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16_tu(vuint16mf2x2_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16_tu(vuint16mf2x3_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16_tu(vuint16mf2x4_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16_tu(vuint16mf2x5_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16_tu(vuint16mf2x6_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16_tu(vuint16mf2x7_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16_tu(vuint16mf2x8_t vd, const uint16_t *rs1,
                                    size_t vl);
vuint16m1x2_t __riscv_vlseg2e16_tu(vuint16m1x2_t vd, const uint16_t *rs1,
                                   size_t vl);
vuint16m1x3_t __riscv_vlseg3e16_tu(vuint16m1x3_t vd, const uint16_t *rs1,
                                   size_t vl);
vuint16m1x4_t __riscv_vlseg4e16_tu(vuint16m1x4_t vd, const uint16_t *rs1,
                                   size_t vl);
vuint16m1x5_t __riscv_vlseg5e16_tu(vuint16m1x5_t vd, const uint16_t *rs1,
                                   size_t vl);
vuint16m1x6_t __riscv_vlseg6e16_tu(vuint16m1x6_t vd, const uint16_t *rs1,
                                   size_t vl);
vuint16m1x7_t __riscv_vlseg7e16_tu(vuint16m1x7_t vd, const uint16_t *rs1,
                                   size_t vl);
vuint16m1x8_t __riscv_vlseg8e16_tu(vuint16m1x8_t vd, const uint16_t *rs1,
                                   size_t vl);
vuint16m2x2_t __riscv_vlseg2e16_tu(vuint16m2x2_t vd, const uint16_t *rs1,
                                   size_t vl);
vuint16m2x3_t __riscv_vlseg3e16_tu(vuint16m2x3_t vd, const uint16_t *rs1,
                                   size_t vl);
vuint16m2x4_t __riscv_vlseg4e16_tu(vuint16m2x4_t vd, const uint16_t *rs1,
                                   size_t vl);
vuint16m4x2_t __riscv_vlseg2e16_tu(vuint16m4x2_t vd, const uint16_t *rs1,
                                   size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32_tu(vuint32mf2x2_t vd, const uint32_t *rs1,
                                    size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32_tu(vuint32mf2x3_t vd, const uint32_t *rs1,
                                    size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32_tu(vuint32mf2x4_t vd, const uint32_t *rs1,
                                    size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32_tu(vuint32mf2x5_t vd, const uint32_t *rs1,
                                    size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32_tu(vuint32mf2x6_t vd, const uint32_t *rs1,
```

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                                    size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32_tu(vuint32mf2x7_t vd, const uint32_t *rs1,
                                    size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32_tu(vuint32mf2x8_t vd, const uint32_t *rs1,
                                    size_t vl);
vuint32m1x2_t __riscv_vlseg2e32_tu(vuint32m1x2_t vd, const uint32_t *rs1,
                                   size_t vl);
vuint32m1x3_t __riscv_vlseg3e32_tu(vuint32m1x3_t vd, const uint32_t *rs1,
                                   size_t vl);
vuint32m1x4_t __riscv_vlseg4e32_tu(vuint32m1x4_t vd, const uint32_t *rs1,
                                   size_t vl);
vuint32m1x5_t __riscv_vlseg5e32_tu(vuint32m1x5_t vd, const uint32_t *rs1,
                                   size_t vl);
vuint32m1x6_t __riscv_vlseg6e32_tu(vuint32m1x6_t vd, const uint32_t *rs1,
                                   size_t vl);
vuint32m1x7_t __riscv_vlseg7e32_tu(vuint32m1x7_t vd, const uint32_t *rs1,
                                   size_t vl);
vuint32m1x8_t __riscv_vlseg8e32_tu(vuint32m1x8_t vd, const uint32_t *rs1,
                                   size_t vl);
vuint32m2x2_t __riscv_vlseg2e32_tu(vuint32m2x2_t vd, const uint32_t *rs1,
                                   size_t vl);
vuint32m2x3_t __riscv_vlseg3e32_tu(vuint32m2x3_t vd, const uint32_t *rs1,
                                   size_t vl);
vuint32m2x4_t __riscv_vlseg4e32_tu(vuint32m2x4_t vd, const uint32_t *rs1,
                                   size_t vl);
vuint32m4x2_t __riscv_vlseg2e32_tu(vuint32m4x2_t vd, const uint32_t *rs1,
                                   size_t vl);
vuint64m1x2_t __riscv_vlseg2e64_tu(vuint64m1x2_t vd, const uint64_t *rs1,
                                   size_t vl);
vuint64m1x3_t __riscv_vlseg3e64_tu(vuint64m1x3_t vd, const uint64_t *rs1,
                                   size_t vl);
vuint64m1x4_t __riscv_vlseg4e64_tu(vuint64m1x4_t vd, const uint64_t *rs1,
                                   size_t vl);
vuint64m1x5_t __riscv_vlseg5e64_tu(vuint64m1x5_t vd, const uint64_t *rs1,
                                   size_t vl);
vuint64m1x6_t __riscv_vlseg6e64_tu(vuint64m1x6_t vd, const uint64_t *rs1,
                                   size_t vl);
vuint64m1x7_t __riscv_vlseg7e64_tu(vuint64m1x7_t vd, const uint64_t *rs1,
                                   size_t vl);
vuint64m1x8_t __riscv_vlseg8e64_tu(vuint64m1x8_t vd, const uint64_t *rs1,
                                   size_t vl);
vuint64m2x2_t __riscv_vlseg2e64_tu(vuint64m2x2_t vd, const uint64_t *rs1,
                                   size_t vl);
vuint64m2x3_t __riscv_vlseg3e64_tu(vuint64m2x3_t vd, const uint64_t *rs1,
                                   size_t vl);
vuint64m2x4_t __riscv_vlseg4e64_tu(vuint64m2x4_t vd, const uint64_t *rs1,
                                   size_t vl);
vuint64m4x2_t __riscv_vlseg2e64_tu(vuint64m4x2_t vd, const uint64_t *rs1,
                                   size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8ff_tu(vuint8mf8x2_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8ff_tu(vuint8mf8x3_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8ff_tu(vuint8mf8x4_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8ff_tu(vuint8mf8x5_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8ff_tu(vuint8mf8x6_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8ff_tu(vuint8mf8x7_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8ff_tu(vuint8mf8x8_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8ff_tu(vuint8mf4x2_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8ff_tu(vuint8mf4x3_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
```

```
vuint8mf4x4_t __riscv_vlseg4e8ff_tu(vuint8mf4x4_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8ff_tu(vuint8mf4x5_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8ff_tu(vuint8mf4x6_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8ff_tu(vuint8mf4x7_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8ff_tu(vuint8mf4x8_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8ff_tu(vuint8mf2x2_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8ff_tu(vuint8mf2x3_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8ff_tu(vuint8mf2x4_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8ff_tu(vuint8mf2x5_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8ff_tu(vuint8mf2x6_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8ff_tu(vuint8mf2x7_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8ff_tu(vuint8mf2x8_t vd, const uint8_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8ff_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8ff_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8ff_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8ff_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8ff_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m1x7_t __riscv_vlseg7e8ff_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8ff_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8ff_tu(vuint8m2x2_t vd, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8ff_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8ff_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8ff_tu(vuint8m4x2_t vd, const uint8_t *rs1,
                                   size_t *new_vl, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16ff_tu(vuint16mf4x2_t vd, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16ff_tu(vuint16mf4x3_t vd, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16ff_tu(vuint16mf4x4_t vd, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16ff_tu(vuint16mf4x5_t vd, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16ff_tu(vuint16mf4x6_t vd, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16ff_tu(vuint16mf4x7_t vd, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16ff_tu(vuint16mf4x8_t vd, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16ff_tu(vuint16mf2x2_t vd, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16ff_tu(vuint16mf2x3_t vd, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16ff_tu(vuint16mf2x4_t vd, const uint16_t *rs1,
                                      size_t *new_vl, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16ff_tu(vuint16mf2x5_t vd, const uint16_t *rs1,
```

```
                                     size_t *new_vl, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16ff_tu(vuint16mf2x6_t vd, const uint16_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16ff_tu(vuint16mf2x7_t vd, const uint16_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16ff_tu(vuint16mf2x8_t vd, const uint16_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16ff_tu(vuint16m1x2_t vd, const uint16_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16ff_tu(vuint16m1x3_t vd, const uint16_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16ff_tu(vuint16m1x4_t vd, const uint16_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16ff_tu(vuint16m1x5_t vd, const uint16_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16ff_tu(vuint16m1x6_t vd, const uint16_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16ff_tu(vuint16m1x7_t vd, const uint16_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16ff_tu(vuint16m1x8_t vd, const uint16_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16ff_tu(vuint16m2x2_t vd, const uint16_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16ff_tu(vuint16m2x3_t vd, const uint16_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16ff_tu(vuint16m2x4_t vd, const uint16_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16ff_tu(vuint16m4x2_t vd, const uint16_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32ff_tu(vuint32mf2x2_t vd, const uint32_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32ff_tu(vuint32mf2x3_t vd, const uint32_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32ff_tu(vuint32mf2x4_t vd, const uint32_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32ff_tu(vuint32mf2x5_t vd, const uint32_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32ff_tu(vuint32mf2x6_t vd, const uint32_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32ff_tu(vuint32mf2x7_t vd, const uint32_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32ff_tu(vuint32mf2x8_t vd, const uint32_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32ff_tu(vuint32m1x2_t vd, const uint32_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32ff_tu(vuint32m1x3_t vd, const uint32_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32ff_tu(vuint32m1x4_t vd, const uint32_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32ff_tu(vuint32m1x5_t vd, const uint32_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32ff_tu(vuint32m1x6_t vd, const uint32_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32ff_tu(vuint32m1x7_t vd, const uint32_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32ff_tu(vuint32m1x8_t vd, const uint32_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32ff_tu(vuint32m2x2_t vd, const uint32_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32ff_tu(vuint32m2x3_t vd, const uint32_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32ff_tu(vuint32m2x4_t vd, const uint32_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32ff_tu(vuint32m4x2_t vd, const uint32_t *rs1,
                                    size_t *new_vl, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64ff_tu(vuint64m1x2_t vd, const uint64_t *rs1,
                                    size_t *new_vl, size_t vl);
```

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vuint64m1x3_t __riscv_vlseg3e64ff_tu(vuint64m1x3_t vd, const uint64_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64ff_tu(vuint64m1x4_t vd, const uint64_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64ff_tu(vuint64m1x5_t vd, const uint64_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64ff_tu(vuint64m1x6_t vd, const uint64_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64ff_tu(vuint64m1x7_t vd, const uint64_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64ff_tu(vuint64m1x8_t vd, const uint64_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64ff_tu(vuint64m2x2_t vd, const uint64_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64ff_tu(vuint64m2x3_t vd, const uint64_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64ff_tu(vuint64m2x4_t vd, const uint64_t *rs1,
                                     size_t *new_vl, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64ff_tu(vuint64m4x2_t vd, const uint64_t *rs1,
                                     size_t *new_vl, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlseg2e16_tum(vbool64_t vm, vfloat16mf4x2_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16_tum(vbool64_t vm, vfloat16mf4x3_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16_tum(vbool64_t vm, vfloat16mf4x4_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16_tum(vbool64_t vm, vfloat16mf4x5_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16_tum(vbool64_t vm, vfloat16mf4x6_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16_tum(vbool64_t vm, vfloat16mf4x7_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16_tum(vbool64_t vm, vfloat16mf4x8_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16_tum(vbool32_t vm, vfloat16mf2x2_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16_tum(vbool32_t vm, vfloat16mf2x3_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16_tum(vbool32_t vm, vfloat16mf2x4_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16_tum(vbool32_t vm, vfloat16mf2x5_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16_tum(vbool32_t vm, vfloat16mf2x6_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16_tum(vbool32_t vm, vfloat16mf2x7_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16_tum(vbool32_t vm, vfloat16mf2x8_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                     const _Float16 *rs1, size_t vl);
```

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vfloat16m2x4_t __riscv_vlseg4e16_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32_tum(vbool64_t vm, vfloat32mf2x2_t vd,
                                      const float *rs1, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32_tum(vbool64_t vm, vfloat32mf2x3_t vd,
                                      const float *rs1, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32_tum(vbool64_t vm, vfloat32mf2x4_t vd,
                                      const float *rs1, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32_tum(vbool64_t vm, vfloat32mf2x5_t vd,
                                      const float *rs1, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32_tum(vbool64_t vm, vfloat32mf2x6_t vd,
                                      const float *rs1, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32_tum(vbool64_t vm, vfloat32mf2x7_t vd,
                                      const float *rs1, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32_tum(vbool64_t vm, vfloat32mf2x8_t vd,
                                      const float *rs1, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                     const float *rs1, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                     const float *rs1, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                     const float *rs1, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                     const float *rs1, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                     const float *rs1, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                     const float *rs1, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                     const float *rs1, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                     const float *rs1, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                     const float *rs1, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                     const float *rs1, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                     const float *rs1, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                     const double *rs1, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                     const double *rs1, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                     const double *rs1, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                     const double *rs1, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                     const double *rs1, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                     const double *rs1, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                     const double *rs1, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                     const double *rs1, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                     const double *rs1, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                     const double *rs1, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                     const double *rs1, size_t vl);
vfloat16mf4x2_t __riscv_vlseg2e16ff_tum(vbool64_t vm, vfloat16mf4x2_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16ff_tum(vbool64_t vm, vfloat16mf4x3_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
```

```
                                        size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16ff_tum(vbool64_t vm, vfloat16mf4x4_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16ff_tum(vbool64_t vm, vfloat16mf4x5_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16ff_tum(vbool64_t vm, vfloat16mf4x6_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16ff_tum(vbool64_t vm, vfloat16mf4x7_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16ff_tum(vbool64_t vm, vfloat16mf4x8_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16ff_tum(vbool32_t vm, vfloat16mf2x2_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16ff_tum(vbool32_t vm, vfloat16mf2x3_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16ff_tum(vbool32_t vm, vfloat16mf2x4_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16ff_tum(vbool32_t vm, vfloat16mf2x5_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16ff_tum(vbool32_t vm, vfloat16mf2x6_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16ff_tum(vbool32_t vm, vfloat16mf2x7_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16ff_tum(vbool32_t vm, vfloat16mf2x8_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16ff_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16ff_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16ff_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16ff_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16ff_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16ff_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16ff_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16ff_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16ff_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16ff_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
```

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vfloat16m4x2_t __riscv_vlseg2e16ff_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32ff_tum(vbool64_t vm, vfloat32mf2x2_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32ff_tum(vbool64_t vm, vfloat32mf2x3_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32ff_tum(vbool64_t vm, vfloat32mf2x4_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32ff_tum(vbool64_t vm, vfloat32mf2x5_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32ff_tum(vbool64_t vm, vfloat32mf2x6_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32ff_tum(vbool64_t vm, vfloat32mf2x7_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32ff_tum(vbool64_t vm, vfloat32mf2x8_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32ff_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32ff_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32ff_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32ff_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32ff_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32ff_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32ff_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32ff_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32ff_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32ff_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32ff_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64ff_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                       const double *rs1, size_t *new_vl,
                                       size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64ff_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                       const double *rs1, size_t *new_vl,
                                       size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64ff_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                       const double *rs1, size_t *new_vl,
                                       size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64ff_tum(vbool64_t vm, vfloat64m1x5_t vd,
```

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                                    const double *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64ff_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                    const double *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64ff_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                    const double *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64ff_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                    const double *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64ff_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                    const double *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64ff_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                    const double *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64ff_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                    const double *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64ff_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                    const double *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf8x2_t __riscv_vlseg2e8_tum(vbool64_t vm, vint8mf8x2_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8_tum(vbool64_t vm, vint8mf8x3_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8_tum(vbool64_t vm, vint8mf8x4_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8_tum(vbool64_t vm, vint8mf8x5_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8_tum(vbool64_t vm, vint8mf8x6_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8_tum(vbool64_t vm, vint8mf8x7_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8_tum(vbool32_t vm, vint8mf4x2_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8_tum(vbool32_t vm, vint8mf4x3_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8_tum(vbool32_t vm, vint8mf4x4_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8_tum(vbool32_t vm, vint8mf4x5_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8_tum(vbool32_t vm, vint8mf4x6_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8_tum(vbool32_t vm, vint8mf4x7_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8_tum(vbool16_t vm, vint8mf2x2_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8_tum(vbool16_t vm, vint8mf2x3_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf2x4_t __riscv_vlseg4e8_tum(vbool16_t vm, vint8mf2x4_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8_tum(vbool16_t vm, vint8mf2x5_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8_tum(vbool16_t vm, vint8mf2x6_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8_tum(vbool16_t vm, vint8mf2x7_t vd,
                                  const int8_t *rs1, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                  const int8_t *rs1, size_t vl);
vint8m1x2_t __riscv_vlseg2e8_tum(vbool8_t vm, vint8m1x2_t vd, const int8_t *rs1,
                                 size_t vl);
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vint8m1x3_t __riscv_vlseg3e8_tum(vbool8_t vm, vint8m1x3_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m1x4_t __riscv_vlseg4e8_tum(vbool8_t vm, vint8m1x4_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m1x5_t __riscv_vlseg5e8_tum(vbool8_t vm, vint8m1x5_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m1x6_t __riscv_vlseg6e8_tum(vbool8_t vm, vint8m1x6_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m1x7_t __riscv_vlseg7e8_tum(vbool8_t vm, vint8m1x7_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m1x8_t __riscv_vlseg8e8_tum(vbool8_t vm, vint8m1x8_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m2x2_t __riscv_vlseg2e8_tum(vbool4_t vm, vint8m2x2_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m2x3_t __riscv_vlseg3e8_tum(vbool4_t vm, vint8m2x3_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m2x4_t __riscv_vlseg4e8_tum(vbool4_t vm, vint8m2x4_t vd, const int8_t *rs1,
                                 size_t vl);
vint8m4x2_t __riscv_vlseg2e8_tum(vbool2_t vm, vint8m4x2_t vd, const int8_t *rs1,
                                 size_t vl);
vint16mf4x2_t __riscv_vlseg2e16_tum(vbool64_t vm, vint16mf4x2_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16_tum(vbool64_t vm, vint16mf4x3_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16_tum(vbool64_t vm, vint16mf4x4_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16_tum(vbool64_t vm, vint16mf4x5_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16_tum(vbool64_t vm, vint16mf4x6_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16_tum(vbool64_t vm, vint16mf4x7_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16_tum(vbool64_t vm, vint16mf4x8_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16_tum(vbool32_t vm, vint16mf2x2_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16_tum(vbool32_t vm, vint16mf2x3_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16_tum(vbool32_t vm, vint16mf2x4_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16_tum(vbool32_t vm, vint16mf2x5_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16_tum(vbool32_t vm, vint16mf2x6_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16_tum(vbool32_t vm, vint16mf2x7_t vd,
                                    const int16_t *rs1, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16_tum(vbool32_t vm, vint16mf2x8_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m1x2_t __riscv_vlseg2e16_tum(vbool16_t vm, vint16m1x2_t vd,
                                   const int16_t *rs1, size_t vl);
vint16m1x3_t __riscv_vlseg3e16_tum(vbool16_t vm, vint16m1x3_t vd,
                                   const int16_t *rs1, size_t vl);
vint16m1x4_t __riscv_vlseg4e16_tum(vbool16_t vm, vint16m1x4_t vd,
                                   const int16_t *rs1, size_t vl);
vint16m1x5_t __riscv_vlseg5e16_tum(vbool16_t vm, vint16m1x5_t vd,
                                   const int16_t *rs1, size_t vl);
vint16m1x6_t __riscv_vlseg6e16_tum(vbool16_t vm, vint16m1x6_t vd,
                                   const int16_t *rs1, size_t vl);
vint16m1x7_t __riscv_vlseg7e16_tum(vbool16_t vm, vint16m1x7_t vd,
                                   const int16_t *rs1, size_t vl);
vint16m1x8_t __riscv_vlseg8e16_tum(vbool16_t vm, vint16m1x8_t vd,
                                   const int16_t *rs1, size_t vl);
vint16m2x2_t __riscv_vlseg2e16_tum(vbool8_t vm, vint16m2x2_t vd,
                                   const int16_t *rs1, size_t vl);
vint16m2x3_t __riscv_vlseg3e16_tum(vbool8_t vm, vint16m2x3_t vd,
                                   const int16_t *rs1, size_t vl);
vint16m2x4_t __riscv_vlseg4e16_tum(vbool8_t vm, vint16m2x4_t vd,
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                                    const int16_t *rs1, size_t vl);
vint16m4x2_t __riscv_vlseg2e16_tum(vbool4_t vm, vint16m4x2_t vd,
                                    const int16_t *rs1, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32_tum(vbool64_t vm, vint32mf2x2_t vd,
                                     const int32_t *rs1, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32_tum(vbool64_t vm, vint32mf2x3_t vd,
                                     const int32_t *rs1, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32_tum(vbool64_t vm, vint32mf2x4_t vd,
                                     const int32_t *rs1, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32_tum(vbool64_t vm, vint32mf2x5_t vd,
                                     const int32_t *rs1, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32_tum(vbool64_t vm, vint32mf2x6_t vd,
                                     const int32_t *rs1, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32_tum(vbool64_t vm, vint32mf2x7_t vd,
                                     const int32_t *rs1, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32_tum(vbool64_t vm, vint32mf2x8_t vd,
                                     const int32_t *rs1, size_t vl);
vint32m1x2_t __riscv_vlseg2e32_tum(vbool32_t vm, vint32m1x2_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x3_t __riscv_vlseg3e32_tum(vbool32_t vm, vint32m1x3_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x4_t __riscv_vlseg4e32_tum(vbool32_t vm, vint32m1x4_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x5_t __riscv_vlseg5e32_tum(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x6_t __riscv_vlseg6e32_tum(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x7_t __riscv_vlseg7e32_tum(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x8_t __riscv_vlseg8e32_tum(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m2x2_t __riscv_vlseg2e32_tum(vbool16_t vm, vint32m2x2_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m2x3_t __riscv_vlseg3e32_tum(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m2x4_t __riscv_vlseg4e32_tum(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m4x2_t __riscv_vlseg2e32_tum(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, size_t vl);
vint64m1x2_t __riscv_vlseg2e64_tum(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x3_t __riscv_vlseg3e64_tum(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x4_t __riscv_vlseg4e64_tum(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x5_t __riscv_vlseg5e64_tum(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x6_t __riscv_vlseg6e64_tum(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x7_t __riscv_vlseg7e64_tum(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x8_t __riscv_vlseg8e64_tum(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m2x2_t __riscv_vlseg2e64_tum(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m2x3_t __riscv_vlseg3e64_tum(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m2x4_t __riscv_vlseg4e64_tum(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m4x2_t __riscv_vlseg2e64_tum(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8ff_tum(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf8x3_t __riscv_vlseg3e8ff_tum(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
```

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vint8mf8x4_t __riscv_vlseg4e8ff_tum(vbool64_t vm, vint8mf8x4_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf8x5_t __riscv_vlseg5e8ff_tum(vbool64_t vm, vint8mf8x5_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf8x6_t __riscv_vlseg6e8ff_tum(vbool64_t vm, vint8mf8x6_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf8x7_t __riscv_vlseg7e8ff_tum(vbool64_t vm, vint8mf8x7_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf8x8_t __riscv_vlseg8e8ff_tum(vbool64_t vm, vint8mf8x8_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf4x2_t __riscv_vlseg2e8ff_tum(vbool32_t vm, vint8mf4x2_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf4x3_t __riscv_vlseg3e8ff_tum(vbool32_t vm, vint8mf4x3_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf4x4_t __riscv_vlseg4e8ff_tum(vbool32_t vm, vint8mf4x4_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf4x5_t __riscv_vlseg5e8ff_tum(vbool32_t vm, vint8mf4x5_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf4x6_t __riscv_vlseg6e8ff_tum(vbool32_t vm, vint8mf4x6_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf4x7_t __riscv_vlseg7e8ff_tum(vbool32_t vm, vint8mf4x7_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf4x8_t __riscv_vlseg8e8ff_tum(vbool32_t vm, vint8mf4x8_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf2x2_t __riscv_vlseg2e8ff_tum(vbool16_t vm, vint8mf2x2_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf2x3_t __riscv_vlseg3e8ff_tum(vbool16_t vm, vint8mf2x3_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf2x4_t __riscv_vlseg4e8ff_tum(vbool16_t vm, vint8mf2x4_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf2x5_t __riscv_vlseg5e8ff_tum(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf2x6_t __riscv_vlseg6e8ff_tum(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf2x7_t __riscv_vlseg7e8ff_tum(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf2x8_t __riscv_vlseg8e8ff_tum(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m1x2_t __riscv_vlseg2e8ff_tum(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, size_t *new_vl,
                                   size_t vl);
vint8m1x3_t __riscv_vlseg3e8ff_tum(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, size_t *new_vl,
                                   size_t vl);
vint8m1x4_t __riscv_vlseg4e8ff_tum(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, size_t *new_vl,
                                   size_t vl);
vint8m1x5_t __riscv_vlseg5e8ff_tum(vbool8_t vm, vint8m1x5_t vd,
```

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                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8m1x6_t __riscv_vlseg6e8ff_tum(vbool8_t vm, vint8m1x6_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8m1x7_t __riscv_vlseg7e8ff_tum(vbool8_t vm, vint8m1x7_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8m1x8_t __riscv_vlseg8e8ff_tum(vbool8_t vm, vint8m1x8_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8m2x2_t __riscv_vlseg2e8ff_tum(vbool4_t vm, vint8m2x2_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8m2x3_t __riscv_vlseg3e8ff_tum(vbool4_t vm, vint8m2x3_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8m2x4_t __riscv_vlseg4e8ff_tum(vbool4_t vm, vint8m2x4_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8m4x2_t __riscv_vlseg2e8ff_tum(vbool2_t vm, vint8m4x2_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint16mf4x2_t __riscv_vlseg2e16ff_tum(vbool64_t vm, vint16mf4x2_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf4x3_t __riscv_vlseg3e16ff_tum(vbool64_t vm, vint16mf4x3_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf4x4_t __riscv_vlseg4e16ff_tum(vbool64_t vm, vint16mf4x4_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf4x5_t __riscv_vlseg5e16ff_tum(vbool64_t vm, vint16mf4x5_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf4x6_t __riscv_vlseg6e16ff_tum(vbool64_t vm, vint16mf4x6_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf4x7_t __riscv_vlseg7e16ff_tum(vbool64_t vm, vint16mf4x7_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf4x8_t __riscv_vlseg8e16ff_tum(vbool64_t vm, vint16mf4x8_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf2x2_t __riscv_vlseg2e16ff_tum(vbool32_t vm, vint16mf2x2_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf2x3_t __riscv_vlseg3e16ff_tum(vbool32_t vm, vint16mf2x3_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf2x4_t __riscv_vlseg4e16ff_tum(vbool32_t vm, vint16mf2x4_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf2x5_t __riscv_vlseg5e16ff_tum(vbool32_t vm, vint16mf2x5_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf2x6_t __riscv_vlseg6e16ff_tum(vbool32_t vm, vint16mf2x6_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf2x7_t __riscv_vlseg7e16ff_tum(vbool32_t vm, vint16mf2x7_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16mf2x8_t __riscv_vlseg8e16ff_tum(vbool32_t vm, vint16mf2x8_t vd,
                                     const int16_t *rs1, size_t *new_vl,
                                     size_t vl);
vint16m1x2_t __riscv_vlseg2e16ff_tum(vbool16_t vm, vint16m1x2_t vd,
                                    const int16_t *rs1, size_t *new_vl,
```

```
                                    size_t vl);
vint16m1x3_t __riscv_vlseg3e16ff_tum(vbool16_t vm, vint16m1x3_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m1x4_t __riscv_vlseg4e16ff_tum(vbool16_t vm, vint16m1x4_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m1x5_t __riscv_vlseg5e16ff_tum(vbool16_t vm, vint16m1x5_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m1x6_t __riscv_vlseg6e16ff_tum(vbool16_t vm, vint16m1x6_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m1x7_t __riscv_vlseg7e16ff_tum(vbool16_t vm, vint16m1x7_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m1x8_t __riscv_vlseg8e16ff_tum(vbool16_t vm, vint16m1x8_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m2x2_t __riscv_vlseg2e16ff_tum(vbool8_t vm, vint16m2x2_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m2x3_t __riscv_vlseg3e16ff_tum(vbool8_t vm, vint16m2x3_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m2x4_t __riscv_vlseg4e16ff_tum(vbool8_t vm, vint16m2x4_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m4x2_t __riscv_vlseg2e16ff_tum(vbool4_t vm, vint16m4x2_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32mf2x2_t __riscv_vlseg2e32ff_tum(vbool64_t vm, vint32mf2x2_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x3_t __riscv_vlseg3e32ff_tum(vbool64_t vm, vint32mf2x3_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x4_t __riscv_vlseg4e32ff_tum(vbool64_t vm, vint32mf2x4_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x5_t __riscv_vlseg5e32ff_tum(vbool64_t vm, vint32mf2x5_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x6_t __riscv_vlseg6e32ff_tum(vbool64_t vm, vint32mf2x6_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x7_t __riscv_vlseg7e32ff_tum(vbool64_t vm, vint32mf2x7_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x8_t __riscv_vlseg8e32ff_tum(vbool64_t vm, vint32mf2x8_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32m1x2_t __riscv_vlseg2e32ff_tum(vbool32_t vm, vint32m1x2_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x3_t __riscv_vlseg3e32ff_tum(vbool32_t vm, vint32m1x3_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x4_t __riscv_vlseg4e32ff_tum(vbool32_t vm, vint32m1x4_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x5_t __riscv_vlseg5e32ff_tum(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x6_t __riscv_vlseg6e32ff_tum(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
```

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vint32m1x7_t __riscv_vlseg7e32ff_tum(vbool32_t vm, vint32m1x7_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32m1x8_t __riscv_vlseg8e32ff_tum(vbool32_t vm, vint32m1x8_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32m2x2_t __riscv_vlseg2e32ff_tum(vbool16_t vm, vint32m2x2_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32m2x3_t __riscv_vlseg3e32ff_tum(vbool16_t vm, vint32m2x3_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32m2x4_t __riscv_vlseg4e32ff_tum(vbool16_t vm, vint32m2x4_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32m4x2_t __riscv_vlseg2e32ff_tum(vbool8_t vm, vint32m4x2_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint64m1x2_t __riscv_vlseg2e64ff_tum(vbool64_t vm, vint64m1x2_t vd,
                                     const int64_t *rs1, size_t *new_vl,
                                     size_t vl);
vint64m1x3_t __riscv_vlseg3e64ff_tum(vbool64_t vm, vint64m1x3_t vd,
                                     const int64_t *rs1, size_t *new_vl,
                                     size_t vl);
vint64m1x4_t __riscv_vlseg4e64ff_tum(vbool64_t vm, vint64m1x4_t vd,
                                     const int64_t *rs1, size_t *new_vl,
                                     size_t vl);
vint64m1x5_t __riscv_vlseg5e64ff_tum(vbool64_t vm, vint64m1x5_t vd,
                                     const int64_t *rs1, size_t *new_vl,
                                     size_t vl);
vint64m1x6_t __riscv_vlseg6e64ff_tum(vbool64_t vm, vint64m1x6_t vd,
                                     const int64_t *rs1, size_t *new_vl,
                                     size_t vl);
vint64m1x7_t __riscv_vlseg7e64ff_tum(vbool64_t vm, vint64m1x7_t vd,
                                     const int64_t *rs1, size_t *new_vl,
                                     size_t vl);
vint64m1x8_t __riscv_vlseg8e64ff_tum(vbool64_t vm, vint64m1x8_t vd,
                                     const int64_t *rs1, size_t *new_vl,
                                     size_t vl);
vint64m2x2_t __riscv_vlseg2e64ff_tum(vbool32_t vm, vint64m2x2_t vd,
                                     const int64_t *rs1, size_t *new_vl,
                                     size_t vl);
vint64m2x3_t __riscv_vlseg3e64ff_tum(vbool32_t vm, vint64m2x3_t vd,
                                     const int64_t *rs1, size_t *new_vl,
                                     size_t vl);
vint64m2x4_t __riscv_vlseg4e64ff_tum(vbool32_t vm, vint64m2x4_t vd,
                                     const int64_t *rs1, size_t *new_vl,
                                     size_t vl);
vint64m4x2_t __riscv_vlseg2e64ff_tum(vbool16_t vm, vint64m4x2_t vd,
                                     const int64_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                   const uint8_t *rs1, size_t vl);
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vuint8mf4x3_t __riscv_vlseg3e8_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8_tum(vbool8_t vm, vuint8m1x2_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8_tum(vbool8_t vm, vuint8m1x3_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8_tum(vbool8_t vm, vuint8m1x4_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8_tum(vbool8_t vm, vuint8m1x5_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8_tum(vbool8_t vm, vuint8m1x6_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x7_t __riscv_vlseg7e8_tum(vbool8_t vm, vuint8m1x7_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8_tum(vbool4_t vm, vuint8m2x2_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8_tum(vbool4_t vm, vuint8m2x3_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8_tum(vbool4_t vm, vuint8m2x4_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8_tum(vbool2_t vm, vuint8m4x2_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16_tum(vbool64_t vm, vuint16mf4x7_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16_tum(vbool32_t vm, vuint16mf2x2_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16_tum(vbool32_t vm, vuint16mf2x4_t vd,
```

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                                     const uint16_t *rs1, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16_tum(vbool32_t vm, vuint16mf2x5_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16_tum(vbool16_t vm, vuint16m1x2_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16_tum(vbool16_t vm, vuint16m1x3_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16_tum(vbool16_t vm, vuint16m1x4_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16_tum(vbool16_t vm, vuint16m1x5_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16_tum(vbool16_t vm, vuint16m1x6_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16_tum(vbool16_t vm, vuint16m1x7_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16_tum(vbool16_t vm, vuint16m1x8_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16_tum(vbool8_t vm, vuint16m2x2_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16_tum(vbool8_t vm, vuint16m2x3_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16_tum(vbool8_t vm, vuint16m2x4_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16_tum(vbool4_t vm, vuint16m4x2_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32_tum(vbool32_t vm, vuint32m1x2_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32_tum(vbool32_t vm, vuint32m1x3_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32_tum(vbool32_t vm, vuint32m1x4_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32_tum(vbool32_t vm, vuint32m1x5_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32_tum(vbool32_t vm, vuint32m1x6_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32_tum(vbool32_t vm, vuint32m1x7_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32_tum(vbool32_t vm, vuint32m1x8_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32_tum(vbool16_t vm, vuint32m2x2_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32_tum(vbool16_t vm, vuint32m2x3_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32_tum(vbool16_t vm, vuint32m2x4_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32_tum(vbool8_t vm, vuint32m4x2_t vd,
                                    const uint32_t *rs1, size_t vl);
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vuint64m1x2_t __riscv_vlseg2e64_tum(vbool64_t vm, vuint64m1x2_t vd,
                                    const uint64_t *rs1, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64_tum(vbool64_t vm, vuint64m1x3_t vd,
                                    const uint64_t *rs1, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64_tum(vbool64_t vm, vuint64m1x4_t vd,
                                    const uint64_t *rs1, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64_tum(vbool64_t vm, vuint64m1x5_t vd,
                                    const uint64_t *rs1, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64_tum(vbool64_t vm, vuint64m1x6_t vd,
                                    const uint64_t *rs1, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64_tum(vbool64_t vm, vuint64m1x7_t vd,
                                    const uint64_t *rs1, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64_tum(vbool64_t vm, vuint64m1x8_t vd,
                                    const uint64_t *rs1, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64_tum(vbool32_t vm, vuint64m2x2_t vd,
                                    const uint64_t *rs1, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64_tum(vbool32_t vm, vuint64m2x3_t vd,
                                    const uint64_t *rs1, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64_tum(vbool32_t vm, vuint64m2x4_t vd,
                                    const uint64_t *rs1, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64_tum(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8ff_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8ff_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8ff_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8ff_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8ff_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8ff_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8ff_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8ff_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8ff_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8ff_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8ff_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8ff_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8ff_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8ff_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8ff_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
```

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vuint8mf2x3_t __riscv_vlseg3e8ff_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8ff_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8ff_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8ff_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8ff_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8ff_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8m1x2_t __riscv_vlseg2e8ff_tum(vbool8_t vm, vuint8m1x2_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x3_t __riscv_vlseg3e8ff_tum(vbool8_t vm, vuint8m1x3_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x4_t __riscv_vlseg4e8ff_tum(vbool8_t vm, vuint8m1x4_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x5_t __riscv_vlseg5e8ff_tum(vbool8_t vm, vuint8m1x5_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x6_t __riscv_vlseg6e8ff_tum(vbool8_t vm, vuint8m1x6_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x7_t __riscv_vlseg7e8ff_tum(vbool8_t vm, vuint8m1x7_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x8_t __riscv_vlseg8e8ff_tum(vbool8_t vm, vuint8m1x8_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m2x2_t __riscv_vlseg2e8ff_tum(vbool4_t vm, vuint8m2x2_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m2x3_t __riscv_vlseg3e8ff_tum(vbool4_t vm, vuint8m2x3_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m2x4_t __riscv_vlseg4e8ff_tum(vbool4_t vm, vuint8m2x4_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m4x2_t __riscv_vlseg2e8ff_tum(vbool2_t vm, vuint8m4x2_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16ff_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16ff_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16ff_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16ff_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16ff_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16ff_tum(vbool64_t vm, vuint16mf4x7_t vd,
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                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16ff_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16ff_tum(vbool32_t vm, vuint16mf2x2_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16ff_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16ff_tum(vbool32_t vm, vuint16mf2x4_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16ff_tum(vbool32_t vm, vuint16mf2x5_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16ff_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16ff_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16ff_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16m1x2_t __riscv_vlseg2e16ff_tum(vbool16_t vm, vuint16m1x2_t vd,
                                     const uint16_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint16m1x3_t __riscv_vlseg3e16ff_tum(vbool16_t vm, vuint16m1x3_t vd,
                                     const uint16_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint16m1x4_t __riscv_vlseg4e16ff_tum(vbool16_t vm, vuint16m1x4_t vd,
                                     const uint16_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint16m1x5_t __riscv_vlseg5e16ff_tum(vbool16_t vm, vuint16m1x5_t vd,
                                     const uint16_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint16m1x6_t __riscv_vlseg6e16ff_tum(vbool16_t vm, vuint16m1x6_t vd,
                                     const uint16_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint16m1x7_t __riscv_vlseg7e16ff_tum(vbool16_t vm, vuint16m1x7_t vd,
                                     const uint16_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint16m1x8_t __riscv_vlseg8e16ff_tum(vbool16_t vm, vuint16m1x8_t vd,
                                     const uint16_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint16m2x2_t __riscv_vlseg2e16ff_tum(vbool8_t vm, vuint16m2x2_t vd,
                                     const uint16_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint16m2x3_t __riscv_vlseg3e16ff_tum(vbool8_t vm, vuint16m2x3_t vd,
                                     const uint16_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint16m2x4_t __riscv_vlseg4e16ff_tum(vbool8_t vm, vuint16m2x4_t vd,
                                     const uint16_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint16m4x2_t __riscv_vlseg2e16ff_tum(vbool4_t vm, vuint16m4x2_t vd,
                                     const uint16_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32ff_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                      const uint32_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32ff_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                      const uint32_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32ff_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                      const uint32_t *rs1, size_t *new_vl,
```

```
                                     size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32ff_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32ff_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32ff_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32ff_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m1x2_t __riscv_vlseg2e32ff_tum(vbool32_t vm, vuint32m1x2_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m1x3_t __riscv_vlseg3e32ff_tum(vbool32_t vm, vuint32m1x3_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m1x4_t __riscv_vlseg4e32ff_tum(vbool32_t vm, vuint32m1x4_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m1x5_t __riscv_vlseg5e32ff_tum(vbool32_t vm, vuint32m1x5_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m1x6_t __riscv_vlseg6e32ff_tum(vbool32_t vm, vuint32m1x6_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m1x7_t __riscv_vlseg7e32ff_tum(vbool32_t vm, vuint32m1x7_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m1x8_t __riscv_vlseg8e32ff_tum(vbool32_t vm, vuint32m1x8_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m2x2_t __riscv_vlseg2e32ff_tum(vbool16_t vm, vuint32m2x2_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m2x3_t __riscv_vlseg3e32ff_tum(vbool16_t vm, vuint32m2x3_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m2x4_t __riscv_vlseg4e32ff_tum(vbool16_t vm, vuint32m2x4_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m4x2_t __riscv_vlseg2e32ff_tum(vbool8_t vm, vuint32m4x2_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x2_t __riscv_vlseg2e64ff_tum(vbool64_t vm, vuint64m1x2_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x3_t __riscv_vlseg3e64ff_tum(vbool64_t vm, vuint64m1x3_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x4_t __riscv_vlseg4e64ff_tum(vbool64_t vm, vuint64m1x4_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x5_t __riscv_vlseg5e64ff_tum(vbool64_t vm, vuint64m1x5_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x6_t __riscv_vlseg6e64ff_tum(vbool64_t vm, vuint64m1x6_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x7_t __riscv_vlseg7e64ff_tum(vbool64_t vm, vuint64m1x7_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x8_t __riscv_vlseg8e64ff_tum(vbool64_t vm, vuint64m1x8_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
```

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vuint64m2x2_t __riscv_vlseg2e64ff_tum(vbool32_t vm, vuint64m2x2_t vd,
                                      const uint64_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint64m2x3_t __riscv_vlseg3e64ff_tum(vbool32_t vm, vuint64m2x3_t vd,
                                      const uint64_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint64m2x4_t __riscv_vlseg4e64ff_tum(vbool32_t vm, vuint64m2x4_t vd,
                                      const uint64_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint64m4x2_t __riscv_vlseg2e64ff_tum(vbool16_t vm, vuint64m4x2_t vd,
                                      const uint64_t *rs1, size_t *new_vl,
                                      size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlseg2e16_tumu(vbool64_t vm, vfloat16mf4x2_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16_tumu(vbool64_t vm, vfloat16mf4x3_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16_tumu(vbool64_t vm, vfloat16mf4x4_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16_tumu(vbool64_t vm, vfloat16mf4x5_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16_tumu(vbool64_t vm, vfloat16mf4x6_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16_tumu(vbool64_t vm, vfloat16mf4x7_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16_tumu(vbool64_t vm, vfloat16mf4x8_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16_tumu(vbool32_t vm, vfloat16mf2x2_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16_tumu(vbool32_t vm, vfloat16mf2x3_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16_tumu(vbool32_t vm, vfloat16mf2x4_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16_tumu(vbool32_t vm, vfloat16mf2x5_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16_tumu(vbool32_t vm, vfloat16mf2x6_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16_tumu(vbool32_t vm, vfloat16mf2x7_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16_tumu(vbool32_t vm, vfloat16mf2x8_t vd,
                                       const _Float16 *rs1, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16_tumu(vbool16_t vm, vfloat16m1x3_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16_tumu(vbool4_t vm, vfloat16m4x2_t vd,
                                      const _Float16 *rs1, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32_tumu(vbool64_t vm, vfloat32mf2x2_t vd,
                                       const float *rs1, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32_tumu(vbool64_t vm, vfloat32mf2x3_t vd,
                                       const float *rs1, size_t vl);
```

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vfloat32mf2x4_t __riscv_vlseg4e32_tumu(vbool64_t vm, vfloat32mf2x4_t vd,
                                       const float *rs1, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32_tumu(vbool64_t vm, vfloat32mf2x5_t vd,
                                       const float *rs1, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32_tumu(vbool64_t vm, vfloat32mf2x6_t vd,
                                       const float *rs1, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32_tumu(vbool64_t vm, vfloat32mf2x7_t vd,
                                       const float *rs1, size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32_tumu(vbool64_t vm, vfloat32mf2x8_t vd,
                                       const float *rs1, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                      const float *rs1, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32_tumu(vbool32_t vm, vfloat32m1x3_t vd,
                                      const float *rs1, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                      const float *rs1, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                      const float *rs1, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                      const float *rs1, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                      const float *rs1, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                      const float *rs1, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                      const float *rs1, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                      const float *rs1, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                      const float *rs1, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                      const float *rs1, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                      const double *rs1, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                      const double *rs1, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                      const double *rs1, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                      const double *rs1, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                      const double *rs1, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                      const double *rs1, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64_tumu(vbool64_t vm, vfloat64m1x8_t vd,
                                      const double *rs1, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                      const double *rs1, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                      const double *rs1, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                      const double *rs1, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                      const double *rs1, size_t vl);
vfloat16mf4x2_t __riscv_vlseg2e16ff_tumu(vbool64_t vm, vfloat16mf4x2_t vd,
                                         const _Float16 *rs1, size_t *new_vl,
                                         size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16ff_tumu(vbool64_t vm, vfloat16mf4x3_t vd,
                                         const _Float16 *rs1, size_t *new_vl,
                                         size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16ff_tumu(vbool64_t vm, vfloat16mf4x4_t vd,
                                         const _Float16 *rs1, size_t *new_vl,
                                         size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16ff_tumu(vbool64_t vm, vfloat16mf4x5_t vd,
                                         const _Float16 *rs1, size_t *new_vl,
                                         size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16ff_tumu(vbool64_t vm, vfloat16mf4x6_t vd,
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                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16ff_tumu(vbool64_t vm, vfloat16mf4x7_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16ff_tumu(vbool64_t vm, vfloat16mf4x8_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16ff_tumu(vbool32_t vm, vfloat16mf2x2_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16ff_tumu(vbool32_t vm, vfloat16mf2x3_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16ff_tumu(vbool32_t vm, vfloat16mf2x4_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16ff_tumu(vbool32_t vm, vfloat16mf2x5_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16ff_tumu(vbool32_t vm, vfloat16mf2x6_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16ff_tumu(vbool32_t vm, vfloat16mf2x7_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16ff_tumu(vbool32_t vm, vfloat16mf2x8_t vd,
                                        const _Float16 *rs1, size_t *new_vl,
                                        size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16ff_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16ff_tumu(vbool16_t vm, vfloat16m1x3_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16ff_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16ff_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16ff_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16ff_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16ff_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16ff_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16ff_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16ff_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16ff_tumu(vbool4_t vm, vfloat16m4x2_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32ff_tumu(vbool64_t vm, vfloat32mf2x2_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32ff_tumu(vbool64_t vm, vfloat32mf2x3_t vd,
                                        const float *rs1, size_t *new_vl,
```

```
                                        size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32ff_tumu(vbool64_t vm, vfloat32mf2x4_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32ff_tumu(vbool64_t vm, vfloat32mf2x5_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32ff_tumu(vbool64_t vm, vfloat32mf2x6_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32ff_tumu(vbool64_t vm, vfloat32mf2x7_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32ff_tumu(vbool64_t vm, vfloat32mf2x8_t vd,
                                        const float *rs1, size_t *new_vl,
                                        size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32ff_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32ff_tumu(vbool32_t vm, vfloat32m1x3_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32ff_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32ff_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32ff_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32ff_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32ff_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32ff_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32ff_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32ff_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32ff_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64ff_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                       const double *rs1, size_t *new_vl,
                                       size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64ff_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                       const double *rs1, size_t *new_vl,
                                       size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64ff_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                       const double *rs1, size_t *new_vl,
                                       size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64ff_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                       const double *rs1, size_t *new_vl,
                                       size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64ff_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                       const double *rs1, size_t *new_vl,
                                       size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64ff_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                       const double *rs1, size_t *new_vl,
                                       size_t vl);
```

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vfloat64m1x8_t __riscv_vlseg8e64ff_tumu(vbool64_t vm, vfloat64m1x8_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64ff_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64ff_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64ff_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64ff_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                        const double *rs1, size_t *new_vl,
                                        size_t vl);
vint8mf8x2_t __riscv_vlseg2e8_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf2x4_t __riscv_vlseg4e8_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                   const int8_t *rs1, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                   const int8_t *rs1, size_t vl);
vint8m1x2_t __riscv_vlseg2e8_tumu(vbool8_t vm, vint8m1x2_t vd,
                                  const int8_t *rs1, size_t vl);
vint8m1x3_t __riscv_vlseg3e8_tumu(vbool8_t vm, vint8m1x3_t vd,
                                  const int8_t *rs1, size_t vl);
vint8m1x4_t __riscv_vlseg4e8_tumu(vbool8_t vm, vint8m1x4_t vd,
                                  const int8_t *rs1, size_t vl);
vint8m1x5_t __riscv_vlseg5e8_tumu(vbool8_t vm, vint8m1x5_t vd,
                                  const int8_t *rs1, size_t vl);
vint8m1x6_t __riscv_vlseg6e8_tumu(vbool8_t vm, vint8m1x6_t vd,
                                  const int8_t *rs1, size_t vl);
```

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vint8m1x7_t __riscv_vlseg7e8_tumu(vbool8_t vm, vint8m1x7_t vd,
                                  const int8_t *rs1, size_t vl);
vint8m1x8_t __riscv_vlseg8e8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                  const int8_t *rs1, size_t vl);
vint8m2x2_t __riscv_vlseg2e8_tumu(vbool4_t vm, vint8m2x2_t vd,
                                  const int8_t *rs1, size_t vl);
vint8m2x3_t __riscv_vlseg3e8_tumu(vbool4_t vm, vint8m2x3_t vd,
                                  const int8_t *rs1, size_t vl);
vint8m2x4_t __riscv_vlseg4e8_tumu(vbool4_t vm, vint8m2x4_t vd,
                                  const int8_t *rs1, size_t vl);
vint8m4x2_t __riscv_vlseg2e8_tumu(vbool2_t vm, vint8m4x2_t vd,
                                  const int8_t *rs1, size_t vl);
vint16mf4x2_t __riscv_vlseg2e16_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                     const int16_t *rs1, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                     const int16_t *rs1, size_t vl);
vint16m1x2_t __riscv_vlseg2e16_tumu(vbool16_t vm, vint16m1x2_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m1x3_t __riscv_vlseg3e16_tumu(vbool16_t vm, vint16m1x3_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m1x4_t __riscv_vlseg4e16_tumu(vbool16_t vm, vint16m1x4_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m1x5_t __riscv_vlseg5e16_tumu(vbool16_t vm, vint16m1x5_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m1x6_t __riscv_vlseg6e16_tumu(vbool16_t vm, vint16m1x6_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m1x7_t __riscv_vlseg7e16_tumu(vbool16_t vm, vint16m1x7_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m1x8_t __riscv_vlseg8e16_tumu(vbool16_t vm, vint16m1x8_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m2x2_t __riscv_vlseg2e16_tumu(vbool8_t vm, vint16m2x2_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m2x3_t __riscv_vlseg3e16_tumu(vbool8_t vm, vint16m2x3_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m2x4_t __riscv_vlseg4e16_tumu(vbool8_t vm, vint16m2x4_t vd,
                                    const int16_t *rs1, size_t vl);
vint16m4x2_t __riscv_vlseg2e16_tumu(vbool4_t vm, vint16m4x2_t vd,
                                    const int16_t *rs1, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                     const int32_t *rs1, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                     const int32_t *rs1, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32_tumu(vbool64_t vm, vint32mf2x4_t vd,
```

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                                     const int32_t *rs1, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                     const int32_t *rs1, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                     const int32_t *rs1, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                     const int32_t *rs1, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                     const int32_t *rs1, size_t vl);
vint32m1x2_t __riscv_vlseg2e32_tumu(vbool32_t vm, vint32m1x2_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x3_t __riscv_vlseg3e32_tumu(vbool32_t vm, vint32m1x3_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x4_t __riscv_vlseg4e32_tumu(vbool32_t vm, vint32m1x4_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x5_t __riscv_vlseg5e32_tumu(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x6_t __riscv_vlseg6e32_tumu(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x7_t __riscv_vlseg7e32_tumu(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m1x8_t __riscv_vlseg8e32_tumu(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m2x2_t __riscv_vlseg2e32_tumu(vbool16_t vm, vint32m2x2_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m2x3_t __riscv_vlseg3e32_tumu(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m2x4_t __riscv_vlseg4e32_tumu(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, size_t vl);
vint32m4x2_t __riscv_vlseg2e32_tumu(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, size_t vl);
vint64m1x2_t __riscv_vlseg2e64_tumu(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x3_t __riscv_vlseg3e64_tumu(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x4_t __riscv_vlseg4e64_tumu(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x5_t __riscv_vlseg5e64_tumu(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x6_t __riscv_vlseg6e64_tumu(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x7_t __riscv_vlseg7e64_tumu(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m1x8_t __riscv_vlseg8e64_tumu(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m2x2_t __riscv_vlseg2e64_tumu(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m2x3_t __riscv_vlseg3e64_tumu(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m2x4_t __riscv_vlseg4e64_tumu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, size_t vl);
vint64m4x2_t __riscv_vlseg2e64_tumu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8ff_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf8x3_t __riscv_vlseg3e8ff_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf8x4_t __riscv_vlseg4e8ff_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf8x5_t __riscv_vlseg5e8ff_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf8x6_t __riscv_vlseg6e8ff_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, size_t *new_vl,
```

```
                                    size_t vl);
vint8mf8x7_t __riscv_vlseg7e8ff_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf8x8_t __riscv_vlseg8e8ff_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf4x2_t __riscv_vlseg2e8ff_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf4x3_t __riscv_vlseg3e8ff_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf4x4_t __riscv_vlseg4e8ff_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf4x5_t __riscv_vlseg5e8ff_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf4x6_t __riscv_vlseg6e8ff_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf4x7_t __riscv_vlseg7e8ff_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf4x8_t __riscv_vlseg8e8ff_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf2x2_t __riscv_vlseg2e8ff_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf2x3_t __riscv_vlseg3e8ff_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf2x4_t __riscv_vlseg4e8ff_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf2x5_t __riscv_vlseg5e8ff_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf2x6_t __riscv_vlseg6e8ff_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf2x7_t __riscv_vlseg7e8ff_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8mf2x8_t __riscv_vlseg8e8ff_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                     const int8_t *rs1, size_t *new_vl,
                                     size_t vl);
vint8m1x2_t __riscv_vlseg2e8ff_tumu(vbool8_t vm, vint8m1x2_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m1x3_t __riscv_vlseg3e8ff_tumu(vbool8_t vm, vint8m1x3_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m1x4_t __riscv_vlseg4e8ff_tumu(vbool8_t vm, vint8m1x4_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m1x5_t __riscv_vlseg5e8ff_tumu(vbool8_t vm, vint8m1x5_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m1x6_t __riscv_vlseg6e8ff_tumu(vbool8_t vm, vint8m1x6_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m1x7_t __riscv_vlseg7e8ff_tumu(vbool8_t vm, vint8m1x7_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
```

```
vint8m1x8_t __riscv_vlseg8e8ff_tumu(vbool8_t vm, vint8m1x8_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m2x2_t __riscv_vlseg2e8ff_tumu(vbool4_t vm, vint8m2x2_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m2x3_t __riscv_vlseg3e8ff_tumu(vbool4_t vm, vint8m2x3_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m2x4_t __riscv_vlseg4e8ff_tumu(vbool4_t vm, vint8m2x4_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint8m4x2_t __riscv_vlseg2e8ff_tumu(vbool2_t vm, vint8m4x2_t vd,
                                    const int8_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf4x2_t __riscv_vlseg2e16ff_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf4x3_t __riscv_vlseg3e16ff_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf4x4_t __riscv_vlseg4e16ff_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf4x5_t __riscv_vlseg5e16ff_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf4x6_t __riscv_vlseg6e16ff_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf4x7_t __riscv_vlseg7e16ff_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf4x8_t __riscv_vlseg8e16ff_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf2x2_t __riscv_vlseg2e16ff_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf2x3_t __riscv_vlseg3e16ff_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf2x4_t __riscv_vlseg4e16ff_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf2x5_t __riscv_vlseg5e16ff_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf2x6_t __riscv_vlseg6e16ff_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf2x7_t __riscv_vlseg7e16ff_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16mf2x8_t __riscv_vlseg8e16ff_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                       const int16_t *rs1, size_t *new_vl,
                                       size_t vl);
vint16m1x2_t __riscv_vlseg2e16ff_tumu(vbool16_t vm, vint16m1x2_t vd,
                                      const int16_t *rs1, size_t *new_vl,
                                      size_t vl);
vint16m1x3_t __riscv_vlseg3e16ff_tumu(vbool16_t vm, vint16m1x3_t vd,
                                      const int16_t *rs1, size_t *new_vl,
                                      size_t vl);
vint16m1x4_t __riscv_vlseg4e16ff_tumu(vbool16_t vm, vint16m1x4_t vd,
                                      const int16_t *rs1, size_t *new_vl,
                                      size_t vl);
vint16m1x5_t __riscv_vlseg5e16ff_tumu(vbool16_t vm, vint16m1x5_t vd,
```

```
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m1x6_t __riscv_vlseg6e16ff_tumu(vbool16_t vm, vint16m1x6_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m1x7_t __riscv_vlseg7e16ff_tumu(vbool16_t vm, vint16m1x7_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m1x8_t __riscv_vlseg8e16ff_tumu(vbool16_t vm, vint16m1x8_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m2x2_t __riscv_vlseg2e16ff_tumu(vbool8_t vm, vint16m2x2_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m2x3_t __riscv_vlseg3e16ff_tumu(vbool8_t vm, vint16m2x3_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m2x4_t __riscv_vlseg4e16ff_tumu(vbool8_t vm, vint16m2x4_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m4x2_t __riscv_vlseg2e16ff_tumu(vbool4_t vm, vint16m4x2_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32mf2x2_t __riscv_vlseg2e32ff_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x3_t __riscv_vlseg3e32ff_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x4_t __riscv_vlseg4e32ff_tumu(vbool64_t vm, vint32mf2x4_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x5_t __riscv_vlseg5e32ff_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x6_t __riscv_vlseg6e32ff_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x7_t __riscv_vlseg7e32ff_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x8_t __riscv_vlseg8e32ff_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32m1x2_t __riscv_vlseg2e32ff_tumu(vbool32_t vm, vint32m1x2_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x3_t __riscv_vlseg3e32ff_tumu(vbool32_t vm, vint32m1x3_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x4_t __riscv_vlseg4e32ff_tumu(vbool32_t vm, vint32m1x4_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x5_t __riscv_vlseg5e32ff_tumu(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x6_t __riscv_vlseg6e32ff_tumu(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x7_t __riscv_vlseg7e32ff_tumu(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x8_t __riscv_vlseg8e32ff_tumu(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m2x2_t __riscv_vlseg2e32ff_tumu(vbool16_t vm, vint32m2x2_t vd,
                                    const int32_t *rs1, size_t *new_vl,
```

```
                                    size_t vl);
vint32m2x3_t __riscv_vlseg3e32ff_tumu(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m2x4_t __riscv_vlseg4e32ff_tumu(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m4x2_t __riscv_vlseg2e32ff_tumu(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x2_t __riscv_vlseg2e64ff_tumu(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x3_t __riscv_vlseg3e64ff_tumu(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x4_t __riscv_vlseg4e64ff_tumu(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x5_t __riscv_vlseg5e64ff_tumu(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x6_t __riscv_vlseg6e64ff_tumu(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x7_t __riscv_vlseg7e64ff_tumu(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x8_t __riscv_vlseg8e64ff_tumu(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m2x2_t __riscv_vlseg2e64ff_tumu(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m2x3_t __riscv_vlseg3e64ff_tumu(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m2x4_t __riscv_vlseg4e64ff_tumu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m4x2_t __riscv_vlseg2e64ff_tumu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                   const uint8_t *rs1, size_t vl);
```

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vuint8mf4x7_t __riscv_vlseg7e8_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                    const uint8_t *rs1, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m1x7_t __riscv_vlseg7e8_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                   const uint8_t *rs1, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16_tumu(vbool64_t vm, vuint16mf4x2_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16_tumu(vbool64_t vm, vuint16mf4x3_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16_tumu(vbool64_t vm, vuint16mf4x4_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16_tumu(vbool64_t vm, vuint16mf4x5_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16_tumu(vbool64_t vm, vuint16mf4x6_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16_tumu(vbool64_t vm, vuint16mf4x7_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16_tumu(vbool64_t vm, vuint16mf4x8_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16_tumu(vbool32_t vm, vuint16mf2x2_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16_tumu(vbool32_t vm, vuint16mf2x3_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16_tumu(vbool32_t vm, vuint16mf2x4_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16_tumu(vbool32_t vm, vuint16mf2x5_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16_tumu(vbool32_t vm, vuint16mf2x6_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16_tumu(vbool32_t vm, vuint16mf2x7_t vd,
                                      const uint16_t *rs1, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16_tumu(vbool32_t vm, vuint16mf2x8_t vd,
```

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                                      const uint16_t *rs1, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m2x4_t __riscv_vlseg4e16_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                     const uint16_t *rs1, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32_tumu(vbool64_t vm, vuint32mf2x2_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32_tumu(vbool64_t vm, vuint32mf2x3_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32_tumu(vbool64_t vm, vuint32mf2x4_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32_tumu(vbool64_t vm, vuint32mf2x5_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32_tumu(vbool64_t vm, vuint32mf2x6_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32_tumu(vbool64_t vm, vuint32mf2x7_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32_tumu(vbool64_t vm, vuint32mf2x8_t vd,
                                      const uint32_t *rs1, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                     const uint32_t *rs1, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                     const uint64_t *rs1, size_t vl);
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vuint64m1x6_t __riscv_vlseg6e64_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                     const uint64_t *rs1, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8ff_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8ff_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8ff_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8ff_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8ff_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8ff_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8ff_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8ff_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8ff_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8ff_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8ff_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8ff_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8ff_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8ff_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8ff_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8ff_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8ff_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8ff_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                      const uint8_t *rs1, size_t *new_vl,
```

```
                                     size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8ff_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8ff_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8ff_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                     const uint8_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint8m1x2_t __riscv_vlseg2e8ff_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x3_t __riscv_vlseg3e8ff_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x4_t __riscv_vlseg4e8ff_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x5_t __riscv_vlseg5e8ff_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x6_t __riscv_vlseg6e8ff_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x7_t __riscv_vlseg7e8ff_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x8_t __riscv_vlseg8e8ff_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m2x2_t __riscv_vlseg2e8ff_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m2x3_t __riscv_vlseg3e8ff_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m2x4_t __riscv_vlseg4e8ff_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m4x2_t __riscv_vlseg2e8ff_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16ff_tumu(vbool64_t vm, vuint16mf4x2_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16ff_tumu(vbool64_t vm, vuint16mf4x3_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16ff_tumu(vbool64_t vm, vuint16mf4x4_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16ff_tumu(vbool64_t vm, vuint16mf4x5_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16ff_tumu(vbool64_t vm, vuint16mf4x6_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16ff_tumu(vbool64_t vm, vuint16mf4x7_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16ff_tumu(vbool64_t vm, vuint16mf4x8_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16ff_tumu(vbool32_t vm, vuint16mf2x2_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
```

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vuint16mf2x3_t __riscv_vlseg3e16ff_tumu(vbool32_t vm, vuint16mf2x3_t vd,
                                        const uint16_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16ff_tumu(vbool32_t vm, vuint16mf2x4_t vd,
                                        const uint16_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16ff_tumu(vbool32_t vm, vuint16mf2x5_t vd,
                                        const uint16_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16ff_tumu(vbool32_t vm, vuint16mf2x6_t vd,
                                        const uint16_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16ff_tumu(vbool32_t vm, vuint16mf2x7_t vd,
                                        const uint16_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16ff_tumu(vbool32_t vm, vuint16mf2x8_t vd,
                                        const uint16_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint16m1x2_t __riscv_vlseg2e16ff_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m1x3_t __riscv_vlseg3e16ff_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m1x4_t __riscv_vlseg4e16ff_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m1x5_t __riscv_vlseg5e16ff_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m1x6_t __riscv_vlseg6e16ff_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m1x7_t __riscv_vlseg7e16ff_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m1x8_t __riscv_vlseg8e16ff_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m2x2_t __riscv_vlseg2e16ff_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m2x3_t __riscv_vlseg3e16ff_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m2x4_t __riscv_vlseg4e16ff_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint16m4x2_t __riscv_vlseg2e16ff_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                       const uint16_t *rs1, size_t *new_vl,
                                       size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32ff_tumu(vbool64_t vm, vuint32mf2x2_t vd,
                                        const uint32_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32ff_tumu(vbool64_t vm, vuint32mf2x3_t vd,
                                        const uint32_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32ff_tumu(vbool64_t vm, vuint32mf2x4_t vd,
                                        const uint32_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32ff_tumu(vbool64_t vm, vuint32mf2x5_t vd,
                                        const uint32_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32ff_tumu(vbool64_t vm, vuint32mf2x6_t vd,
                                        const uint32_t *rs1, size_t *new_vl,
                                        size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32ff_tumu(vbool64_t vm, vuint32mf2x7_t vd,
```

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                                      const uint32_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32ff_tumu(vbool64_t vm, vuint32mf2x8_t vd,
                                      const uint32_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint32m1x2_t __riscv_vlseg2e32ff_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m1x3_t __riscv_vlseg3e32ff_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m1x4_t __riscv_vlseg4e32ff_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m1x5_t __riscv_vlseg5e32ff_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m1x6_t __riscv_vlseg6e32ff_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m1x7_t __riscv_vlseg7e32ff_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m1x8_t __riscv_vlseg8e32ff_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m2x2_t __riscv_vlseg2e32ff_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m2x3_t __riscv_vlseg3e32ff_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m2x4_t __riscv_vlseg4e32ff_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m4x2_t __riscv_vlseg2e32ff_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint64m1x2_t __riscv_vlseg2e64ff_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                     const uint64_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint64m1x3_t __riscv_vlseg3e64ff_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                     const uint64_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint64m1x4_t __riscv_vlseg4e64ff_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                     const uint64_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint64m1x5_t __riscv_vlseg5e64ff_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                     const uint64_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint64m1x6_t __riscv_vlseg6e64ff_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                     const uint64_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint64m1x7_t __riscv_vlseg7e64ff_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                     const uint64_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint64m1x8_t __riscv_vlseg8e64ff_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                     const uint64_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint64m2x2_t __riscv_vlseg2e64ff_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                     const uint64_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint64m2x3_t __riscv_vlseg3e64ff_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                     const uint64_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint64m2x4_t __riscv_vlseg4e64ff_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                     const uint64_t *rs1, size_t *new_vl,
```

```
                                      size_t vl);
vuint64m4x2_t __riscv_vlseg2e64ff_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                       const uint64_t *rs1, size_t *new_vl,
                                       size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlseg2e16_mu(vbool64_t vm, vfloat16mf4x2_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16_mu(vbool64_t vm, vfloat16mf4x3_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16_mu(vbool64_t vm, vfloat16mf4x4_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16_mu(vbool64_t vm, vfloat16mf4x5_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16_mu(vbool64_t vm, vfloat16mf4x6_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16_mu(vbool64_t vm, vfloat16mf4x7_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16_mu(vbool64_t vm, vfloat16mf4x8_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf2x2_t __riscv_vlseg2e16_mu(vbool32_t vm, vfloat16mf2x2_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16_mu(vbool32_t vm, vfloat16mf2x3_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16_mu(vbool32_t vm, vfloat16mf2x4_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16_mu(vbool32_t vm, vfloat16mf2x5_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16_mu(vbool32_t vm, vfloat16mf2x6_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16_mu(vbool32_t vm, vfloat16mf2x7_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16_mu(vbool32_t vm, vfloat16mf2x8_t vd,
                                     const _Float16 *rs1, size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                    const _Float16 *rs1, size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                    const _Float16 *rs1, size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                    const _Float16 *rs1, size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                    const _Float16 *rs1, size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                    const _Float16 *rs1, size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                    const _Float16 *rs1, size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                    const _Float16 *rs1, size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                    const _Float16 *rs1, size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                    const _Float16 *rs1, size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                    const _Float16 *rs1, size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                    const _Float16 *rs1, size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32_mu(vbool64_t vm, vfloat32mf2x2_t vd,
                                     const float *rs1, size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32_mu(vbool64_t vm, vfloat32mf2x3_t vd,
                                     const float *rs1, size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32_mu(vbool64_t vm, vfloat32mf2x4_t vd,
                                     const float *rs1, size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32_mu(vbool64_t vm, vfloat32mf2x5_t vd,
                                     const float *rs1, size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32_mu(vbool64_t vm, vfloat32mf2x6_t vd,
                                     const float *rs1, size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32_mu(vbool64_t vm, vfloat32mf2x7_t vd,
                                     const float *rs1, size_t vl);
```

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vfloat32mf2x8_t __riscv_vlseg8e32_mu(vbool64_t vm, vfloat32mf2x8_t vd,
                                     const float *rs1, size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                    const float *rs1, size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                    const float *rs1, size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                    const float *rs1, size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                    const float *rs1, size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                    const float *rs1, size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                    const float *rs1, size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                    const float *rs1, size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                    const float *rs1, size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                    const float *rs1, size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                    const float *rs1, size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                    const float *rs1, size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                    const double *rs1, size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                    const double *rs1, size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                    const double *rs1, size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                    const double *rs1, size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                    const double *rs1, size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                    const double *rs1, size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                    const double *rs1, size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                    const double *rs1, size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                    const double *rs1, size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                    const double *rs1, size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                    const double *rs1, size_t vl);
vfloat16mf4x2_t __riscv_vlseg2e16ff_mu(vbool64_t vm, vfloat16mf4x2_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf4x3_t __riscv_vlseg3e16ff_mu(vbool64_t vm, vfloat16mf4x3_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf4x4_t __riscv_vlseg4e16ff_mu(vbool64_t vm, vfloat16mf4x4_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf4x5_t __riscv_vlseg5e16ff_mu(vbool64_t vm, vfloat16mf4x5_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf4x6_t __riscv_vlseg6e16ff_mu(vbool64_t vm, vfloat16mf4x6_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf4x7_t __riscv_vlseg7e16ff_mu(vbool64_t vm, vfloat16mf4x7_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf4x8_t __riscv_vlseg8e16ff_mu(vbool64_t vm, vfloat16mf4x8_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
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vfloat16mf2x2_t __riscv_vlseg2e16ff_mu(vbool32_t vm, vfloat16mf2x2_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf2x3_t __riscv_vlseg3e16ff_mu(vbool32_t vm, vfloat16mf2x3_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf2x4_t __riscv_vlseg4e16ff_mu(vbool32_t vm, vfloat16mf2x4_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf2x5_t __riscv_vlseg5e16ff_mu(vbool32_t vm, vfloat16mf2x5_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf2x6_t __riscv_vlseg6e16ff_mu(vbool32_t vm, vfloat16mf2x6_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf2x7_t __riscv_vlseg7e16ff_mu(vbool32_t vm, vfloat16mf2x7_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16mf2x8_t __riscv_vlseg8e16ff_mu(vbool32_t vm, vfloat16mf2x8_t vd,
                                       const _Float16 *rs1, size_t *new_vl,
                                       size_t vl);
vfloat16m1x2_t __riscv_vlseg2e16ff_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                      const _Float16 *rs1, size_t *new_vl,
                                      size_t vl);
vfloat16m1x3_t __riscv_vlseg3e16ff_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                      const _Float16 *rs1, size_t *new_vl,
                                      size_t vl);
vfloat16m1x4_t __riscv_vlseg4e16ff_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                      const _Float16 *rs1, size_t *new_vl,
                                      size_t vl);
vfloat16m1x5_t __riscv_vlseg5e16ff_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                      const _Float16 *rs1, size_t *new_vl,
                                      size_t vl);
vfloat16m1x6_t __riscv_vlseg6e16ff_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                      const _Float16 *rs1, size_t *new_vl,
                                      size_t vl);
vfloat16m1x7_t __riscv_vlseg7e16ff_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                      const _Float16 *rs1, size_t *new_vl,
                                      size_t vl);
vfloat16m1x8_t __riscv_vlseg8e16ff_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                      const _Float16 *rs1, size_t *new_vl,
                                      size_t vl);
vfloat16m2x2_t __riscv_vlseg2e16ff_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                      const _Float16 *rs1, size_t *new_vl,
                                      size_t vl);
vfloat16m2x3_t __riscv_vlseg3e16ff_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                      const _Float16 *rs1, size_t *new_vl,
                                      size_t vl);
vfloat16m2x4_t __riscv_vlseg4e16ff_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                      const _Float16 *rs1, size_t *new_vl,
                                      size_t vl);
vfloat16m4x2_t __riscv_vlseg2e16ff_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                      const _Float16 *rs1, size_t *new_vl,
                                      size_t vl);
vfloat32mf2x2_t __riscv_vlseg2e32ff_mu(vbool64_t vm, vfloat32mf2x2_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32mf2x3_t __riscv_vlseg3e32ff_mu(vbool64_t vm, vfloat32mf2x3_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32mf2x4_t __riscv_vlseg4e32ff_mu(vbool64_t vm, vfloat32mf2x4_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32mf2x5_t __riscv_vlseg5e32ff_mu(vbool64_t vm, vfloat32mf2x5_t vd,
                                       const float *rs1, size_t *new_vl,
                                       size_t vl);
vfloat32mf2x6_t __riscv_vlseg6e32ff_mu(vbool64_t vm, vfloat32mf2x6_t vd,
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                                      const float *rs1, size_t *new_vl,
                                      size_t vl);
vfloat32mf2x7_t __riscv_vlseg7e32ff_mu(vbool64_t vm, vfloat32mf2x7_t vd,
                                      const float *rs1, size_t *new_vl,
                                      size_t vl);
vfloat32mf2x8_t __riscv_vlseg8e32ff_mu(vbool64_t vm, vfloat32mf2x8_t vd,
                                      const float *rs1, size_t *new_vl,
                                      size_t vl);
vfloat32m1x2_t __riscv_vlseg2e32ff_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                     const float *rs1, size_t *new_vl,
                                     size_t vl);
vfloat32m1x3_t __riscv_vlseg3e32ff_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                     const float *rs1, size_t *new_vl,
                                     size_t vl);
vfloat32m1x4_t __riscv_vlseg4e32ff_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                     const float *rs1, size_t *new_vl,
                                     size_t vl);
vfloat32m1x5_t __riscv_vlseg5e32ff_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                     const float *rs1, size_t *new_vl,
                                     size_t vl);
vfloat32m1x6_t __riscv_vlseg6e32ff_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                     const float *rs1, size_t *new_vl,
                                     size_t vl);
vfloat32m1x7_t __riscv_vlseg7e32ff_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                     const float *rs1, size_t *new_vl,
                                     size_t vl);
vfloat32m1x8_t __riscv_vlseg8e32ff_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                     const float *rs1, size_t *new_vl,
                                     size_t vl);
vfloat32m2x2_t __riscv_vlseg2e32ff_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                     const float *rs1, size_t *new_vl,
                                     size_t vl);
vfloat32m2x3_t __riscv_vlseg3e32ff_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                     const float *rs1, size_t *new_vl,
                                     size_t vl);
vfloat32m2x4_t __riscv_vlseg4e32ff_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                     const float *rs1, size_t *new_vl,
                                     size_t vl);
vfloat32m4x2_t __riscv_vlseg2e32ff_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                     const float *rs1, size_t *new_vl,
                                     size_t vl);
vfloat64m1x2_t __riscv_vlseg2e64ff_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                     const double *rs1, size_t *new_vl,
                                     size_t vl);
vfloat64m1x3_t __riscv_vlseg3e64ff_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                     const double *rs1, size_t *new_vl,
                                     size_t vl);
vfloat64m1x4_t __riscv_vlseg4e64ff_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                     const double *rs1, size_t *new_vl,
                                     size_t vl);
vfloat64m1x5_t __riscv_vlseg5e64ff_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                     const double *rs1, size_t *new_vl,
                                     size_t vl);
vfloat64m1x6_t __riscv_vlseg6e64ff_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                     const double *rs1, size_t *new_vl,
                                     size_t vl);
vfloat64m1x7_t __riscv_vlseg7e64ff_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                     const double *rs1, size_t *new_vl,
                                     size_t vl);
vfloat64m1x8_t __riscv_vlseg8e64ff_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                     const double *rs1, size_t *new_vl,
                                     size_t vl);
vfloat64m2x2_t __riscv_vlseg2e64ff_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                     const double *rs1, size_t *new_vl,
                                     size_t vl);
vfloat64m2x3_t __riscv_vlseg3e64ff_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                     const double *rs1, size_t *new_vl,
```

```
                                    size_t vl);
vfloat64m2x4_t __riscv_vlseg4e64ff_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                    const double *rs1, size_t *new_vl,
                                    size_t vl);
vfloat64m4x2_t __riscv_vlseg2e64ff_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                    const double *rs1, size_t *new_vl,
                                    size_t vl);
vint8mf8x2_t __riscv_vlseg2e8_mu(vbool64_t vm, vint8mf8x2_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf8x3_t __riscv_vlseg3e8_mu(vbool64_t vm, vint8mf8x3_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf8x4_t __riscv_vlseg4e8_mu(vbool64_t vm, vint8mf8x4_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf8x5_t __riscv_vlseg5e8_mu(vbool64_t vm, vint8mf8x5_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf8x6_t __riscv_vlseg6e8_mu(vbool64_t vm, vint8mf8x6_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf8x7_t __riscv_vlseg7e8_mu(vbool64_t vm, vint8mf8x7_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf8x8_t __riscv_vlseg8e8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf4x2_t __riscv_vlseg2e8_mu(vbool32_t vm, vint8mf4x2_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf4x3_t __riscv_vlseg3e8_mu(vbool32_t vm, vint8mf4x3_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf4x4_t __riscv_vlseg4e8_mu(vbool32_t vm, vint8mf4x4_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf4x5_t __riscv_vlseg5e8_mu(vbool32_t vm, vint8mf4x5_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf4x6_t __riscv_vlseg6e8_mu(vbool32_t vm, vint8mf4x6_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf4x7_t __riscv_vlseg7e8_mu(vbool32_t vm, vint8mf4x7_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf4x8_t __riscv_vlseg8e8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf2x2_t __riscv_vlseg2e8_mu(vbool16_t vm, vint8mf2x2_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf2x3_t __riscv_vlseg3e8_mu(vbool16_t vm, vint8mf2x3_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf2x4_t __riscv_vlseg4e8_mu(vbool16_t vm, vint8mf2x4_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf2x5_t __riscv_vlseg5e8_mu(vbool16_t vm, vint8mf2x5_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf2x6_t __riscv_vlseg6e8_mu(vbool16_t vm, vint8mf2x6_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf2x7_t __riscv_vlseg7e8_mu(vbool16_t vm, vint8mf2x7_t vd,
                                 const int8_t *rs1, size_t vl);
vint8mf2x8_t __riscv_vlseg8e8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                 const int8_t *rs1, size_t vl);
vint8m1x2_t __riscv_vlseg2e8_mu(vbool8_t vm, vint8m1x2_t vd, const int8_t *rs1,
                                size_t vl);
vint8m1x3_t __riscv_vlseg3e8_mu(vbool8_t vm, vint8m1x3_t vd, const int8_t *rs1,
                                size_t vl);
vint8m1x4_t __riscv_vlseg4e8_mu(vbool8_t vm, vint8m1x4_t vd, const int8_t *rs1,
                                size_t vl);
vint8m1x5_t __riscv_vlseg5e8_mu(vbool8_t vm, vint8m1x5_t vd, const int8_t *rs1,
                                size_t vl);
vint8m1x6_t __riscv_vlseg6e8_mu(vbool8_t vm, vint8m1x6_t vd, const int8_t *rs1,
                                size_t vl);
vint8m1x7_t __riscv_vlseg7e8_mu(vbool8_t vm, vint8m1x7_t vd, const int8_t *rs1,
                                size_t vl);
vint8m1x8_t __riscv_vlseg8e8_mu(vbool8_t vm, vint8m1x8_t vd, const int8_t *rs1,
                                size_t vl);
vint8m2x2_t __riscv_vlseg2e8_mu(vbool4_t vm, vint8m2x2_t vd, const int8_t *rs1,
                                size_t vl);
vint8m2x3_t __riscv_vlseg3e8_mu(vbool4_t vm, vint8m2x3_t vd, const int8_t *rs1,
                                size_t vl);
```

```
vint8m2x4_t __riscv_vlseg4e8_mu(vbool4_t vm, vint8m2x4_t vd, const int8_t *rs1,
                                size_t vl);
vint8m4x2_t __riscv_vlseg2e8_mu(vbool2_t vm, vint8m4x2_t vd, const int8_t *rs1,
                                size_t vl);
vint16mf4x2_t __riscv_vlseg2e16_mu(vbool64_t vm, vint16mf4x2_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf4x3_t __riscv_vlseg3e16_mu(vbool64_t vm, vint16mf4x3_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf4x4_t __riscv_vlseg4e16_mu(vbool64_t vm, vint16mf4x4_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf4x5_t __riscv_vlseg5e16_mu(vbool64_t vm, vint16mf4x5_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf4x6_t __riscv_vlseg6e16_mu(vbool64_t vm, vint16mf4x6_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf4x7_t __riscv_vlseg7e16_mu(vbool64_t vm, vint16mf4x7_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf4x8_t __riscv_vlseg8e16_mu(vbool64_t vm, vint16mf4x8_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf2x2_t __riscv_vlseg2e16_mu(vbool32_t vm, vint16mf2x2_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf2x3_t __riscv_vlseg3e16_mu(vbool32_t vm, vint16mf2x3_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf2x4_t __riscv_vlseg4e16_mu(vbool32_t vm, vint16mf2x4_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf2x5_t __riscv_vlseg5e16_mu(vbool32_t vm, vint16mf2x5_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf2x6_t __riscv_vlseg6e16_mu(vbool32_t vm, vint16mf2x6_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf2x7_t __riscv_vlseg7e16_mu(vbool32_t vm, vint16mf2x7_t vd,
                                   const int16_t *rs1, size_t vl);
vint16mf2x8_t __riscv_vlseg8e16_mu(vbool32_t vm, vint16mf2x8_t vd,
                                   const int16_t *rs1, size_t vl);
vint16m1x2_t __riscv_vlseg2e16_mu(vbool16_t vm, vint16m1x2_t vd,
                                  const int16_t *rs1, size_t vl);
vint16m1x3_t __riscv_vlseg3e16_mu(vbool16_t vm, vint16m1x3_t vd,
                                  const int16_t *rs1, size_t vl);
vint16m1x4_t __riscv_vlseg4e16_mu(vbool16_t vm, vint16m1x4_t vd,
                                  const int16_t *rs1, size_t vl);
vint16m1x5_t __riscv_vlseg5e16_mu(vbool16_t vm, vint16m1x5_t vd,
                                  const int16_t *rs1, size_t vl);
vint16m1x6_t __riscv_vlseg6e16_mu(vbool16_t vm, vint16m1x6_t vd,
                                  const int16_t *rs1, size_t vl);
vint16m1x7_t __riscv_vlseg7e16_mu(vbool16_t vm, vint16m1x7_t vd,
                                  const int16_t *rs1, size_t vl);
vint16m1x8_t __riscv_vlseg8e16_mu(vbool16_t vm, vint16m1x8_t vd,
                                  const int16_t *rs1, size_t vl);
vint16m2x2_t __riscv_vlseg2e16_mu(vbool8_t vm, vint16m2x2_t vd,
                                  const int16_t *rs1, size_t vl);
vint16m2x3_t __riscv_vlseg3e16_mu(vbool8_t vm, vint16m2x3_t vd,
                                  const int16_t *rs1, size_t vl);
vint16m2x4_t __riscv_vlseg4e16_mu(vbool8_t vm, vint16m2x4_t vd,
                                  const int16_t *rs1, size_t vl);
vint16m4x2_t __riscv_vlseg2e16_mu(vbool4_t vm, vint16m4x2_t vd,
                                  const int16_t *rs1, size_t vl);
vint32mf2x2_t __riscv_vlseg2e32_mu(vbool64_t vm, vint32mf2x2_t vd,
                                   const int32_t *rs1, size_t vl);
vint32mf2x3_t __riscv_vlseg3e32_mu(vbool64_t vm, vint32mf2x3_t vd,
                                   const int32_t *rs1, size_t vl);
vint32mf2x4_t __riscv_vlseg4e32_mu(vbool64_t vm, vint32mf2x4_t vd,
                                   const int32_t *rs1, size_t vl);
vint32mf2x5_t __riscv_vlseg5e32_mu(vbool64_t vm, vint32mf2x5_t vd,
                                   const int32_t *rs1, size_t vl);
vint32mf2x6_t __riscv_vlseg6e32_mu(vbool64_t vm, vint32mf2x6_t vd,
                                   const int32_t *rs1, size_t vl);
vint32mf2x7_t __riscv_vlseg7e32_mu(vbool64_t vm, vint32mf2x7_t vd,
                                   const int32_t *rs1, size_t vl);
vint32mf2x8_t __riscv_vlseg8e32_mu(vbool64_t vm, vint32mf2x8_t vd,
```

```
                                    const int32_t *rs1, size_t vl);
vint32m1x2_t __riscv_vlseg2e32_mu(vbool32_t vm, vint32m1x2_t vd,
                                  const int32_t *rs1, size_t vl);
vint32m1x3_t __riscv_vlseg3e32_mu(vbool32_t vm, vint32m1x3_t vd,
                                  const int32_t *rs1, size_t vl);
vint32m1x4_t __riscv_vlseg4e32_mu(vbool32_t vm, vint32m1x4_t vd,
                                  const int32_t *rs1, size_t vl);
vint32m1x5_t __riscv_vlseg5e32_mu(vbool32_t vm, vint32m1x5_t vd,
                                  const int32_t *rs1, size_t vl);
vint32m1x6_t __riscv_vlseg6e32_mu(vbool32_t vm, vint32m1x6_t vd,
                                  const int32_t *rs1, size_t vl);
vint32m1x7_t __riscv_vlseg7e32_mu(vbool32_t vm, vint32m1x7_t vd,
                                  const int32_t *rs1, size_t vl);
vint32m1x8_t __riscv_vlseg8e32_mu(vbool32_t vm, vint32m1x8_t vd,
                                  const int32_t *rs1, size_t vl);
vint32m2x2_t __riscv_vlseg2e32_mu(vbool16_t vm, vint32m2x2_t vd,
                                  const int32_t *rs1, size_t vl);
vint32m2x3_t __riscv_vlseg3e32_mu(vbool16_t vm, vint32m2x3_t vd,
                                  const int32_t *rs1, size_t vl);
vint32m2x4_t __riscv_vlseg4e32_mu(vbool16_t vm, vint32m2x4_t vd,
                                  const int32_t *rs1, size_t vl);
vint32m4x2_t __riscv_vlseg2e32_mu(vbool8_t vm, vint32m4x2_t vd,
                                  const int32_t *rs1, size_t vl);
vint64m1x2_t __riscv_vlseg2e64_mu(vbool64_t vm, vint64m1x2_t vd,
                                  const int64_t *rs1, size_t vl);
vint64m1x3_t __riscv_vlseg3e64_mu(vbool64_t vm, vint64m1x3_t vd,
                                  const int64_t *rs1, size_t vl);
vint64m1x4_t __riscv_vlseg4e64_mu(vbool64_t vm, vint64m1x4_t vd,
                                  const int64_t *rs1, size_t vl);
vint64m1x5_t __riscv_vlseg5e64_mu(vbool64_t vm, vint64m1x5_t vd,
                                  const int64_t *rs1, size_t vl);
vint64m1x6_t __riscv_vlseg6e64_mu(vbool64_t vm, vint64m1x6_t vd,
                                  const int64_t *rs1, size_t vl);
vint64m1x7_t __riscv_vlseg7e64_mu(vbool64_t vm, vint64m1x7_t vd,
                                  const int64_t *rs1, size_t vl);
vint64m1x8_t __riscv_vlseg8e64_mu(vbool64_t vm, vint64m1x8_t vd,
                                  const int64_t *rs1, size_t vl);
vint64m2x2_t __riscv_vlseg2e64_mu(vbool32_t vm, vint64m2x2_t vd,
                                  const int64_t *rs1, size_t vl);
vint64m2x3_t __riscv_vlseg3e64_mu(vbool32_t vm, vint64m2x3_t vd,
                                  const int64_t *rs1, size_t vl);
vint64m2x4_t __riscv_vlseg4e64_mu(vbool32_t vm, vint64m2x4_t vd,
                                  const int64_t *rs1, size_t vl);
vint64m4x2_t __riscv_vlseg2e64_mu(vbool16_t vm, vint64m4x2_t vd,
                                  const int64_t *rs1, size_t vl);
vint8mf8x2_t __riscv_vlseg2e8ff_mu(vbool64_t vm, vint8mf8x2_t vd,
                                   const int8_t *rs1, size_t *new_vl,
                                   size_t vl);
vint8mf8x3_t __riscv_vlseg3e8ff_mu(vbool64_t vm, vint8mf8x3_t vd,
                                   const int8_t *rs1, size_t *new_vl,
                                   size_t vl);
vint8mf8x4_t __riscv_vlseg4e8ff_mu(vbool64_t vm, vint8mf8x4_t vd,
                                   const int8_t *rs1, size_t *new_vl,
                                   size_t vl);
vint8mf8x5_t __riscv_vlseg5e8ff_mu(vbool64_t vm, vint8mf8x5_t vd,
                                   const int8_t *rs1, size_t *new_vl,
                                   size_t vl);
vint8mf8x6_t __riscv_vlseg6e8ff_mu(vbool64_t vm, vint8mf8x6_t vd,
                                   const int8_t *rs1, size_t *new_vl,
                                   size_t vl);
vint8mf8x7_t __riscv_vlseg7e8ff_mu(vbool64_t vm, vint8mf8x7_t vd,
                                   const int8_t *rs1, size_t *new_vl,
                                   size_t vl);
vint8mf8x8_t __riscv_vlseg8e8ff_mu(vbool64_t vm, vint8mf8x8_t vd,
                                   const int8_t *rs1, size_t *new_vl,
                                   size_t vl);
vint8mf4x2_t __riscv_vlseg2e8ff_mu(vbool32_t vm, vint8mf4x2_t vd,
```

```
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf4x3_t __riscv_vlseg3e8ff_mu(vbool32_t vm, vint8mf4x3_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf4x4_t __riscv_vlseg4e8ff_mu(vbool32_t vm, vint8mf4x4_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf4x5_t __riscv_vlseg5e8ff_mu(vbool32_t vm, vint8mf4x5_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf4x6_t __riscv_vlseg6e8ff_mu(vbool32_t vm, vint8mf4x6_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf4x7_t __riscv_vlseg7e8ff_mu(vbool32_t vm, vint8mf4x7_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf4x8_t __riscv_vlseg8e8ff_mu(vbool32_t vm, vint8mf4x8_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf2x2_t __riscv_vlseg2e8ff_mu(vbool16_t vm, vint8mf2x2_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf2x3_t __riscv_vlseg3e8ff_mu(vbool16_t vm, vint8mf2x3_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf2x4_t __riscv_vlseg4e8ff_mu(vbool16_t vm, vint8mf2x4_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf2x5_t __riscv_vlseg5e8ff_mu(vbool16_t vm, vint8mf2x5_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf2x6_t __riscv_vlseg6e8ff_mu(vbool16_t vm, vint8mf2x6_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf2x7_t __riscv_vlseg7e8ff_mu(vbool16_t vm, vint8mf2x7_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8mf2x8_t __riscv_vlseg8e8ff_mu(vbool16_t vm, vint8mf2x8_t vd,
                                  const int8_t *rs1, size_t *new_vl,
                                  size_t vl);
vint8m1x2_t __riscv_vlseg2e8ff_mu(vbool8_t vm, vint8m1x2_t vd,
                                 const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m1x3_t __riscv_vlseg3e8ff_mu(vbool8_t vm, vint8m1x3_t vd,
                                 const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m1x4_t __riscv_vlseg4e8ff_mu(vbool8_t vm, vint8m1x4_t vd,
                                 const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m1x5_t __riscv_vlseg5e8ff_mu(vbool8_t vm, vint8m1x5_t vd,
                                 const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m1x6_t __riscv_vlseg6e8ff_mu(vbool8_t vm, vint8m1x6_t vd,
                                 const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m1x7_t __riscv_vlseg7e8ff_mu(vbool8_t vm, vint8m1x7_t vd,
                                 const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m1x8_t __riscv_vlseg8e8ff_mu(vbool8_t vm, vint8m1x8_t vd,
                                 const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m2x2_t __riscv_vlseg2e8ff_mu(vbool4_t vm, vint8m2x2_t vd,
                                 const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m2x3_t __riscv_vlseg3e8ff_mu(vbool4_t vm, vint8m2x3_t vd,
                                 const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m2x4_t __riscv_vlseg4e8ff_mu(vbool4_t vm, vint8m2x4_t vd,
                                 const int8_t *rs1, size_t *new_vl, size_t vl);
vint8m4x2_t __riscv_vlseg2e8ff_mu(vbool2_t vm, vint8m4x2_t vd,
                                 const int8_t *rs1, size_t *new_vl, size_t vl);
vint16mf4x2_t __riscv_vlseg2e16ff_mu(vbool64_t vm, vint16mf4x2_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf4x3_t __riscv_vlseg3e16ff_mu(vbool64_t vm, vint16mf4x3_t vd,
```

```
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf4x4_t __riscv_vlseg4e16ff_mu(vbool64_t vm, vint16mf4x4_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf4x5_t __riscv_vlseg5e16ff_mu(vbool64_t vm, vint16mf4x5_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf4x6_t __riscv_vlseg6e16ff_mu(vbool64_t vm, vint16mf4x6_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf4x7_t __riscv_vlseg7e16ff_mu(vbool64_t vm, vint16mf4x7_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf4x8_t __riscv_vlseg8e16ff_mu(vbool64_t vm, vint16mf4x8_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf2x2_t __riscv_vlseg2e16ff_mu(vbool32_t vm, vint16mf2x2_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf2x3_t __riscv_vlseg3e16ff_mu(vbool32_t vm, vint16mf2x3_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf2x4_t __riscv_vlseg4e16ff_mu(vbool32_t vm, vint16mf2x4_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf2x5_t __riscv_vlseg5e16ff_mu(vbool32_t vm, vint16mf2x5_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf2x6_t __riscv_vlseg6e16ff_mu(vbool32_t vm, vint16mf2x6_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf2x7_t __riscv_vlseg7e16ff_mu(vbool32_t vm, vint16mf2x7_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16mf2x8_t __riscv_vlseg8e16ff_mu(vbool32_t vm, vint16mf2x8_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint16m1x2_t __riscv_vlseg2e16ff_mu(vbool16_t vm, vint16m1x2_t vd,
                                   const int16_t *rs1, size_t *new_vl,
                                   size_t vl);
vint16m1x3_t __riscv_vlseg3e16ff_mu(vbool16_t vm, vint16m1x3_t vd,
                                   const int16_t *rs1, size_t *new_vl,
                                   size_t vl);
vint16m1x4_t __riscv_vlseg4e16ff_mu(vbool16_t vm, vint16m1x4_t vd,
                                   const int16_t *rs1, size_t *new_vl,
                                   size_t vl);
vint16m1x5_t __riscv_vlseg5e16ff_mu(vbool16_t vm, vint16m1x5_t vd,
                                   const int16_t *rs1, size_t *new_vl,
                                   size_t vl);
vint16m1x6_t __riscv_vlseg6e16ff_mu(vbool16_t vm, vint16m1x6_t vd,
                                   const int16_t *rs1, size_t *new_vl,
                                   size_t vl);
vint16m1x7_t __riscv_vlseg7e16ff_mu(vbool16_t vm, vint16m1x7_t vd,
                                   const int16_t *rs1, size_t *new_vl,
                                   size_t vl);
vint16m1x8_t __riscv_vlseg8e16ff_mu(vbool16_t vm, vint16m1x8_t vd,
                                   const int16_t *rs1, size_t *new_vl,
                                   size_t vl);
vint16m2x2_t __riscv_vlseg2e16ff_mu(vbool8_t vm, vint16m2x2_t vd,
                                   const int16_t *rs1, size_t *new_vl,
                                   size_t vl);
vint16m2x3_t __riscv_vlseg3e16ff_mu(vbool8_t vm, vint16m2x3_t vd,
                                   const int16_t *rs1, size_t *new_vl,
                                   size_t vl);
vint16m2x4_t __riscv_vlseg4e16ff_mu(vbool8_t vm, vint16m2x4_t vd,
                                   const int16_t *rs1, size_t *new_vl,
```

```
                                    size_t vl);
vint16m4x2_t __riscv_vlseg2e16ff_mu(vbool4_t vm, vint16m4x2_t vd,
                                    const int16_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32mf2x2_t __riscv_vlseg2e32ff_mu(vbool64_t vm, vint32mf2x2_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x3_t __riscv_vlseg3e32ff_mu(vbool64_t vm, vint32mf2x3_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x4_t __riscv_vlseg4e32ff_mu(vbool64_t vm, vint32mf2x4_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x5_t __riscv_vlseg5e32ff_mu(vbool64_t vm, vint32mf2x5_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x6_t __riscv_vlseg6e32ff_mu(vbool64_t vm, vint32mf2x6_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x7_t __riscv_vlseg7e32ff_mu(vbool64_t vm, vint32mf2x7_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32mf2x8_t __riscv_vlseg8e32ff_mu(vbool64_t vm, vint32mf2x8_t vd,
                                     const int32_t *rs1, size_t *new_vl,
                                     size_t vl);
vint32m1x2_t __riscv_vlseg2e32ff_mu(vbool32_t vm, vint32m1x2_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x3_t __riscv_vlseg3e32ff_mu(vbool32_t vm, vint32m1x3_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x4_t __riscv_vlseg4e32ff_mu(vbool32_t vm, vint32m1x4_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x5_t __riscv_vlseg5e32ff_mu(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x6_t __riscv_vlseg6e32ff_mu(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x7_t __riscv_vlseg7e32ff_mu(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m1x8_t __riscv_vlseg8e32ff_mu(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m2x2_t __riscv_vlseg2e32ff_mu(vbool16_t vm, vint32m2x2_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m2x3_t __riscv_vlseg3e32ff_mu(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m2x4_t __riscv_vlseg4e32ff_mu(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint32m4x2_t __riscv_vlseg2e32ff_mu(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x2_t __riscv_vlseg2e64ff_mu(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x3_t __riscv_vlseg3e64ff_mu(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x4_t __riscv_vlseg4e64ff_mu(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
```

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vint64m1x5_t __riscv_vlseg5e64ff_mu(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x6_t __riscv_vlseg6e64ff_mu(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x7_t __riscv_vlseg7e64ff_mu(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m1x8_t __riscv_vlseg8e64ff_mu(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m2x2_t __riscv_vlseg2e64ff_mu(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m2x3_t __riscv_vlseg3e64ff_mu(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m2x4_t __riscv_vlseg4e64ff_mu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vint64m4x2_t __riscv_vlseg2e64ff_mu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x2_t __riscv_vlseg2e8_mu(vbool8_t vm, vuint8m1x2_t vd,
```

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                                  const uint8_t *rs1, size_t vl);
vuint8m1x3_t __riscv_vlseg3e8_mu(vbool8_t vm, vuint8m1x3_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x4_t __riscv_vlseg4e8_mu(vbool8_t vm, vuint8m1x4_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x5_t __riscv_vlseg5e8_mu(vbool8_t vm, vuint8m1x5_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x6_t __riscv_vlseg6e8_mu(vbool8_t vm, vuint8m1x6_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x7_t __riscv_vlseg7e8_mu(vbool8_t vm, vuint8m1x7_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m1x8_t __riscv_vlseg8e8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m2x2_t __riscv_vlseg2e8_mu(vbool4_t vm, vuint8m2x2_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m2x3_t __riscv_vlseg3e8_mu(vbool4_t vm, vuint8m2x3_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m2x4_t __riscv_vlseg4e8_mu(vbool4_t vm, vuint8m2x4_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint8m4x2_t __riscv_vlseg2e8_mu(vbool2_t vm, vuint8m4x2_t vd,
                                  const uint8_t *rs1, size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                    const uint16_t *rs1, size_t vl);
vuint16m1x2_t __riscv_vlseg2e16_mu(vbool16_t vm, vuint16m1x2_t vd,
                                   const uint16_t *rs1, size_t vl);
vuint16m1x3_t __riscv_vlseg3e16_mu(vbool16_t vm, vuint16m1x3_t vd,
                                   const uint16_t *rs1, size_t vl);
vuint16m1x4_t __riscv_vlseg4e16_mu(vbool16_t vm, vuint16m1x4_t vd,
                                   const uint16_t *rs1, size_t vl);
vuint16m1x5_t __riscv_vlseg5e16_mu(vbool16_t vm, vuint16m1x5_t vd,
                                   const uint16_t *rs1, size_t vl);
vuint16m1x6_t __riscv_vlseg6e16_mu(vbool16_t vm, vuint16m1x6_t vd,
                                   const uint16_t *rs1, size_t vl);
vuint16m1x7_t __riscv_vlseg7e16_mu(vbool16_t vm, vuint16m1x7_t vd,
                                   const uint16_t *rs1, size_t vl);
vuint16m1x8_t __riscv_vlseg8e16_mu(vbool16_t vm, vuint16m1x8_t vd,
                                   const uint16_t *rs1, size_t vl);
vuint16m2x2_t __riscv_vlseg2e16_mu(vbool8_t vm, vuint16m2x2_t vd,
                                   const uint16_t *rs1, size_t vl);
vuint16m2x3_t __riscv_vlseg3e16_mu(vbool8_t vm, vuint16m2x3_t vd,
                                   const uint16_t *rs1, size_t vl);
```

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vuint16m2x4_t __riscv_vlseg4e16_mu(vbool8_t vm, vuint16m2x4_t vd,
                                   const uint16_t *rs1, size_t vl);
vuint16m4x2_t __riscv_vlseg2e16_mu(vbool4_t vm, vuint16m4x2_t vd,
                                   const uint16_t *rs1, size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                    const uint32_t *rs1, size_t vl);
vuint32m1x2_t __riscv_vlseg2e32_mu(vbool32_t vm, vuint32m1x2_t vd,
                                   const uint32_t *rs1, size_t vl);
vuint32m1x3_t __riscv_vlseg3e32_mu(vbool32_t vm, vuint32m1x3_t vd,
                                   const uint32_t *rs1, size_t vl);
vuint32m1x4_t __riscv_vlseg4e32_mu(vbool32_t vm, vuint32m1x4_t vd,
                                   const uint32_t *rs1, size_t vl);
vuint32m1x5_t __riscv_vlseg5e32_mu(vbool32_t vm, vuint32m1x5_t vd,
                                   const uint32_t *rs1, size_t vl);
vuint32m1x6_t __riscv_vlseg6e32_mu(vbool32_t vm, vuint32m1x6_t vd,
                                   const uint32_t *rs1, size_t vl);
vuint32m1x7_t __riscv_vlseg7e32_mu(vbool32_t vm, vuint32m1x7_t vd,
                                   const uint32_t *rs1, size_t vl);
vuint32m1x8_t __riscv_vlseg8e32_mu(vbool32_t vm, vuint32m1x8_t vd,
                                   const uint32_t *rs1, size_t vl);
vuint32m2x2_t __riscv_vlseg2e32_mu(vbool16_t vm, vuint32m2x2_t vd,
                                   const uint32_t *rs1, size_t vl);
vuint32m2x3_t __riscv_vlseg3e32_mu(vbool16_t vm, vuint32m2x3_t vd,
                                   const uint32_t *rs1, size_t vl);
vuint32m2x4_t __riscv_vlseg4e32_mu(vbool16_t vm, vuint32m2x4_t vd,
                                   const uint32_t *rs1, size_t vl);
vuint32m4x2_t __riscv_vlseg2e32_mu(vbool8_t vm, vuint32m4x2_t vd,
                                   const uint32_t *rs1, size_t vl);
vuint64m1x2_t __riscv_vlseg2e64_mu(vbool64_t vm, vuint64m1x2_t vd,
                                   const uint64_t *rs1, size_t vl);
vuint64m1x3_t __riscv_vlseg3e64_mu(vbool64_t vm, vuint64m1x3_t vd,
                                   const uint64_t *rs1, size_t vl);
vuint64m1x4_t __riscv_vlseg4e64_mu(vbool64_t vm, vuint64m1x4_t vd,
                                   const uint64_t *rs1, size_t vl);
vuint64m1x5_t __riscv_vlseg5e64_mu(vbool64_t vm, vuint64m1x5_t vd,
                                   const uint64_t *rs1, size_t vl);
vuint64m1x6_t __riscv_vlseg6e64_mu(vbool64_t vm, vuint64m1x6_t vd,
                                   const uint64_t *rs1, size_t vl);
vuint64m1x7_t __riscv_vlseg7e64_mu(vbool64_t vm, vuint64m1x7_t vd,
                                   const uint64_t *rs1, size_t vl);
vuint64m1x8_t __riscv_vlseg8e64_mu(vbool64_t vm, vuint64m1x8_t vd,
                                   const uint64_t *rs1, size_t vl);
vuint64m2x2_t __riscv_vlseg2e64_mu(vbool32_t vm, vuint64m2x2_t vd,
                                   const uint64_t *rs1, size_t vl);
vuint64m2x3_t __riscv_vlseg3e64_mu(vbool32_t vm, vuint64m2x3_t vd,
                                   const uint64_t *rs1, size_t vl);
vuint64m2x4_t __riscv_vlseg4e64_mu(vbool32_t vm, vuint64m2x4_t vd,
                                   const uint64_t *rs1, size_t vl);
vuint64m4x2_t __riscv_vlseg2e64_mu(vbool16_t vm, vuint64m4x2_t vd,
                                   const uint64_t *rs1, size_t vl);
vuint8mf8x2_t __riscv_vlseg2e8ff_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf8x3_t __riscv_vlseg3e8ff_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
```

```
                                    size_t vl);
vuint8mf8x4_t __riscv_vlseg4e8ff_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf8x5_t __riscv_vlseg5e8ff_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf8x6_t __riscv_vlseg6e8ff_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf8x7_t __riscv_vlseg7e8ff_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf8x8_t __riscv_vlseg8e8ff_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf4x2_t __riscv_vlseg2e8ff_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf4x3_t __riscv_vlseg3e8ff_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf4x4_t __riscv_vlseg4e8ff_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf4x5_t __riscv_vlseg5e8ff_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf4x6_t __riscv_vlseg6e8ff_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf4x7_t __riscv_vlseg7e8ff_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf4x8_t __riscv_vlseg8e8ff_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf2x2_t __riscv_vlseg2e8ff_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf2x3_t __riscv_vlseg3e8ff_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf2x4_t __riscv_vlseg4e8ff_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf2x5_t __riscv_vlseg5e8ff_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf2x6_t __riscv_vlseg6e8ff_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf2x7_t __riscv_vlseg7e8ff_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8mf2x8_t __riscv_vlseg8e8ff_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                    const uint8_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint8m1x2_t __riscv_vlseg2e8ff_mu(vbool8_t vm, vuint8m1x2_t vd,
                                   const uint8_t *rs1, size_t *new_vl,
                                   size_t vl);
vuint8m1x3_t __riscv_vlseg3e8ff_mu(vbool8_t vm, vuint8m1x3_t vd,
                                   const uint8_t *rs1, size_t *new_vl,
                                   size_t vl);
vuint8m1x4_t __riscv_vlseg4e8ff_mu(vbool8_t vm, vuint8m1x4_t vd,
                                   const uint8_t *rs1, size_t *new_vl,
                                   size_t vl);
```

```
vuint8m1x5_t __riscv_vlseg5e8ff_mu(vbool8_t vm, vuint8m1x5_t vd,
                                   const uint8_t *rs1, size_t *new_vl,
                                   size_t vl);
vuint8m1x6_t __riscv_vlseg6e8ff_mu(vbool8_t vm, vuint8m1x6_t vd,
                                   const uint8_t *rs1, size_t *new_vl,
                                   size_t vl);
vuint8m1x7_t __riscv_vlseg7e8ff_mu(vbool8_t vm, vuint8m1x7_t vd,
                                   const uint8_t *rs1, size_t *new_vl,
                                   size_t vl);
vuint8m1x8_t __riscv_vlseg8e8ff_mu(vbool8_t vm, vuint8m1x8_t vd,
                                   const uint8_t *rs1, size_t *new_vl,
                                   size_t vl);
vuint8m2x2_t __riscv_vlseg2e8ff_mu(vbool4_t vm, vuint8m2x2_t vd,
                                   const uint8_t *rs1, size_t *new_vl,
                                   size_t vl);
vuint8m2x3_t __riscv_vlseg3e8ff_mu(vbool4_t vm, vuint8m2x3_t vd,
                                   const uint8_t *rs1, size_t *new_vl,
                                   size_t vl);
vuint8m2x4_t __riscv_vlseg4e8ff_mu(vbool4_t vm, vuint8m2x4_t vd,
                                   const uint8_t *rs1, size_t *new_vl,
                                   size_t vl);
vuint8m4x2_t __riscv_vlseg2e8ff_mu(vbool2_t vm, vuint8m4x2_t vd,
                                   const uint8_t *rs1, size_t *new_vl,
                                   size_t vl);
vuint16mf4x2_t __riscv_vlseg2e16ff_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf4x3_t __riscv_vlseg3e16ff_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf4x4_t __riscv_vlseg4e16ff_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf4x5_t __riscv_vlseg5e16ff_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf4x6_t __riscv_vlseg6e16ff_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf4x7_t __riscv_vlseg7e16ff_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf4x8_t __riscv_vlseg8e16ff_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x2_t __riscv_vlseg2e16ff_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x3_t __riscv_vlseg3e16ff_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x4_t __riscv_vlseg4e16ff_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x5_t __riscv_vlseg5e16ff_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x6_t __riscv_vlseg6e16ff_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x7_t __riscv_vlseg7e16ff_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16mf2x8_t __riscv_vlseg8e16ff_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                      const uint16_t *rs1, size_t *new_vl,
                                      size_t vl);
vuint16m1x2_t __riscv_vlseg2e16ff_mu(vbool16_t vm, vuint16m1x2_t vd,
```

```
                                    const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m1x3_t __riscv_vlseg3e16ff_mu(vbool16_t vm, vuint16m1x3_t vd,
                                    const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m1x4_t __riscv_vlseg4e16ff_mu(vbool16_t vm, vuint16m1x4_t vd,
                                    const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m1x5_t __riscv_vlseg5e16ff_mu(vbool16_t vm, vuint16m1x5_t vd,
                                    const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m1x6_t __riscv_vlseg6e16ff_mu(vbool16_t vm, vuint16m1x6_t vd,
                                    const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m1x7_t __riscv_vlseg7e16ff_mu(vbool16_t vm, vuint16m1x7_t vd,
                                    const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m1x8_t __riscv_vlseg8e16ff_mu(vbool16_t vm, vuint16m1x8_t vd,
                                    const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m2x2_t __riscv_vlseg2e16ff_mu(vbool8_t vm, vuint16m2x2_t vd,
                                    const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m2x3_t __riscv_vlseg3e16ff_mu(vbool8_t vm, vuint16m2x3_t vd,
                                    const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m2x4_t __riscv_vlseg4e16ff_mu(vbool8_t vm, vuint16m2x4_t vd,
                                    const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint16m4x2_t __riscv_vlseg2e16ff_mu(vbool4_t vm, vuint16m4x2_t vd,
                                    const uint16_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32mf2x2_t __riscv_vlseg2e32ff_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32mf2x3_t __riscv_vlseg3e32ff_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32mf2x4_t __riscv_vlseg4e32ff_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32mf2x5_t __riscv_vlseg5e32ff_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32mf2x6_t __riscv_vlseg6e32ff_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32mf2x7_t __riscv_vlseg7e32ff_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32mf2x8_t __riscv_vlseg8e32ff_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                     const uint32_t *rs1, size_t *new_vl,
                                     size_t vl);
vuint32m1x2_t __riscv_vlseg2e32ff_mu(vbool32_t vm, vuint32m1x2_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m1x3_t __riscv_vlseg3e32ff_mu(vbool32_t vm, vuint32m1x3_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m1x4_t __riscv_vlseg4e32ff_mu(vbool32_t vm, vuint32m1x4_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m1x5_t __riscv_vlseg5e32ff_mu(vbool32_t vm, vuint32m1x5_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m1x6_t __riscv_vlseg6e32ff_mu(vbool32_t vm, vuint32m1x6_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
```

```
                                    size_t vl);
vuint32m1x7_t __riscv_vlseg7e32ff_mu(vbool32_t vm, vuint32m1x7_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m1x8_t __riscv_vlseg8e32ff_mu(vbool32_t vm, vuint32m1x8_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m2x2_t __riscv_vlseg2e32ff_mu(vbool16_t vm, vuint32m2x2_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m2x3_t __riscv_vlseg3e32ff_mu(vbool16_t vm, vuint32m2x3_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m2x4_t __riscv_vlseg4e32ff_mu(vbool16_t vm, vuint32m2x4_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint32m4x2_t __riscv_vlseg2e32ff_mu(vbool8_t vm, vuint32m4x2_t vd,
                                    const uint32_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x2_t __riscv_vlseg2e64ff_mu(vbool64_t vm, vuint64m1x2_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x3_t __riscv_vlseg3e64ff_mu(vbool64_t vm, vuint64m1x3_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x4_t __riscv_vlseg4e64ff_mu(vbool64_t vm, vuint64m1x4_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x5_t __riscv_vlseg5e64ff_mu(vbool64_t vm, vuint64m1x5_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x6_t __riscv_vlseg6e64ff_mu(vbool64_t vm, vuint64m1x6_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x7_t __riscv_vlseg7e64ff_mu(vbool64_t vm, vuint64m1x7_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m1x8_t __riscv_vlseg8e64ff_mu(vbool64_t vm, vuint64m1x8_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m2x2_t __riscv_vlseg2e64ff_mu(vbool32_t vm, vuint64m2x2_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m2x3_t __riscv_vlseg3e64ff_mu(vbool32_t vm, vuint64m2x3_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m2x4_t __riscv_vlseg4e64ff_mu(vbool32_t vm, vuint64m2x4_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
vuint64m4x2_t __riscv_vlseg2e64ff_mu(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, size_t *new_vl,
                                    size_t vl);
```

D.2.2. Vector Unit-Stride Segment Store Intrinsics

Intrinsics here don't have a policy variant.

D.2.3. Vector Strided Segment Load Intrinsics

```
vfloat16mf4x2_t __riscv_vlsseg2e16_tu(vfloat16mf4x2_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vlsseg3e16_tu(vfloat16mf4x3_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vlsseg4e16_tu(vfloat16mf4x4_t vd, const _Float16 *rs1,
```

```
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vlsseg5e16_tu(vfloat16mf4x5_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vlsseg6e16_tu(vfloat16mf4x6_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vlsseg7e16_tu(vfloat16mf4x7_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vlsseg8e16_tu(vfloat16mf4x8_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vlsseg2e16_tu(vfloat16mf2x2_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vlsseg3e16_tu(vfloat16mf2x3_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vlsseg4e16_tu(vfloat16mf2x4_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vlsseg5e16_tu(vfloat16mf2x5_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vlsseg6e16_tu(vfloat16mf2x6_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vlsseg7e16_tu(vfloat16mf2x7_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vlsseg8e16_tu(vfloat16mf2x8_t vd, const _Float16 *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vlsseg2e16_tu(vfloat16m1x2_t vd, const _Float16 *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vlsseg3e16_tu(vfloat16m1x3_t vd, const _Float16 *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vlsseg4e16_tu(vfloat16m1x4_t vd, const _Float16 *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vlsseg5e16_tu(vfloat16m1x5_t vd, const _Float16 *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vlsseg6e16_tu(vfloat16m1x6_t vd, const _Float16 *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vlsseg7e16_tu(vfloat16m1x7_t vd, const _Float16 *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vlsseg8e16_tu(vfloat16m1x8_t vd, const _Float16 *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vlsseg2e16_tu(vfloat16m2x2_t vd, const _Float16 *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vlsseg3e16_tu(vfloat16m2x3_t vd, const _Float16 *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vlsseg4e16_tu(vfloat16m2x4_t vd, const _Float16 *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vlsseg2e16_tu(vfloat16m4x2_t vd, const _Float16 *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vlsseg2e32_tu(vfloat32mf2x2_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vlsseg3e32_tu(vfloat32mf2x3_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vlsseg4e32_tu(vfloat32mf2x4_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vlsseg5e32_tu(vfloat32mf2x5_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vlsseg6e32_tu(vfloat32mf2x6_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vlsseg7e32_tu(vfloat32mf2x7_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vlsseg8e32_tu(vfloat32mf2x8_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vlsseg2e32_tu(vfloat32m1x2_t vd, const float *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vlsseg3e32_tu(vfloat32m1x3_t vd, const float *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vlsseg4e32_tu(vfloat32m1x4_t vd, const float *rs1,
                                    ptrdiff_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vlsseg5e32_tu(vfloat32m1x5_t vd, const float *rs1,
                                    ptrdiff_t rs2, size_t vl);
```

```
vfloat32m1x6_t __riscv_vlsseg6e32_tu(vfloat32m1x6_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vlsseg7e32_tu(vfloat32m1x7_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vlsseg8e32_tu(vfloat32m1x8_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vlsseg2e32_tu(vfloat32m2x2_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vlsseg3e32_tu(vfloat32m2x3_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vlsseg4e32_tu(vfloat32m2x4_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vlsseg2e32_tu(vfloat32m4x2_t vd, const float *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vlsseg2e64_tu(vfloat64m1x2_t vd, const double *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vlsseg3e64_tu(vfloat64m1x3_t vd, const double *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vlsseg4e64_tu(vfloat64m1x4_t vd, const double *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vlsseg5e64_tu(vfloat64m1x5_t vd, const double *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vlsseg6e64_tu(vfloat64m1x6_t vd, const double *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vlsseg7e64_tu(vfloat64m1x7_t vd, const double *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vlsseg8e64_tu(vfloat64m1x8_t vd, const double *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vlsseg2e64_tu(vfloat64m2x2_t vd, const double *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vlsseg3e64_tu(vfloat64m2x3_t vd, const double *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vlsseg4e64_tu(vfloat64m2x4_t vd, const double *rs1,
                                     ptrdiff_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vlsseg2e64_tu(vfloat64m4x2_t vd, const double *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint8mf8x2_t __riscv_vlsseg2e8_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf8x3_t __riscv_vlsseg3e8_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf8x4_t __riscv_vlsseg4e8_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf8x5_t __riscv_vlsseg5e8_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf8x6_t __riscv_vlsseg6e8_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf8x7_t __riscv_vlsseg7e8_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf8x8_t __riscv_vlsseg8e8_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf4x2_t __riscv_vlsseg2e8_tu(vint8mf4x2_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf4x3_t __riscv_vlsseg3e8_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf4x4_t __riscv_vlsseg4e8_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf4x5_t __riscv_vlsseg5e8_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf4x6_t __riscv_vlsseg6e8_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf4x7_t __riscv_vlsseg7e8_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf4x8_t __riscv_vlsseg8e8_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf2x2_t __riscv_vlsseg2e8_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vint8mf2x3_t __riscv_vlsseg3e8_tu(vint8mf2x3_t vd, const int8_t *rs1,
```

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                                    ptrdiff_t rs2, size_t vl);
vint8mf2x4_t __riscv_vlsseg4e8_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint8mf2x5_t __riscv_vlsseg5e8_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint8mf2x6_t __riscv_vlsseg6e8_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint8mf2x7_t __riscv_vlsseg7e8_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint8mf2x8_t __riscv_vlsseg8e8_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint8m1x2_t __riscv_vlsseg2e8_tu(vint8m1x2_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m1x3_t __riscv_vlsseg3e8_tu(vint8m1x3_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m1x4_t __riscv_vlsseg4e8_tu(vint8m1x4_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m1x5_t __riscv_vlsseg5e8_tu(vint8m1x5_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m1x6_t __riscv_vlsseg6e8_tu(vint8m1x6_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m1x7_t __riscv_vlsseg7e8_tu(vint8m1x7_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m1x8_t __riscv_vlsseg8e8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m2x2_t __riscv_vlsseg2e8_tu(vint8m2x2_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m2x3_t __riscv_vlsseg3e8_tu(vint8m2x3_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m2x4_t __riscv_vlsseg4e8_tu(vint8m2x4_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint8m4x2_t __riscv_vlsseg2e8_tu(vint8m4x2_t vd, const int8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint16mf4x2_t __riscv_vlsseg2e16_tu(vint16mf4x2_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf4x3_t __riscv_vlsseg3e16_tu(vint16mf4x3_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf4x4_t __riscv_vlsseg4e16_tu(vint16mf4x4_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf4x5_t __riscv_vlsseg5e16_tu(vint16mf4x5_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf4x6_t __riscv_vlsseg6e16_tu(vint16mf4x6_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf4x7_t __riscv_vlsseg7e16_tu(vint16mf4x7_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf4x8_t __riscv_vlsseg8e16_tu(vint16mf4x8_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf2x2_t __riscv_vlsseg2e16_tu(vint16mf2x2_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf2x3_t __riscv_vlsseg3e16_tu(vint16mf2x3_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf2x4_t __riscv_vlsseg4e16_tu(vint16mf2x4_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf2x5_t __riscv_vlsseg5e16_tu(vint16mf2x5_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf2x6_t __riscv_vlsseg6e16_tu(vint16mf2x6_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf2x7_t __riscv_vlsseg7e16_tu(vint16mf2x7_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16mf2x8_t __riscv_vlsseg8e16_tu(vint16mf2x8_t vd, const int16_t *rs1,
                                      ptrdiff_t rs2, size_t vl);
vint16m1x2_t __riscv_vlsseg2e16_tu(vint16m1x2_t vd, const int16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint16m1x3_t __riscv_vlsseg3e16_tu(vint16m1x3_t vd, const int16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vint16m1x4_t __riscv_vlsseg4e16_tu(vint16m1x4_t vd, const int16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
```

```
vint16m1x5_t __riscv_vlsseg5e16_tu(vint16m1x5_t vd, const int16_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint16m1x6_t __riscv_vlsseg6e16_tu(vint16m1x6_t vd, const int16_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint16m1x7_t __riscv_vlsseg7e16_tu(vint16m1x7_t vd, const int16_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint16m1x8_t __riscv_vlsseg8e16_tu(vint16m1x8_t vd, const int16_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint16m2x2_t __riscv_vlsseg2e16_tu(vint16m2x2_t vd, const int16_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint16m2x3_t __riscv_vlsseg3e16_tu(vint16m2x3_t vd, const int16_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint16m2x4_t __riscv_vlsseg4e16_tu(vint16m2x4_t vd, const int16_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint16m4x2_t __riscv_vlsseg2e16_tu(vint16m4x2_t vd, const int16_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint32mf2x2_t __riscv_vlsseg2e32_tu(vint32mf2x2_t vd, const int32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint32mf2x3_t __riscv_vlsseg3e32_tu(vint32mf2x3_t vd, const int32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint32mf2x4_t __riscv_vlsseg4e32_tu(vint32mf2x4_t vd, const int32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint32mf2x5_t __riscv_vlsseg5e32_tu(vint32mf2x5_t vd, const int32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint32mf2x6_t __riscv_vlsseg6e32_tu(vint32mf2x6_t vd, const int32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint32mf2x7_t __riscv_vlsseg7e32_tu(vint32mf2x7_t vd, const int32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint32mf2x8_t __riscv_vlsseg8e32_tu(vint32mf2x8_t vd, const int32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint32m1x2_t __riscv_vlsseg2e32_tu(vint32m1x2_t vd, const int32_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint32m1x3_t __riscv_vlsseg3e32_tu(vint32m1x3_t vd, const int32_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint32m1x4_t __riscv_vlsseg4e32_tu(vint32m1x4_t vd, const int32_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint32m1x5_t __riscv_vlsseg5e32_tu(vint32m1x5_t vd, const int32_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint32m1x6_t __riscv_vlsseg6e32_tu(vint32m1x6_t vd, const int32_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint32m1x7_t __riscv_vlsseg7e32_tu(vint32m1x7_t vd, const int32_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint32m1x8_t __riscv_vlsseg8e32_tu(vint32m1x8_t vd, const int32_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint32m2x2_t __riscv_vlsseg2e32_tu(vint32m2x2_t vd, const int32_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint32m2x3_t __riscv_vlsseg3e32_tu(vint32m2x3_t vd, const int32_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint32m2x4_t __riscv_vlsseg4e32_tu(vint32m2x4_t vd, const int32_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint32m4x2_t __riscv_vlsseg2e32_tu(vint32m4x2_t vd, const int32_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint64m1x2_t __riscv_vlsseg2e64_tu(vint64m1x2_t vd, const int64_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint64m1x3_t __riscv_vlsseg3e64_tu(vint64m1x3_t vd, const int64_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint64m1x4_t __riscv_vlsseg4e64_tu(vint64m1x4_t vd, const int64_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint64m1x5_t __riscv_vlsseg5e64_tu(vint64m1x5_t vd, const int64_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint64m1x6_t __riscv_vlsseg6e64_tu(vint64m1x6_t vd, const int64_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint64m1x7_t __riscv_vlsseg7e64_tu(vint64m1x7_t vd, const int64_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint64m1x8_t __riscv_vlsseg8e64_tu(vint64m1x8_t vd, const int64_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vint64m2x2_t __riscv_vlsseg2e64_tu(vint64m2x2_t vd, const int64_t *rs1,
```

```
                                    ptrdiff_t rs2, size_t vl);
vint64m2x3_t __riscv_vlsseg3e64_tu(vint64m2x3_t vd, const int64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint64m2x4_t __riscv_vlsseg4e64_tu(vint64m2x4_t vd, const int64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vint64m4x2_t __riscv_vlsseg2e64_tu(vint64m4x2_t vd, const int64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vlsseg2e8_tu(vuint8mf8x2_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vlsseg3e8_tu(vuint8mf8x3_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vlsseg4e8_tu(vuint8mf8x4_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vlsseg5e8_tu(vuint8mf8x5_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vlsseg6e8_tu(vuint8mf8x6_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vlsseg7e8_tu(vuint8mf8x7_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vlsseg8e8_tu(vuint8mf8x8_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vlsseg2e8_tu(vuint8mf4x2_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vlsseg3e8_tu(vuint8mf4x3_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vlsseg4e8_tu(vuint8mf4x4_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vlsseg5e8_tu(vuint8mf4x5_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vlsseg6e8_tu(vuint8mf4x6_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vlsseg7e8_tu(vuint8mf4x7_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vlsseg8e8_tu(vuint8mf4x8_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vlsseg2e8_tu(vuint8mf2x2_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vlsseg3e8_tu(vuint8mf2x3_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vlsseg4e8_tu(vuint8mf2x4_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vlsseg5e8_tu(vuint8mf2x5_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vlsseg6e8_tu(vuint8mf2x6_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vlsseg7e8_tu(vuint8mf2x7_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vlsseg8e8_tu(vuint8mf2x8_t vd, const uint8_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint8m1x2_t __riscv_vlsseg2e8_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint8m1x3_t __riscv_vlsseg3e8_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint8m1x4_t __riscv_vlsseg4e8_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint8m1x5_t __riscv_vlsseg5e8_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint8m1x6_t __riscv_vlsseg6e8_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint8m1x7_t __riscv_vlsseg7e8_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint8m1x8_t __riscv_vlsseg8e8_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint8m2x2_t __riscv_vlsseg2e8_tu(vuint8m2x2_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
vuint8m2x3_t __riscv_vlsseg3e8_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                   ptrdiff_t rs2, size_t vl);
```

```
vuint8m2x4_t __riscv_vlsseg4e8_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint8m4x2_t __riscv_vlsseg2e8_tu(vuint8m4x2_t vd, const uint8_t *rs1,
                                  ptrdiff_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vlsseg2e16_tu(vuint16mf4x2_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vlsseg3e16_tu(vuint16mf4x3_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vlsseg4e16_tu(vuint16mf4x4_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vlsseg5e16_tu(vuint16mf4x5_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vlsseg6e16_tu(vuint16mf4x6_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vlsseg7e16_tu(vuint16mf4x7_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vlsseg8e16_tu(vuint16mf4x8_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vlsseg2e16_tu(vuint16mf2x2_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vlsseg3e16_tu(vuint16mf2x3_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vlsseg4e16_tu(vuint16mf2x4_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vlsseg5e16_tu(vuint16mf2x5_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vlsseg6e16_tu(vuint16mf2x6_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vlsseg7e16_tu(vuint16mf2x7_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vlsseg8e16_tu(vuint16mf2x8_t vd, const uint16_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint16m1x2_t __riscv_vlsseg2e16_tu(vuint16m1x2_t vd, const uint16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint16m1x3_t __riscv_vlsseg3e16_tu(vuint16m1x3_t vd, const uint16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint16m1x4_t __riscv_vlsseg4e16_tu(vuint16m1x4_t vd, const uint16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint16m1x5_t __riscv_vlsseg5e16_tu(vuint16m1x5_t vd, const uint16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint16m1x6_t __riscv_vlsseg6e16_tu(vuint16m1x6_t vd, const uint16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint16m1x7_t __riscv_vlsseg7e16_tu(vuint16m1x7_t vd, const uint16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint16m1x8_t __riscv_vlsseg8e16_tu(vuint16m1x8_t vd, const uint16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint16m2x2_t __riscv_vlsseg2e16_tu(vuint16m2x2_t vd, const uint16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint16m2x3_t __riscv_vlsseg3e16_tu(vuint16m2x3_t vd, const uint16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint16m2x4_t __riscv_vlsseg4e16_tu(vuint16m2x4_t vd, const uint16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint16m4x2_t __riscv_vlsseg2e16_tu(vuint16m4x2_t vd, const uint16_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vlsseg2e32_tu(vuint32mf2x2_t vd, const uint32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vlsseg3e32_tu(vuint32mf2x3_t vd, const uint32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vlsseg4e32_tu(vuint32mf2x4_t vd, const uint32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vlsseg5e32_tu(vuint32mf2x5_t vd, const uint32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vlsseg6e32_tu(vuint32mf2x6_t vd, const uint32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vlsseg7e32_tu(vuint32mf2x7_t vd, const uint32_t *rs1,
                                     ptrdiff_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vlsseg8e32_tu(vuint32mf2x8_t vd, const uint32_t *rs1,
```

```
                                     ptrdiff_t rs2, size_t vl);
vuint32m1x2_t __riscv_vlsseg2e32_tu(vuint32m1x2_t vd, const uint32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint32m1x3_t __riscv_vlsseg3e32_tu(vuint32m1x3_t vd, const uint32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint32m1x4_t __riscv_vlsseg4e32_tu(vuint32m1x4_t vd, const uint32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint32m1x5_t __riscv_vlsseg5e32_tu(vuint32m1x5_t vd, const uint32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint32m1x6_t __riscv_vlsseg6e32_tu(vuint32m1x6_t vd, const uint32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint32m1x7_t __riscv_vlsseg7e32_tu(vuint32m1x7_t vd, const uint32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint32m1x8_t __riscv_vlsseg8e32_tu(vuint32m1x8_t vd, const uint32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint32m2x2_t __riscv_vlsseg2e32_tu(vuint32m2x2_t vd, const uint32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint32m2x3_t __riscv_vlsseg3e32_tu(vuint32m2x3_t vd, const uint32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint32m2x4_t __riscv_vlsseg4e32_tu(vuint32m2x4_t vd, const uint32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint32m4x2_t __riscv_vlsseg2e32_tu(vuint32m4x2_t vd, const uint32_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint64m1x2_t __riscv_vlsseg2e64_tu(vuint64m1x2_t vd, const uint64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint64m1x3_t __riscv_vlsseg3e64_tu(vuint64m1x3_t vd, const uint64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint64m1x4_t __riscv_vlsseg4e64_tu(vuint64m1x4_t vd, const uint64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint64m1x5_t __riscv_vlsseg5e64_tu(vuint64m1x5_t vd, const uint64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint64m1x6_t __riscv_vlsseg6e64_tu(vuint64m1x6_t vd, const uint64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint64m1x7_t __riscv_vlsseg7e64_tu(vuint64m1x7_t vd, const uint64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint64m1x8_t __riscv_vlsseg8e64_tu(vuint64m1x8_t vd, const uint64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint64m2x2_t __riscv_vlsseg2e64_tu(vuint64m2x2_t vd, const uint64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint64m2x3_t __riscv_vlsseg3e64_tu(vuint64m2x3_t vd, const uint64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint64m2x4_t __riscv_vlsseg4e64_tu(vuint64m2x4_t vd, const uint64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
vuint64m4x2_t __riscv_vlsseg2e64_tu(vuint64m4x2_t vd, const uint64_t *rs1,
                                    ptrdiff_t rs2, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlsseg2e16_tum(vbool64_t vm, vfloat16mf4x2_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x3_t __riscv_vlsseg3e16_tum(vbool64_t vm, vfloat16mf4x3_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x4_t __riscv_vlsseg4e16_tum(vbool64_t vm, vfloat16mf4x4_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x5_t __riscv_vlsseg5e16_tum(vbool64_t vm, vfloat16mf4x5_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x6_t __riscv_vlsseg6e16_tum(vbool64_t vm, vfloat16mf4x6_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x7_t __riscv_vlsseg7e16_tum(vbool64_t vm, vfloat16mf4x7_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x8_t __riscv_vlsseg8e16_tum(vbool64_t vm, vfloat16mf4x8_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
```

```
vfloat16mf2x2_t __riscv_vlsseg2e16_tum(vbool32_t vm, vfloat16mf2x2_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x3_t __riscv_vlsseg3e16_tum(vbool32_t vm, vfloat16mf2x3_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x4_t __riscv_vlsseg4e16_tum(vbool32_t vm, vfloat16mf2x4_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x5_t __riscv_vlsseg5e16_tum(vbool32_t vm, vfloat16mf2x5_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x6_t __riscv_vlsseg6e16_tum(vbool32_t vm, vfloat16mf2x6_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x7_t __riscv_vlsseg7e16_tum(vbool32_t vm, vfloat16mf2x7_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x8_t __riscv_vlsseg8e16_tum(vbool32_t vm, vfloat16mf2x8_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16m1x2_t __riscv_vlsseg2e16_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1x3_t __riscv_vlsseg3e16_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1x4_t __riscv_vlsseg4e16_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1x5_t __riscv_vlsseg5e16_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1x6_t __riscv_vlsseg6e16_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1x7_t __riscv_vlsseg7e16_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1x8_t __riscv_vlsseg8e16_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m2x2_t __riscv_vlsseg2e16_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m2x3_t __riscv_vlsseg3e16_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m2x4_t __riscv_vlsseg4e16_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m4x2_t __riscv_vlsseg2e16_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat32mf2x2_t __riscv_vlsseg2e32_tum(vbool64_t vm, vfloat32mf2x2_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32mf2x3_t __riscv_vlsseg3e32_tum(vbool64_t vm, vfloat32mf2x3_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32mf2x4_t __riscv_vlsseg4e32_tum(vbool64_t vm, vfloat32mf2x4_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32mf2x5_t __riscv_vlsseg5e32_tum(vbool64_t vm, vfloat32mf2x5_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32mf2x6_t __riscv_vlsseg6e32_tum(vbool64_t vm, vfloat32mf2x6_t vd,
```

```
                                     const float *rs1, ptrdiff_t rs2,
                                     size_t vl);
vfloat32mf2x7_t __riscv_vlsseg7e32_tum(vbool64_t vm, vfloat32mf2x7_t vd,
                                     const float *rs1, ptrdiff_t rs2,
                                     size_t vl);
vfloat32mf2x8_t __riscv_vlsseg8e32_tum(vbool64_t vm, vfloat32mf2x8_t vd,
                                     const float *rs1, ptrdiff_t rs2,
                                     size_t vl);
vfloat32m1x2_t __riscv_vlsseg2e32_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m1x3_t __riscv_vlsseg3e32_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m1x4_t __riscv_vlsseg4e32_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m1x5_t __riscv_vlsseg5e32_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m1x6_t __riscv_vlsseg6e32_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m1x7_t __riscv_vlsseg7e32_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m1x8_t __riscv_vlsseg8e32_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m2x2_t __riscv_vlsseg2e32_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m2x3_t __riscv_vlsseg3e32_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m2x4_t __riscv_vlsseg4e32_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m4x2_t __riscv_vlsseg2e32_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x2_t __riscv_vlsseg2e64_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x3_t __riscv_vlsseg3e64_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x4_t __riscv_vlsseg4e64_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x5_t __riscv_vlsseg5e64_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x6_t __riscv_vlsseg6e64_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x7_t __riscv_vlsseg7e64_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x8_t __riscv_vlsseg8e64_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m2x2_t __riscv_vlsseg2e64_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m2x3_t __riscv_vlsseg3e64_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                    const double *rs1, ptrdiff_t rs2,
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                                    size_t vl);
vfloat64m2x4_t __riscv_vlsseg4e64_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m4x2_t __riscv_vlsseg2e64_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf8x2_t __riscv_vlsseg2e8_tum(vbool64_t vm, vint8mf8x2_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x3_t __riscv_vlsseg3e8_tum(vbool64_t vm, vint8mf8x3_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x4_t __riscv_vlsseg4e8_tum(vbool64_t vm, vint8mf8x4_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x5_t __riscv_vlsseg5e8_tum(vbool64_t vm, vint8mf8x5_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x6_t __riscv_vlsseg6e8_tum(vbool64_t vm, vint8mf8x6_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x7_t __riscv_vlsseg7e8_tum(vbool64_t vm, vint8mf8x7_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x8_t __riscv_vlsseg8e8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x2_t __riscv_vlsseg2e8_tum(vbool32_t vm, vint8mf4x2_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x3_t __riscv_vlsseg3e8_tum(vbool32_t vm, vint8mf4x3_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x4_t __riscv_vlsseg4e8_tum(vbool32_t vm, vint8mf4x4_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x5_t __riscv_vlsseg5e8_tum(vbool32_t vm, vint8mf4x5_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x6_t __riscv_vlsseg6e8_tum(vbool32_t vm, vint8mf4x6_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x7_t __riscv_vlsseg7e8_tum(vbool32_t vm, vint8mf4x7_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x8_t __riscv_vlsseg8e8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x2_t __riscv_vlsseg2e8_tum(vbool16_t vm, vint8mf2x2_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x3_t __riscv_vlsseg3e8_tum(vbool16_t vm, vint8mf2x3_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x4_t __riscv_vlsseg4e8_tum(vbool16_t vm, vint8mf2x4_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x5_t __riscv_vlsseg5e8_tum(vbool16_t vm, vint8mf2x5_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x6_t __riscv_vlsseg6e8_tum(vbool16_t vm, vint8mf2x6_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x7_t __riscv_vlsseg7e8_tum(vbool16_t vm, vint8mf2x7_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x8_t __riscv_vlsseg8e8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x2_t __riscv_vlsseg2e8_tum(vbool8_t vm, vint8m1x2_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x3_t __riscv_vlsseg3e8_tum(vbool8_t vm, vint8m1x3_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x4_t __riscv_vlsseg4e8_tum(vbool8_t vm, vint8m1x4_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x5_t __riscv_vlsseg5e8_tum(vbool8_t vm, vint8m1x5_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x6_t __riscv_vlsseg6e8_tum(vbool8_t vm, vint8m1x6_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x7_t __riscv_vlsseg7e8_tum(vbool8_t vm, vint8m1x7_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x8_t __riscv_vlsseg8e8_tum(vbool8_t vm, vint8m1x8_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m2x2_t __riscv_vlsseg2e8_tum(vbool4_t vm, vint8m2x2_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m2x3_t __riscv_vlsseg3e8_tum(vbool4_t vm, vint8m2x3_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
```

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vint8m2x4_t __riscv_vlsseg4e8_tum(vbool4_t vm, vint8m2x4_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m4x2_t __riscv_vlsseg2e8_tum(vbool2_t vm, vint8m4x2_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint16mf4x2_t __riscv_vlsseg2e16_tum(vbool64_t vm, vint16mf4x2_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf4x3_t __riscv_vlsseg3e16_tum(vbool64_t vm, vint16mf4x3_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf4x4_t __riscv_vlsseg4e16_tum(vbool64_t vm, vint16mf4x4_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf4x5_t __riscv_vlsseg5e16_tum(vbool64_t vm, vint16mf4x5_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf4x6_t __riscv_vlsseg6e16_tum(vbool64_t vm, vint16mf4x6_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf4x7_t __riscv_vlsseg7e16_tum(vbool64_t vm, vint16mf4x7_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf4x8_t __riscv_vlsseg8e16_tum(vbool64_t vm, vint16mf4x8_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf2x2_t __riscv_vlsseg2e16_tum(vbool32_t vm, vint16mf2x2_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf2x3_t __riscv_vlsseg3e16_tum(vbool32_t vm, vint16mf2x3_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf2x4_t __riscv_vlsseg4e16_tum(vbool32_t vm, vint16mf2x4_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf2x5_t __riscv_vlsseg5e16_tum(vbool32_t vm, vint16mf2x5_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf2x6_t __riscv_vlsseg6e16_tum(vbool32_t vm, vint16mf2x6_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf2x7_t __riscv_vlsseg7e16_tum(vbool32_t vm, vint16mf2x7_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16mf2x8_t __riscv_vlsseg8e16_tum(vbool32_t vm, vint16mf2x8_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16m1x2_t __riscv_vlsseg2e16_tum(vbool16_t vm, vint16m1x2_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m1x3_t __riscv_vlsseg3e16_tum(vbool16_t vm, vint16m1x3_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m1x4_t __riscv_vlsseg4e16_tum(vbool16_t vm, vint16m1x4_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m1x5_t __riscv_vlsseg5e16_tum(vbool16_t vm, vint16m1x5_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m1x6_t __riscv_vlsseg6e16_tum(vbool16_t vm, vint16m1x6_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m1x7_t __riscv_vlsseg7e16_tum(vbool16_t vm, vint16m1x7_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m1x8_t __riscv_vlsseg8e16_tum(vbool16_t vm, vint16m1x8_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
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vint16m2x2_t __riscv_vlsseg2e16_tum(vbool8_t vm, vint16m2x2_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m2x3_t __riscv_vlsseg3e16_tum(vbool8_t vm, vint16m2x3_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m2x4_t __riscv_vlsseg4e16_tum(vbool8_t vm, vint16m2x4_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m4x2_t __riscv_vlsseg2e16_tum(vbool4_t vm, vint16m4x2_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32mf2x2_t __riscv_vlsseg2e32_tum(vbool64_t vm, vint32mf2x2_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x3_t __riscv_vlsseg3e32_tum(vbool64_t vm, vint32mf2x3_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x4_t __riscv_vlsseg4e32_tum(vbool64_t vm, vint32mf2x4_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x5_t __riscv_vlsseg5e32_tum(vbool64_t vm, vint32mf2x5_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x6_t __riscv_vlsseg6e32_tum(vbool64_t vm, vint32mf2x6_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x7_t __riscv_vlsseg7e32_tum(vbool64_t vm, vint32mf2x7_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x8_t __riscv_vlsseg8e32_tum(vbool64_t vm, vint32mf2x8_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32m1x2_t __riscv_vlsseg2e32_tum(vbool32_t vm, vint32m1x2_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x3_t __riscv_vlsseg3e32_tum(vbool32_t vm, vint32m1x3_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x4_t __riscv_vlsseg4e32_tum(vbool32_t vm, vint32m1x4_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x5_t __riscv_vlsseg5e32_tum(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x6_t __riscv_vlsseg6e32_tum(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x7_t __riscv_vlsseg7e32_tum(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x8_t __riscv_vlsseg8e32_tum(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m2x2_t __riscv_vlsseg2e32_tum(vbool16_t vm, vint32m2x2_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m2x3_t __riscv_vlsseg3e32_tum(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m2x4_t __riscv_vlsseg4e32_tum(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m4x2_t __riscv_vlsseg2e32_tum(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vlsseg2e64_tum(vbool64_t vm, vint64m1x2_t vd,
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```
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vlsseg3e64_tum(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vlsseg4e64_tum(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vlsseg5e64_tum(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vlsseg6e64_tum(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vlsseg7e64_tum(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vlsseg8e64_tum(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vlsseg2e64_tum(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vlsseg3e64_tum(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vlsseg4e64_tum(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vlsseg2e64_tum(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x2_t __riscv_vlsseg2e8_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x3_t __riscv_vlsseg3e8_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x4_t __riscv_vlsseg4e8_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x5_t __riscv_vlsseg5e8_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x6_t __riscv_vlsseg6e8_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x7_t __riscv_vlsseg7e8_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x8_t __riscv_vlsseg8e8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x2_t __riscv_vlsseg2e8_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x3_t __riscv_vlsseg3e8_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x4_t __riscv_vlsseg4e8_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x5_t __riscv_vlsseg5e8_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vlsseg6e8_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
```

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                                    size_t vl);
vuint8mf4x7_t __riscv_vlsseg7e8_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vlsseg8e8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vlsseg2e8_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vlsseg3e8_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vlsseg4e8_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vlsseg5e8_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vlsseg6e8_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vlsseg7e8_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x8_t __riscv_vlsseg8e8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8m1x2_t __riscv_vlsseg2e8_tum(vbool8_t vm, vuint8m1x2_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x3_t __riscv_vlsseg3e8_tum(vbool8_t vm, vuint8m1x3_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x4_t __riscv_vlsseg4e8_tum(vbool8_t vm, vuint8m1x4_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x5_t __riscv_vlsseg5e8_tum(vbool8_t vm, vuint8m1x5_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x6_t __riscv_vlsseg6e8_tum(vbool8_t vm, vuint8m1x6_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x7_t __riscv_vlsseg7e8_tum(vbool8_t vm, vuint8m1x7_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x8_t __riscv_vlsseg8e8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m2x2_t __riscv_vlsseg2e8_tum(vbool4_t vm, vuint8m2x2_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m2x3_t __riscv_vlsseg3e8_tum(vbool4_t vm, vuint8m2x3_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m2x4_t __riscv_vlsseg4e8_tum(vbool4_t vm, vuint8m2x4_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m4x2_t __riscv_vlsseg2e8_tum(vbool2_t vm, vuint8m4x2_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint16mf4x2_t __riscv_vlsseg2e16_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf4x3_t __riscv_vlsseg3e16_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
```

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vuint16mf4x4_t __riscv_vlsseg4e16_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf4x5_t __riscv_vlsseg5e16_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf4x6_t __riscv_vlsseg6e16_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf4x7_t __riscv_vlsseg7e16_tum(vbool64_t vm, vuint16mf4x7_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf4x8_t __riscv_vlsseg8e16_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf2x2_t __riscv_vlsseg2e16_tum(vbool32_t vm, vuint16mf2x2_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf2x3_t __riscv_vlsseg3e16_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf2x4_t __riscv_vlsseg4e16_tum(vbool32_t vm, vuint16mf2x4_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf2x5_t __riscv_vlsseg5e16_tum(vbool32_t vm, vuint16mf2x5_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf2x6_t __riscv_vlsseg6e16_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf2x7_t __riscv_vlsseg7e16_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf2x8_t __riscv_vlsseg8e16_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m1x2_t __riscv_vlsseg2e16_tum(vbool16_t vm, vuint16m1x2_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16m1x3_t __riscv_vlsseg3e16_tum(vbool16_t vm, vuint16m1x3_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16m1x4_t __riscv_vlsseg4e16_tum(vbool16_t vm, vuint16m1x4_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16m1x5_t __riscv_vlsseg5e16_tum(vbool16_t vm, vuint16m1x5_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16m1x6_t __riscv_vlsseg6e16_tum(vbool16_t vm, vuint16m1x6_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16m1x7_t __riscv_vlsseg7e16_tum(vbool16_t vm, vuint16m1x7_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16m1x8_t __riscv_vlsseg8e16_tum(vbool16_t vm, vuint16m1x8_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16m2x2_t __riscv_vlsseg2e16_tum(vbool8_t vm, vuint16m2x2_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16m2x3_t __riscv_vlsseg3e16_tum(vbool8_t vm, vuint16m2x3_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16m2x4_t __riscv_vlsseg4e16_tum(vbool8_t vm, vuint16m2x4_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16m4x2_t __riscv_vlsseg2e16_tum(vbool4_t vm, vuint16m4x2_t vd,
```

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                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32mf2x2_t __riscv_vlsseg2e32_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x3_t __riscv_vlsseg3e32_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x4_t __riscv_vlsseg4e32_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x5_t __riscv_vlsseg5e32_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x6_t __riscv_vlsseg6e32_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x7_t __riscv_vlsseg7e32_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x8_t __riscv_vlsseg8e32_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32m1x2_t __riscv_vlsseg2e32_tum(vbool32_t vm, vuint32m1x2_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x3_t __riscv_vlsseg3e32_tum(vbool32_t vm, vuint32m1x3_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x4_t __riscv_vlsseg4e32_tum(vbool32_t vm, vuint32m1x4_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x5_t __riscv_vlsseg5e32_tum(vbool32_t vm, vuint32m1x5_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x6_t __riscv_vlsseg6e32_tum(vbool32_t vm, vuint32m1x6_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x7_t __riscv_vlsseg7e32_tum(vbool32_t vm, vuint32m1x7_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x8_t __riscv_vlsseg8e32_tum(vbool32_t vm, vuint32m1x8_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m2x2_t __riscv_vlsseg2e32_tum(vbool16_t vm, vuint32m2x2_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m2x3_t __riscv_vlsseg3e32_tum(vbool16_t vm, vuint32m2x3_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m2x4_t __riscv_vlsseg4e32_tum(vbool16_t vm, vuint32m2x4_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m4x2_t __riscv_vlsseg2e32_tum(vbool8_t vm, vuint32m4x2_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vlsseg2e64_tum(vbool64_t vm, vuint64m1x2_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x3_t __riscv_vlsseg3e64_tum(vbool64_t vm, vuint64m1x3_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x4_t __riscv_vlsseg4e64_tum(vbool64_t vm, vuint64m1x4_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x5_t __riscv_vlsseg5e64_tum(vbool64_t vm, vuint64m1x5_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
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                                    size_t vl);
vuint64m1x6_t __riscv_vlsseg6e64_tum(vbool64_t vm, vuint64m1x6_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x7_t __riscv_vlsseg7e64_tum(vbool64_t vm, vuint64m1x7_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x8_t __riscv_vlsseg8e64_tum(vbool64_t vm, vuint64m1x8_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m2x2_t __riscv_vlsseg2e64_tum(vbool32_t vm, vuint64m2x2_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m2x3_t __riscv_vlsseg3e64_tum(vbool32_t vm, vuint64m2x3_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m2x4_t __riscv_vlsseg4e64_tum(vbool32_t vm, vuint64m2x4_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vlsseg2e64_tum(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlsseg2e16_tumu(vbool64_t vm, vfloat16mf4x2_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x3_t __riscv_vlsseg3e16_tumu(vbool64_t vm, vfloat16mf4x3_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x4_t __riscv_vlsseg4e16_tumu(vbool64_t vm, vfloat16mf4x4_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x5_t __riscv_vlsseg5e16_tumu(vbool64_t vm, vfloat16mf4x5_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x6_t __riscv_vlsseg6e16_tumu(vbool64_t vm, vfloat16mf4x6_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x7_t __riscv_vlsseg7e16_tumu(vbool64_t vm, vfloat16mf4x7_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf4x8_t __riscv_vlsseg8e16_tumu(vbool64_t vm, vfloat16mf4x8_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x2_t __riscv_vlsseg2e16_tumu(vbool32_t vm, vfloat16mf2x2_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x3_t __riscv_vlsseg3e16_tumu(vbool32_t vm, vfloat16mf2x3_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x4_t __riscv_vlsseg4e16_tumu(vbool32_t vm, vfloat16mf2x4_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x5_t __riscv_vlsseg5e16_tumu(vbool32_t vm, vfloat16mf2x5_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x6_t __riscv_vlsseg6e16_tumu(vbool32_t vm, vfloat16mf2x6_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x7_t __riscv_vlsseg7e16_tumu(vbool32_t vm, vfloat16mf2x7_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16mf2x8_t __riscv_vlsseg8e16_tumu(vbool32_t vm, vfloat16mf2x8_t vd,
                                       const _Float16 *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat16m1x2_t __riscv_vlsseg2e16_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
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                                      size_t vl);
vfloat16m1x3_t __riscv_vlsseg3e16_tumu(vbool16_t vm, vfloat16m1x3_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1x4_t __riscv_vlsseg4e16_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1x5_t __riscv_vlsseg5e16_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1x6_t __riscv_vlsseg6e16_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1x7_t __riscv_vlsseg7e16_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m1x8_t __riscv_vlsseg8e16_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m2x2_t __riscv_vlsseg2e16_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m2x3_t __riscv_vlsseg3e16_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m2x4_t __riscv_vlsseg4e16_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat16m4x2_t __riscv_vlsseg2e16_tumu(vbool4_t vm, vfloat16m4x2_t vd,
                                      const _Float16 *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat32mf2x2_t __riscv_vlsseg2e32_tumu(vbool64_t vm, vfloat32mf2x2_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32mf2x3_t __riscv_vlsseg3e32_tumu(vbool64_t vm, vfloat32mf2x3_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32mf2x4_t __riscv_vlsseg4e32_tumu(vbool64_t vm, vfloat32mf2x4_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32mf2x5_t __riscv_vlsseg5e32_tumu(vbool64_t vm, vfloat32mf2x5_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32mf2x6_t __riscv_vlsseg6e32_tumu(vbool64_t vm, vfloat32mf2x6_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32mf2x7_t __riscv_vlsseg7e32_tumu(vbool64_t vm, vfloat32mf2x7_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32mf2x8_t __riscv_vlsseg8e32_tumu(vbool64_t vm, vfloat32mf2x8_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32m1x2_t __riscv_vlsseg2e32_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                      const float *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat32m1x3_t __riscv_vlsseg3e32_tumu(vbool32_t vm, vfloat32m1x3_t vd,
                                      const float *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat32m1x4_t __riscv_vlsseg4e32_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                      const float *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat32m1x5_t __riscv_vlsseg5e32_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                      const float *rs1, ptrdiff_t rs2,
                                      size_t vl);
vfloat32m1x6_t __riscv_vlsseg6e32_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                      const float *rs1, ptrdiff_t rs2,
                                      size_t vl);
```

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vfloat32m1x7_t __riscv_vlsseg7e32_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32m1x8_t __riscv_vlsseg8e32_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32m2x2_t __riscv_vlsseg2e32_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32m2x3_t __riscv_vlsseg3e32_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32m2x4_t __riscv_vlsseg4e32_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat32m4x2_t __riscv_vlsseg2e32_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                       const float *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m1x2_t __riscv_vlsseg2e64_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m1x3_t __riscv_vlsseg3e64_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m1x4_t __riscv_vlsseg4e64_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m1x5_t __riscv_vlsseg5e64_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m1x6_t __riscv_vlsseg6e64_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m1x7_t __riscv_vlsseg7e64_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m1x8_t __riscv_vlsseg8e64_tumu(vbool64_t vm, vfloat64m1x8_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m2x2_t __riscv_vlsseg2e64_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m2x3_t __riscv_vlsseg3e64_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m2x4_t __riscv_vlsseg4e64_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vfloat64m4x2_t __riscv_vlsseg2e64_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                       const double *rs1, ptrdiff_t rs2,
                                       size_t vl);
vint8mf8x2_t __riscv_vlsseg2e8_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf8x3_t __riscv_vlsseg3e8_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf8x4_t __riscv_vlsseg4e8_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf8x5_t __riscv_vlsseg5e8_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf8x6_t __riscv_vlsseg6e8_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf8x7_t __riscv_vlsseg7e8_tumu(vbool64_t vm, vint8mf8x7_t vd,
```

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                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf8x8_t __riscv_vlsseg8e8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf4x2_t __riscv_vlsseg2e8_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf4x3_t __riscv_vlsseg3e8_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf4x4_t __riscv_vlsseg4e8_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf4x5_t __riscv_vlsseg5e8_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf4x6_t __riscv_vlsseg6e8_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf4x7_t __riscv_vlsseg7e8_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf4x8_t __riscv_vlsseg8e8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vlsseg2e8_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vlsseg3e8_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vlsseg4e8_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vlsseg5e8_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vlsseg6e8_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vlsseg7e8_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vlsseg8e8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vlsseg2e8_tumu(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x3_t __riscv_vlsseg3e8_tumu(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x4_t __riscv_vlsseg4e8_tumu(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x5_t __riscv_vlsseg5e8_tumu(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x6_t __riscv_vlsseg6e8_tumu(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x7_t __riscv_vlsseg7e8_tumu(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x8_t __riscv_vlsseg8e8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m2x2_t __riscv_vlsseg2e8_tumu(vbool4_t vm, vint8m2x2_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m2x3_t __riscv_vlsseg3e8_tumu(vbool4_t vm, vint8m2x3_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m2x4_t __riscv_vlsseg4e8_tumu(vbool4_t vm, vint8m2x4_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
```

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vint8m4x2_t __riscv_vlsseg2e8_tumu(vbool2_t vm, vint8m4x2_t vd,
                                   const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint16mf4x2_t __riscv_vlsseg2e16_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf4x3_t __riscv_vlsseg3e16_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf4x4_t __riscv_vlsseg4e16_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf4x5_t __riscv_vlsseg5e16_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf4x6_t __riscv_vlsseg6e16_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf4x7_t __riscv_vlsseg7e16_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf4x8_t __riscv_vlsseg8e16_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf2x2_t __riscv_vlsseg2e16_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf2x3_t __riscv_vlsseg3e16_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf2x4_t __riscv_vlsseg4e16_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf2x5_t __riscv_vlsseg5e16_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf2x6_t __riscv_vlsseg6e16_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf2x7_t __riscv_vlsseg7e16_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16mf2x8_t __riscv_vlsseg8e16_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                      const int16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vint16m1x2_t __riscv_vlsseg2e16_tumu(vbool16_t vm, vint16m1x2_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16m1x3_t __riscv_vlsseg3e16_tumu(vbool16_t vm, vint16m1x3_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16m1x4_t __riscv_vlsseg4e16_tumu(vbool16_t vm, vint16m1x4_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16m1x5_t __riscv_vlsseg5e16_tumu(vbool16_t vm, vint16m1x5_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16m1x6_t __riscv_vlsseg6e16_tumu(vbool16_t vm, vint16m1x6_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16m1x7_t __riscv_vlsseg7e16_tumu(vbool16_t vm, vint16m1x7_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16m1x8_t __riscv_vlsseg8e16_tumu(vbool16_t vm, vint16m1x8_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint16m2x2_t __riscv_vlsseg2e16_tumu(vbool8_t vm, vint16m2x2_t vd,
                                     const int16_t *rs1, ptrdiff_t rs2,
```

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                                    size_t vl);
vint16m2x3_t __riscv_vlsseg3e16_tumu(vbool8_t vm, vint16m2x3_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m2x4_t __riscv_vlsseg4e16_tumu(vbool8_t vm, vint16m2x4_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m4x2_t __riscv_vlsseg2e16_tumu(vbool4_t vm, vint16m4x2_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32mf2x2_t __riscv_vlsseg2e32_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x3_t __riscv_vlsseg3e32_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x4_t __riscv_vlsseg4e32_tumu(vbool64_t vm, vint32mf2x4_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x5_t __riscv_vlsseg5e32_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x6_t __riscv_vlsseg6e32_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x7_t __riscv_vlsseg7e32_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32mf2x8_t __riscv_vlsseg8e32_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                     const int32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint32m1x2_t __riscv_vlsseg2e32_tumu(vbool32_t vm, vint32m1x2_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x3_t __riscv_vlsseg3e32_tumu(vbool32_t vm, vint32m1x3_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x4_t __riscv_vlsseg4e32_tumu(vbool32_t vm, vint32m1x4_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x5_t __riscv_vlsseg5e32_tumu(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x6_t __riscv_vlsseg6e32_tumu(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x7_t __riscv_vlsseg7e32_tumu(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x8_t __riscv_vlsseg8e32_tumu(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m2x2_t __riscv_vlsseg2e32_tumu(vbool16_t vm, vint32m2x2_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m2x3_t __riscv_vlsseg3e32_tumu(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m2x4_t __riscv_vlsseg4e32_tumu(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m4x2_t __riscv_vlsseg2e32_tumu(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vlsseg2e64_tumu(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
```

```
vint64m1x3_t __riscv_vlsseg3e64_tumu(vbool64_t vm, vint64m1x3_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m1x4_t __riscv_vlsseg4e64_tumu(vbool64_t vm, vint64m1x4_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m1x5_t __riscv_vlsseg5e64_tumu(vbool64_t vm, vint64m1x5_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m1x6_t __riscv_vlsseg6e64_tumu(vbool64_t vm, vint64m1x6_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m1x7_t __riscv_vlsseg7e64_tumu(vbool64_t vm, vint64m1x7_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m1x8_t __riscv_vlsseg8e64_tumu(vbool64_t vm, vint64m1x8_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m2x2_t __riscv_vlsseg2e64_tumu(vbool32_t vm, vint64m2x2_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m2x3_t __riscv_vlsseg3e64_tumu(vbool32_t vm, vint64m2x3_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m2x4_t __riscv_vlsseg4e64_tumu(vbool32_t vm, vint64m2x4_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vint64m4x2_t __riscv_vlsseg2e64_tumu(vbool16_t vm, vint64m4x2_t vd,
                                     const int64_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf8x2_t __riscv_vlsseg2e8_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf8x3_t __riscv_vlsseg3e8_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf8x4_t __riscv_vlsseg4e8_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf8x5_t __riscv_vlsseg5e8_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf8x6_t __riscv_vlsseg6e8_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf8x7_t __riscv_vlsseg7e8_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf8x8_t __riscv_vlsseg8e8_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf4x2_t __riscv_vlsseg2e8_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf4x3_t __riscv_vlsseg3e8_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf4x4_t __riscv_vlsseg4e8_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf4x5_t __riscv_vlsseg5e8_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf4x6_t __riscv_vlsseg6e8_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                     const uint8_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint8mf4x7_t __riscv_vlsseg7e8_tumu(vbool32_t vm, vuint8mf4x7_t vd,
```

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                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vlsseg8e8_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vlsseg2e8_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vlsseg3e8_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vlsseg4e8_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vlsseg5e8_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vlsseg6e8_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vlsseg7e8_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x8_t __riscv_vlsseg8e8_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8m1x2_t __riscv_vlsseg2e8_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x3_t __riscv_vlsseg3e8_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x4_t __riscv_vlsseg4e8_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x5_t __riscv_vlsseg5e8_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x6_t __riscv_vlsseg6e8_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x7_t __riscv_vlsseg7e8_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x8_t __riscv_vlsseg8e8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m2x2_t __riscv_vlsseg2e8_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m2x3_t __riscv_vlsseg3e8_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m2x4_t __riscv_vlsseg4e8_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m4x2_t __riscv_vlsseg2e8_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint16mf4x2_t __riscv_vlsseg2e16_tumu(vbool64_t vm, vuint16mf4x2_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf4x3_t __riscv_vlsseg3e16_tumu(vbool64_t vm, vuint16mf4x3_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16mf4x4_t __riscv_vlsseg4e16_tumu(vbool64_t vm, vuint16mf4x4_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
```

```
                                     size_t vl);
vuint16mf4x5_t __riscv_vlsseg5e16_tumu(vbool64_t vm, vuint16mf4x5_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16mf4x6_t __riscv_vlsseg6e16_tumu(vbool64_t vm, vuint16mf4x6_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16mf4x7_t __riscv_vlsseg7e16_tumu(vbool64_t vm, vuint16mf4x7_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16mf4x8_t __riscv_vlsseg8e16_tumu(vbool64_t vm, vuint16mf4x8_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16mf2x2_t __riscv_vlsseg2e16_tumu(vbool32_t vm, vuint16mf2x2_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16mf2x3_t __riscv_vlsseg3e16_tumu(vbool32_t vm, vuint16mf2x3_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16mf2x4_t __riscv_vlsseg4e16_tumu(vbool32_t vm, vuint16mf2x4_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16mf2x5_t __riscv_vlsseg5e16_tumu(vbool32_t vm, vuint16mf2x5_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16mf2x6_t __riscv_vlsseg6e16_tumu(vbool32_t vm, vuint16mf2x6_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16mf2x7_t __riscv_vlsseg7e16_tumu(vbool32_t vm, vuint16mf2x7_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16mf2x8_t __riscv_vlsseg8e16_tumu(vbool32_t vm, vuint16mf2x8_t vd,
                                       const uint16_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint16m1x2_t __riscv_vlsseg2e16_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m1x3_t __riscv_vlsseg3e16_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m1x4_t __riscv_vlsseg4e16_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m1x5_t __riscv_vlsseg5e16_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m1x6_t __riscv_vlsseg6e16_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m1x7_t __riscv_vlsseg7e16_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m1x8_t __riscv_vlsseg8e16_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m2x2_t __riscv_vlsseg2e16_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m2x3_t __riscv_vlsseg3e16_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m2x4_t __riscv_vlsseg4e16_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint16m4x2_t __riscv_vlsseg2e16_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                      const uint16_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
```

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vuint32mf2x2_t __riscv_vlsseg2e32_tumu(vbool64_t vm, vuint32mf2x2_t vd,
                                       const uint32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint32mf2x3_t __riscv_vlsseg3e32_tumu(vbool64_t vm, vuint32mf2x3_t vd,
                                       const uint32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint32mf2x4_t __riscv_vlsseg4e32_tumu(vbool64_t vm, vuint32mf2x4_t vd,
                                       const uint32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint32mf2x5_t __riscv_vlsseg5e32_tumu(vbool64_t vm, vuint32mf2x5_t vd,
                                       const uint32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint32mf2x6_t __riscv_vlsseg6e32_tumu(vbool64_t vm, vuint32mf2x6_t vd,
                                       const uint32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint32mf2x7_t __riscv_vlsseg7e32_tumu(vbool64_t vm, vuint32mf2x7_t vd,
                                       const uint32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint32mf2x8_t __riscv_vlsseg8e32_tumu(vbool64_t vm, vuint32mf2x8_t vd,
                                       const uint32_t *rs1, ptrdiff_t rs2,
                                       size_t vl);
vuint32m1x2_t __riscv_vlsseg2e32_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m1x3_t __riscv_vlsseg3e32_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m1x4_t __riscv_vlsseg4e32_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m1x5_t __riscv_vlsseg5e32_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m1x6_t __riscv_vlsseg6e32_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m1x7_t __riscv_vlsseg7e32_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m1x8_t __riscv_vlsseg8e32_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m2x2_t __riscv_vlsseg2e32_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m2x3_t __riscv_vlsseg3e32_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m2x4_t __riscv_vlsseg4e32_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint32m4x2_t __riscv_vlsseg2e32_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                      const uint32_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint64m1x2_t __riscv_vlsseg2e64_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                      const uint64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint64m1x3_t __riscv_vlsseg3e64_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                      const uint64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint64m1x4_t __riscv_vlsseg4e64_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                      const uint64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint64m1x5_t __riscv_vlsseg5e64_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                      const uint64_t *rs1, ptrdiff_t rs2,
                                      size_t vl);
vuint64m1x6_t __riscv_vlsseg6e64_tumu(vbool64_t vm, vuint64m1x6_t vd,
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                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x7_t __riscv_vlsseg7e64_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x8_t __riscv_vlsseg8e64_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m2x2_t __riscv_vlsseg2e64_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m2x3_t __riscv_vlsseg3e64_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m2x4_t __riscv_vlsseg4e64_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vlsseg2e64_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vlsseg2e16_mu(vbool64_t vm, vfloat16mf4x2_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf4x3_t __riscv_vlsseg3e16_mu(vbool64_t vm, vfloat16mf4x3_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf4x4_t __riscv_vlsseg4e16_mu(vbool64_t vm, vfloat16mf4x4_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf4x5_t __riscv_vlsseg5e16_mu(vbool64_t vm, vfloat16mf4x5_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf4x6_t __riscv_vlsseg6e16_mu(vbool64_t vm, vfloat16mf4x6_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf4x7_t __riscv_vlsseg7e16_mu(vbool64_t vm, vfloat16mf4x7_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf4x8_t __riscv_vlsseg8e16_mu(vbool64_t vm, vfloat16mf4x8_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf2x2_t __riscv_vlsseg2e16_mu(vbool32_t vm, vfloat16mf2x2_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf2x3_t __riscv_vlsseg3e16_mu(vbool32_t vm, vfloat16mf2x3_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf2x4_t __riscv_vlsseg4e16_mu(vbool32_t vm, vfloat16mf2x4_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf2x5_t __riscv_vlsseg5e16_mu(vbool32_t vm, vfloat16mf2x5_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf2x6_t __riscv_vlsseg6e16_mu(vbool32_t vm, vfloat16mf2x6_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf2x7_t __riscv_vlsseg7e16_mu(vbool32_t vm, vfloat16mf2x7_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16mf2x8_t __riscv_vlsseg8e16_mu(vbool32_t vm, vfloat16mf2x8_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m1x2_t __riscv_vlsseg2e16_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                   const _Float16 *rs1, ptrdiff_t rs2,
                                   size_t vl);
vfloat16m1x3_t __riscv_vlsseg3e16_mu(vbool16_t vm, vfloat16m1x3_t vd,
```

```
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m1x4_t __riscv_vlsseg4e16_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m1x5_t __riscv_vlsseg5e16_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m1x6_t __riscv_vlsseg6e16_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m1x7_t __riscv_vlsseg7e16_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m1x8_t __riscv_vlsseg8e16_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m2x2_t __riscv_vlsseg2e16_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m2x3_t __riscv_vlsseg3e16_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m2x4_t __riscv_vlsseg4e16_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat16m4x2_t __riscv_vlsseg2e16_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                    const _Float16 *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32mf2x2_t __riscv_vlsseg2e32_mu(vbool64_t vm, vfloat32mf2x2_t vd,
                                     const float *rs1, ptrdiff_t rs2,
                                     size_t vl);
vfloat32mf2x3_t __riscv_vlsseg3e32_mu(vbool64_t vm, vfloat32mf2x3_t vd,
                                     const float *rs1, ptrdiff_t rs2,
                                     size_t vl);
vfloat32mf2x4_t __riscv_vlsseg4e32_mu(vbool64_t vm, vfloat32mf2x4_t vd,
                                     const float *rs1, ptrdiff_t rs2,
                                     size_t vl);
vfloat32mf2x5_t __riscv_vlsseg5e32_mu(vbool64_t vm, vfloat32mf2x5_t vd,
                                     const float *rs1, ptrdiff_t rs2,
                                     size_t vl);
vfloat32mf2x6_t __riscv_vlsseg6e32_mu(vbool64_t vm, vfloat32mf2x6_t vd,
                                     const float *rs1, ptrdiff_t rs2,
                                     size_t vl);
vfloat32mf2x7_t __riscv_vlsseg7e32_mu(vbool64_t vm, vfloat32mf2x7_t vd,
                                     const float *rs1, ptrdiff_t rs2,
                                     size_t vl);
vfloat32mf2x8_t __riscv_vlsseg8e32_mu(vbool64_t vm, vfloat32mf2x8_t vd,
                                     const float *rs1, ptrdiff_t rs2,
                                     size_t vl);
vfloat32m1x2_t __riscv_vlsseg2e32_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m1x3_t __riscv_vlsseg3e32_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m1x4_t __riscv_vlsseg4e32_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m1x5_t __riscv_vlsseg5e32_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m1x6_t __riscv_vlsseg6e32_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m1x7_t __riscv_vlsseg7e32_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                    const float *rs1, ptrdiff_t rs2,
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                                    size_t vl);
vfloat32m1x8_t __riscv_vlsseg8e32_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m2x2_t __riscv_vlsseg2e32_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m2x3_t __riscv_vlsseg3e32_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m2x4_t __riscv_vlsseg4e32_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat32m4x2_t __riscv_vlsseg2e32_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                    const float *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x2_t __riscv_vlsseg2e64_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x3_t __riscv_vlsseg3e64_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x4_t __riscv_vlsseg4e64_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x5_t __riscv_vlsseg5e64_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x6_t __riscv_vlsseg6e64_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x7_t __riscv_vlsseg7e64_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m1x8_t __riscv_vlsseg8e64_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m2x2_t __riscv_vlsseg2e64_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m2x3_t __riscv_vlsseg3e64_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m2x4_t __riscv_vlsseg4e64_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vfloat64m4x2_t __riscv_vlsseg2e64_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                    const double *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint8mf8x2_t __riscv_vlsseg2e8_mu(vbool64_t vm, vint8mf8x2_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x3_t __riscv_vlsseg3e8_mu(vbool64_t vm, vint8mf8x3_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x4_t __riscv_vlsseg4e8_mu(vbool64_t vm, vint8mf8x4_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x5_t __riscv_vlsseg5e8_mu(vbool64_t vm, vint8mf8x5_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x6_t __riscv_vlsseg6e8_mu(vbool64_t vm, vint8mf8x6_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x7_t __riscv_vlsseg7e8_mu(vbool64_t vm, vint8mf8x7_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf8x8_t __riscv_vlsseg8e8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x2_t __riscv_vlsseg2e8_mu(vbool32_t vm, vint8mf4x2_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x3_t __riscv_vlsseg3e8_mu(vbool32_t vm, vint8mf4x3_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
```

```
vint8mf4x4_t __riscv_vlsseg4e8_mu(vbool32_t vm, vint8mf4x4_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x5_t __riscv_vlsseg5e8_mu(vbool32_t vm, vint8mf4x5_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x6_t __riscv_vlsseg6e8_mu(vbool32_t vm, vint8mf4x6_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x7_t __riscv_vlsseg7e8_mu(vbool32_t vm, vint8mf4x7_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf4x8_t __riscv_vlsseg8e8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x2_t __riscv_vlsseg2e8_mu(vbool16_t vm, vint8mf2x2_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x3_t __riscv_vlsseg3e8_mu(vbool16_t vm, vint8mf2x3_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x4_t __riscv_vlsseg4e8_mu(vbool16_t vm, vint8mf2x4_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x5_t __riscv_vlsseg5e8_mu(vbool16_t vm, vint8mf2x5_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x6_t __riscv_vlsseg6e8_mu(vbool16_t vm, vint8mf2x6_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x7_t __riscv_vlsseg7e8_mu(vbool16_t vm, vint8mf2x7_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8mf2x8_t __riscv_vlsseg8e8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                  const int8_t *rs1, ptrdiff_t rs2, size_t vl);
vint8m1x2_t __riscv_vlsseg2e8_mu(vbool8_t vm, vint8m1x2_t vd, const int8_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint8m1x3_t __riscv_vlsseg3e8_mu(vbool8_t vm, vint8m1x3_t vd, const int8_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint8m1x4_t __riscv_vlsseg4e8_mu(vbool8_t vm, vint8m1x4_t vd, const int8_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint8m1x5_t __riscv_vlsseg5e8_mu(vbool8_t vm, vint8m1x5_t vd, const int8_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint8m1x6_t __riscv_vlsseg6e8_mu(vbool8_t vm, vint8m1x6_t vd, const int8_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint8m1x7_t __riscv_vlsseg7e8_mu(vbool8_t vm, vint8m1x7_t vd, const int8_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint8m1x8_t __riscv_vlsseg8e8_mu(vbool8_t vm, vint8m1x8_t vd, const int8_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint8m2x2_t __riscv_vlsseg2e8_mu(vbool4_t vm, vint8m2x2_t vd, const int8_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint8m2x3_t __riscv_vlsseg3e8_mu(vbool4_t vm, vint8m2x3_t vd, const int8_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint8m2x4_t __riscv_vlsseg4e8_mu(vbool4_t vm, vint8m2x4_t vd, const int8_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint8m4x2_t __riscv_vlsseg2e8_mu(vbool2_t vm, vint8m4x2_t vd, const int8_t *rs1,
                                 ptrdiff_t rs2, size_t vl);
vint16mf4x2_t __riscv_vlsseg2e16_mu(vbool64_t vm, vint16mf4x2_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf4x3_t __riscv_vlsseg3e16_mu(vbool64_t vm, vint16mf4x3_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf4x4_t __riscv_vlsseg4e16_mu(vbool64_t vm, vint16mf4x4_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf4x5_t __riscv_vlsseg5e16_mu(vbool64_t vm, vint16mf4x5_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf4x6_t __riscv_vlsseg6e16_mu(vbool64_t vm, vint16mf4x6_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf4x7_t __riscv_vlsseg7e16_mu(vbool64_t vm, vint16mf4x7_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf4x8_t __riscv_vlsseg8e16_mu(vbool64_t vm, vint16mf4x8_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
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vint16mf2x2_t __riscv_vlsseg2e16_mu(vbool32_t vm, vint16mf2x2_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf2x3_t __riscv_vlsseg3e16_mu(vbool32_t vm, vint16mf2x3_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf2x4_t __riscv_vlsseg4e16_mu(vbool32_t vm, vint16mf2x4_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf2x5_t __riscv_vlsseg5e16_mu(vbool32_t vm, vint16mf2x5_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf2x6_t __riscv_vlsseg6e16_mu(vbool32_t vm, vint16mf2x6_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf2x7_t __riscv_vlsseg7e16_mu(vbool32_t vm, vint16mf2x7_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16mf2x8_t __riscv_vlsseg8e16_mu(vbool32_t vm, vint16mf2x8_t vd,
                                    const int16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint16m1x2_t __riscv_vlsseg2e16_mu(vbool16_t vm, vint16m1x2_t vd,
                                   const int16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint16m1x3_t __riscv_vlsseg3e16_mu(vbool16_t vm, vint16m1x3_t vd,
                                   const int16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint16m1x4_t __riscv_vlsseg4e16_mu(vbool16_t vm, vint16m1x4_t vd,
                                   const int16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint16m1x5_t __riscv_vlsseg5e16_mu(vbool16_t vm, vint16m1x5_t vd,
                                   const int16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint16m1x6_t __riscv_vlsseg6e16_mu(vbool16_t vm, vint16m1x6_t vd,
                                   const int16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint16m1x7_t __riscv_vlsseg7e16_mu(vbool16_t vm, vint16m1x7_t vd,
                                   const int16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint16m1x8_t __riscv_vlsseg8e16_mu(vbool16_t vm, vint16m1x8_t vd,
                                   const int16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint16m2x2_t __riscv_vlsseg2e16_mu(vbool8_t vm, vint16m2x2_t vd,
                                   const int16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint16m2x3_t __riscv_vlsseg3e16_mu(vbool8_t vm, vint16m2x3_t vd,
                                   const int16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint16m2x4_t __riscv_vlsseg4e16_mu(vbool8_t vm, vint16m2x4_t vd,
                                   const int16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint16m4x2_t __riscv_vlsseg2e16_mu(vbool4_t vm, vint16m4x2_t vd,
                                   const int16_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint32mf2x2_t __riscv_vlsseg2e32_mu(vbool64_t vm, vint32mf2x2_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32mf2x3_t __riscv_vlsseg3e32_mu(vbool64_t vm, vint32mf2x3_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32mf2x4_t __riscv_vlsseg4e32_mu(vbool64_t vm, vint32mf2x4_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32mf2x5_t __riscv_vlsseg5e32_mu(vbool64_t vm, vint32mf2x5_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32mf2x6_t __riscv_vlsseg6e32_mu(vbool64_t vm, vint32mf2x6_t vd,
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                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32mf2x7_t __riscv_vlsseg7e32_mu(vbool64_t vm, vint32mf2x7_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32mf2x8_t __riscv_vlsseg8e32_mu(vbool64_t vm, vint32mf2x8_t vd,
                                    const int32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint32m1x2_t __riscv_vlsseg2e32_mu(vbool32_t vm, vint32m1x2_t vd,
                                   const int32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint32m1x3_t __riscv_vlsseg3e32_mu(vbool32_t vm, vint32m1x3_t vd,
                                   const int32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint32m1x4_t __riscv_vlsseg4e32_mu(vbool32_t vm, vint32m1x4_t vd,
                                   const int32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint32m1x5_t __riscv_vlsseg5e32_mu(vbool32_t vm, vint32m1x5_t vd,
                                   const int32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint32m1x6_t __riscv_vlsseg6e32_mu(vbool32_t vm, vint32m1x6_t vd,
                                   const int32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint32m1x7_t __riscv_vlsseg7e32_mu(vbool32_t vm, vint32m1x7_t vd,
                                   const int32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint32m1x8_t __riscv_vlsseg8e32_mu(vbool32_t vm, vint32m1x8_t vd,
                                   const int32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint32m2x2_t __riscv_vlsseg2e32_mu(vbool16_t vm, vint32m2x2_t vd,
                                   const int32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint32m2x3_t __riscv_vlsseg3e32_mu(vbool16_t vm, vint32m2x3_t vd,
                                   const int32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint32m2x4_t __riscv_vlsseg4e32_mu(vbool16_t vm, vint32m2x4_t vd,
                                   const int32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint32m4x2_t __riscv_vlsseg2e32_mu(vbool8_t vm, vint32m4x2_t vd,
                                   const int32_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint64m1x2_t __riscv_vlsseg2e64_mu(vbool64_t vm, vint64m1x2_t vd,
                                   const int64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint64m1x3_t __riscv_vlsseg3e64_mu(vbool64_t vm, vint64m1x3_t vd,
                                   const int64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint64m1x4_t __riscv_vlsseg4e64_mu(vbool64_t vm, vint64m1x4_t vd,
                                   const int64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint64m1x5_t __riscv_vlsseg5e64_mu(vbool64_t vm, vint64m1x5_t vd,
                                   const int64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint64m1x6_t __riscv_vlsseg6e64_mu(vbool64_t vm, vint64m1x6_t vd,
                                   const int64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint64m1x7_t __riscv_vlsseg7e64_mu(vbool64_t vm, vint64m1x7_t vd,
                                   const int64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint64m1x8_t __riscv_vlsseg8e64_mu(vbool64_t vm, vint64m1x8_t vd,
                                   const int64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint64m2x2_t __riscv_vlsseg2e64_mu(vbool32_t vm, vint64m2x2_t vd,
                                   const int64_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vint64m2x3_t __riscv_vlsseg3e64_mu(vbool32_t vm, vint64m2x3_t vd,
                                   const int64_t *rs1, ptrdiff_t rs2,
```

```
                                    size_t vl);
vint64m2x4_t __riscv_vlsseg4e64_mu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vlsseg2e64_mu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x2_t __riscv_vlsseg2e8_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x3_t __riscv_vlsseg3e8_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x4_t __riscv_vlsseg4e8_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x5_t __riscv_vlsseg5e8_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x6_t __riscv_vlsseg6e8_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x7_t __riscv_vlsseg7e8_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf8x8_t __riscv_vlsseg8e8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x2_t __riscv_vlsseg2e8_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x3_t __riscv_vlsseg3e8_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x4_t __riscv_vlsseg4e8_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x5_t __riscv_vlsseg5e8_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vlsseg6e8_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x7_t __riscv_vlsseg7e8_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vlsseg8e8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vlsseg2e8_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vlsseg3e8_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vlsseg4e8_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vlsseg5e8_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vlsseg6e8_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vlsseg7e8_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                    const uint8_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
```

```
vuint8mf2x8_t __riscv_vlsseg8e8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                   const uint8_t *rs1, ptrdiff_t rs2,
                                   size_t vl);
vuint8m1x2_t __riscv_vlsseg2e8_mu(vbool8_t vm, vuint8m1x2_t vd,
                                  const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m1x3_t __riscv_vlsseg3e8_mu(vbool8_t vm, vuint8m1x3_t vd,
                                  const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m1x4_t __riscv_vlsseg4e8_mu(vbool8_t vm, vuint8m1x4_t vd,
                                  const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m1x5_t __riscv_vlsseg5e8_mu(vbool8_t vm, vuint8m1x5_t vd,
                                  const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m1x6_t __riscv_vlsseg6e8_mu(vbool8_t vm, vuint8m1x6_t vd,
                                  const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m1x7_t __riscv_vlsseg7e8_mu(vbool8_t vm, vuint8m1x7_t vd,
                                  const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m1x8_t __riscv_vlsseg8e8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                  const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m2x2_t __riscv_vlsseg2e8_mu(vbool4_t vm, vuint8m2x2_t vd,
                                  const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m2x3_t __riscv_vlsseg3e8_mu(vbool4_t vm, vuint8m2x3_t vd,
                                  const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m2x4_t __riscv_vlsseg4e8_mu(vbool4_t vm, vuint8m2x4_t vd,
                                  const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint8m4x2_t __riscv_vlsseg2e8_mu(vbool2_t vm, vuint8m4x2_t vd,
                                  const uint8_t *rs1, ptrdiff_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vlsseg2e16_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf4x3_t __riscv_vlsseg3e16_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf4x4_t __riscv_vlsseg4e16_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf4x5_t __riscv_vlsseg5e16_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf4x6_t __riscv_vlsseg6e16_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf4x7_t __riscv_vlsseg7e16_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf4x8_t __riscv_vlsseg8e16_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf2x2_t __riscv_vlsseg2e16_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf2x3_t __riscv_vlsseg3e16_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf2x4_t __riscv_vlsseg4e16_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf2x5_t __riscv_vlsseg5e16_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf2x6_t __riscv_vlsseg6e16_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf2x7_t __riscv_vlsseg7e16_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint16mf2x8_t __riscv_vlsseg8e16_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                     const uint16_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
```

```
vuint16m1x2_t __riscv_vlsseg2e16_mu(vbool16_t vm, vuint16m1x2_t vd,
                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint16m1x3_t __riscv_vlsseg3e16_mu(vbool16_t vm, vuint16m1x3_t vd,
                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint16m1x4_t __riscv_vlsseg4e16_mu(vbool16_t vm, vuint16m1x4_t vd,
                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint16m1x5_t __riscv_vlsseg5e16_mu(vbool16_t vm, vuint16m1x5_t vd,
                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint16m1x6_t __riscv_vlsseg6e16_mu(vbool16_t vm, vuint16m1x6_t vd,
                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint16m1x7_t __riscv_vlsseg7e16_mu(vbool16_t vm, vuint16m1x7_t vd,
                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint16m1x8_t __riscv_vlsseg8e16_mu(vbool16_t vm, vuint16m1x8_t vd,
                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint16m2x2_t __riscv_vlsseg2e16_mu(vbool8_t vm, vuint16m2x2_t vd,
                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint16m2x3_t __riscv_vlsseg3e16_mu(vbool8_t vm, vuint16m2x3_t vd,
                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint16m2x4_t __riscv_vlsseg4e16_mu(vbool8_t vm, vuint16m2x4_t vd,
                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint16m4x2_t __riscv_vlsseg2e16_mu(vbool4_t vm, vuint16m4x2_t vd,
                                    const uint16_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32mf2x2_t __riscv_vlsseg2e32_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x3_t __riscv_vlsseg3e32_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x4_t __riscv_vlsseg4e32_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x5_t __riscv_vlsseg5e32_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x6_t __riscv_vlsseg6e32_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x7_t __riscv_vlsseg7e32_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32mf2x8_t __riscv_vlsseg8e32_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                     const uint32_t *rs1, ptrdiff_t rs2,
                                     size_t vl);
vuint32m1x2_t __riscv_vlsseg2e32_mu(vbool32_t vm, vuint32m1x2_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x3_t __riscv_vlsseg3e32_mu(vbool32_t vm, vuint32m1x3_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x4_t __riscv_vlsseg4e32_mu(vbool32_t vm, vuint32m1x4_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x5_t __riscv_vlsseg5e32_mu(vbool32_t vm, vuint32m1x5_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x6_t __riscv_vlsseg6e32_mu(vbool32_t vm, vuint32m1x6_t vd,
```

```
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x7_t __riscv_vlsseg7e32_mu(vbool32_t vm, vuint32m1x7_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m1x8_t __riscv_vlsseg8e32_mu(vbool32_t vm, vuint32m1x8_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m2x2_t __riscv_vlsseg2e32_mu(vbool16_t vm, vuint32m2x2_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m2x3_t __riscv_vlsseg3e32_mu(vbool16_t vm, vuint32m2x3_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m2x4_t __riscv_vlsseg4e32_mu(vbool16_t vm, vuint32m2x4_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint32m4x2_t __riscv_vlsseg2e32_mu(vbool8_t vm, vuint32m4x2_t vd,
                                    const uint32_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vlsseg2e64_mu(vbool64_t vm, vuint64m1x2_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x3_t __riscv_vlsseg3e64_mu(vbool64_t vm, vuint64m1x3_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x4_t __riscv_vlsseg4e64_mu(vbool64_t vm, vuint64m1x4_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x5_t __riscv_vlsseg5e64_mu(vbool64_t vm, vuint64m1x5_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x6_t __riscv_vlsseg6e64_mu(vbool64_t vm, vuint64m1x6_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x7_t __riscv_vlsseg7e64_mu(vbool64_t vm, vuint64m1x7_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m1x8_t __riscv_vlsseg8e64_mu(vbool64_t vm, vuint64m1x8_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m2x2_t __riscv_vlsseg2e64_mu(vbool32_t vm, vuint64m2x2_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m2x3_t __riscv_vlsseg3e64_mu(vbool32_t vm, vuint64m2x3_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m2x4_t __riscv_vlsseg4e64_mu(vbool32_t vm, vuint64m2x4_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vlsseg2e64_mu(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, ptrdiff_t rs2,
                                    size_t vl);
```

D.2.4. Vector Strided Segment Store Intrinsics

Intrinsics here don't have a policy variant.

D.2.5. Vector Indexed Segment Load Intrinsics

```
vfloat16mf4x2_t __riscv_vloxseg2ei8_tu(vfloat16mf4x2_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei8_tu(vfloat16mf4x3_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
```

```
vfloat16mf4x4_t __riscv_vloxseg4ei8_tu(vfloat16mf4x4_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8_tu(vfloat16mf4x5_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8_tu(vfloat16mf4x6_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8_tu(vfloat16mf4x7_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8_tu(vfloat16mf4x8_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8_tu(vfloat16mf2x2_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8_tu(vfloat16mf2x3_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8_tu(vfloat16mf2x4_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8_tu(vfloat16mf2x5_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8_tu(vfloat16mf2x6_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8_tu(vfloat16mf2x7_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8_tu(vfloat16mf2x8_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8_tu(vfloat16m1x2_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8_tu(vfloat16m1x3_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8_tu(vfloat16m1x4_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8_tu(vfloat16m1x5_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8_tu(vfloat16m1x6_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei8_tu(vfloat16m1x7_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8_tu(vfloat16m1x8_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8_tu(vfloat16m2x2_t vd, const _Float16 *rs1,
                                      vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8_tu(vfloat16m2x3_t vd, const _Float16 *rs1,
                                      vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8_tu(vfloat16m2x4_t vd, const _Float16 *rs1,
                                      vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8_tu(vfloat16m4x2_t vd, const _Float16 *rs1,
                                      vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16_tu(vfloat16mf4x2_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16_tu(vfloat16mf4x3_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16_tu(vfloat16mf4x4_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16_tu(vfloat16mf4x5_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16_tu(vfloat16mf4x6_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16_tu(vfloat16mf4x7_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16_tu(vfloat16mf4x8_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16_tu(vfloat16mf2x2_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16_tu(vfloat16mf2x3_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16_tu(vfloat16mf2x4_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16_tu(vfloat16mf2x5_t vd, const _Float16 *rs1,
```

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                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei16_tu(vfloat16mf2x6_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16_tu(vfloat16mf2x7_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16_tu(vfloat16mf2x8_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei16_tu(vfloat16m1x2_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16_tu(vfloat16m1x3_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei16_tu(vfloat16m1x4_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16_tu(vfloat16m1x5_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16_tu(vfloat16m1x6_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16_tu(vfloat16m1x7_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16_tu(vfloat16m1x8_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16_tu(vfloat16m2x2_t vd, const _Float16 *rs1,
                                       vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16_tu(vfloat16m2x3_t vd, const _Float16 *rs1,
                                       vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16_tu(vfloat16m2x4_t vd, const _Float16 *rs1,
                                       vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16_tu(vfloat16m4x2_t vd, const _Float16 *rs1,
                                       vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei32_tu(vfloat16mf4x2_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32_tu(vfloat16mf4x3_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32_tu(vfloat16mf4x4_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32_tu(vfloat16mf4x5_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32_tu(vfloat16mf4x6_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32_tu(vfloat16mf4x7_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32_tu(vfloat16mf4x8_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32_tu(vfloat16mf2x2_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32_tu(vfloat16mf2x3_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32_tu(vfloat16mf2x4_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32_tu(vfloat16mf2x5_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32_tu(vfloat16mf2x6_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32_tu(vfloat16mf2x7_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32_tu(vfloat16mf2x8_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32_tu(vfloat16m1x2_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32_tu(vfloat16m1x3_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei32_tu(vfloat16m1x4_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32_tu(vfloat16m1x5_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei32_tu(vfloat16m1x6_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
```

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vfloat16m1x7_t __riscv_vloxseg7ei32_tu(vfloat16m1x7_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32_tu(vfloat16m1x8_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32_tu(vfloat16m2x2_t vd, const _Float16 *rs1,
                                       vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32_tu(vfloat16m2x3_t vd, const _Float16 *rs1,
                                       vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32_tu(vfloat16m2x4_t vd, const _Float16 *rs1,
                                       vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32_tu(vfloat16m4x2_t vd, const _Float16 *rs1,
                                       vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64_tu(vfloat16mf4x2_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei64_tu(vfloat16mf4x3_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64_tu(vfloat16mf4x4_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64_tu(vfloat16mf4x5_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64_tu(vfloat16mf4x6_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64_tu(vfloat16mf4x7_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64_tu(vfloat16mf4x8_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64_tu(vfloat16mf2x2_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64_tu(vfloat16mf2x3_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64_tu(vfloat16mf2x4_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64_tu(vfloat16mf2x5_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei64_tu(vfloat16mf2x6_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64_tu(vfloat16mf2x7_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64_tu(vfloat16mf2x8_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64_tu(vfloat16m1x2_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64_tu(vfloat16m1x3_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei64_tu(vfloat16m1x4_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64_tu(vfloat16m1x5_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64_tu(vfloat16m1x6_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64_tu(vfloat16m1x7_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64_tu(vfloat16m1x8_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64_tu(vfloat16m2x2_t vd, const _Float16 *rs1,
                                       vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64_tu(vfloat16m2x3_t vd, const _Float16 *rs1,
                                       vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64_tu(vfloat16m2x4_t vd, const _Float16 *rs1,
                                       vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8_tu(vfloat32mf2x2_t vd, const float *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8_tu(vfloat32mf2x3_t vd, const float *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8_tu(vfloat32mf2x4_t vd, const float *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8_tu(vfloat32mf2x5_t vd, const float *rs1,
```

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                                        vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei8_tu(vfloat32mf2x6_t vd, const float *rs1,
                                        vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8_tu(vfloat32mf2x7_t vd, const float *rs1,
                                        vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8_tu(vfloat32mf2x8_t vd, const float *rs1,
                                        vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei8_tu(vfloat32m1x2_t vd, const float *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8_tu(vfloat32m1x3_t vd, const float *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei8_tu(vfloat32m1x4_t vd, const float *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8_tu(vfloat32m1x5_t vd, const float *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8_tu(vfloat32m1x6_t vd, const float *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8_tu(vfloat32m1x7_t vd, const float *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8_tu(vfloat32m1x8_t vd, const float *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8_tu(vfloat32m2x2_t vd, const float *rs1,
                                       vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8_tu(vfloat32m2x3_t vd, const float *rs1,
                                       vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8_tu(vfloat32m2x4_t vd, const float *rs1,
                                       vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8_tu(vfloat32m4x2_t vd, const float *rs1,
                                       vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei16_tu(vfloat32mf2x2_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16_tu(vfloat32mf2x3_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16_tu(vfloat32mf2x4_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16_tu(vfloat32mf2x5_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16_tu(vfloat32mf2x6_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16_tu(vfloat32mf2x7_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16_tu(vfloat32mf2x8_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16_tu(vfloat32m1x2_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16_tu(vfloat32m1x3_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16_tu(vfloat32m1x4_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16_tu(vfloat32m1x5_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16_tu(vfloat32m1x6_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16_tu(vfloat32m1x7_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16_tu(vfloat32m1x8_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16_tu(vfloat32m2x2_t vd, const float *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16_tu(vfloat32m2x3_t vd, const float *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei16_tu(vfloat32m2x4_t vd, const float *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16_tu(vfloat32m4x2_t vd, const float *rs1,
                                       vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei32_tu(vfloat32mf2x2_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
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vfloat32mf2x3_t __riscv_vloxseg3ei32_tu(vfloat32mf2x3_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei32_tu(vfloat32mf2x4_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32_tu(vfloat32mf2x5_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32_tu(vfloat32mf2x6_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32_tu(vfloat32mf2x7_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32_tu(vfloat32mf2x8_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32_tu(vfloat32m1x2_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32_tu(vfloat32m1x3_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32_tu(vfloat32m1x4_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32_tu(vfloat32m1x5_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32_tu(vfloat32m1x6_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei32_tu(vfloat32m1x7_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32_tu(vfloat32m1x8_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32_tu(vfloat32m2x2_t vd, const float *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32_tu(vfloat32m2x3_t vd, const float *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32_tu(vfloat32m2x4_t vd, const float *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32_tu(vfloat32m4x2_t vd, const float *rs1,
                                       vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei64_tu(vfloat32mf2x2_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64_tu(vfloat32mf2x3_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64_tu(vfloat32mf2x4_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64_tu(vfloat32mf2x5_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64_tu(vfloat32mf2x6_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64_tu(vfloat32mf2x7_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64_tu(vfloat32mf2x8_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64_tu(vfloat32m1x2_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64_tu(vfloat32m1x3_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64_tu(vfloat32m1x4_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64_tu(vfloat32m1x5_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64_tu(vfloat32m1x6_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64_tu(vfloat32m1x7_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64_tu(vfloat32m1x8_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64_tu(vfloat32m2x2_t vd, const float *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64_tu(vfloat32m2x3_t vd, const float *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64_tu(vfloat32m2x4_t vd, const float *rs1,
```

```
                                        vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64_tu(vfloat32m4x2_t vd, const float *rs1,
                                        vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8_tu(vfloat64m1x2_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8_tu(vfloat64m1x3_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei8_tu(vfloat64m1x4_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8_tu(vfloat64m1x5_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei8_tu(vfloat64m1x6_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8_tu(vfloat64m1x7_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei8_tu(vfloat64m1x8_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8_tu(vfloat64m2x2_t vd, const double *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8_tu(vfloat64m2x3_t vd, const double *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8_tu(vfloat64m2x4_t vd, const double *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8_tu(vfloat64m4x2_t vd, const double *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei16_tu(vfloat64m1x2_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16_tu(vfloat64m1x3_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei16_tu(vfloat64m1x4_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16_tu(vfloat64m1x5_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16_tu(vfloat64m1x6_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16_tu(vfloat64m1x7_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16_tu(vfloat64m1x8_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16_tu(vfloat64m2x2_t vd, const double *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16_tu(vfloat64m2x3_t vd, const double *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16_tu(vfloat64m2x4_t vd, const double *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16_tu(vfloat64m4x2_t vd, const double *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32_tu(vfloat64m1x2_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32_tu(vfloat64m1x3_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32_tu(vfloat64m1x4_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32_tu(vfloat64m1x5_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32_tu(vfloat64m1x6_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32_tu(vfloat64m1x7_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32_tu(vfloat64m1x8_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei32_tu(vfloat64m2x2_t vd, const double *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32_tu(vfloat64m2x3_t vd, const double *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei32_tu(vfloat64m2x4_t vd, const double *rs1,
                                       vuint32m1_t rs2, size_t vl);
```

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vfloat64m4x2_t __riscv_vloxseg2ei32_tu(vfloat64m4x2_t vd, const double *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei64_tu(vfloat64m1x2_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64_tu(vfloat64m1x3_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64_tu(vfloat64m1x4_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64_tu(vfloat64m1x5_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64_tu(vfloat64m1x6_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64_tu(vfloat64m1x7_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64_tu(vfloat64m1x8_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64_tu(vfloat64m2x2_t vd, const double *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64_tu(vfloat64m2x3_t vd, const double *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64_tu(vfloat64m2x4_t vd, const double *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64_tu(vfloat64m4x2_t vd, const double *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8_tu(vfloat16mf4x2_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8_tu(vfloat16mf4x3_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei8_tu(vfloat16mf4x4_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8_tu(vfloat16mf4x5_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8_tu(vfloat16mf4x6_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei8_tu(vfloat16mf4x7_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8_tu(vfloat16mf4x8_t vd, const _Float16 *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8_tu(vfloat16mf2x2_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8_tu(vfloat16mf2x3_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8_tu(vfloat16mf2x4_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8_tu(vfloat16mf2x5_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8_tu(vfloat16mf2x6_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8_tu(vfloat16mf2x7_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8_tu(vfloat16mf2x8_t vd, const _Float16 *rs1,
                                       vuint8mf4_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8_tu(vfloat16m1x2_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8_tu(vfloat16m1x3_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8_tu(vfloat16m1x4_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8_tu(vfloat16m1x5_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8_tu(vfloat16m1x6_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8_tu(vfloat16m1x7_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8_tu(vfloat16m1x8_t vd, const _Float16 *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8_tu(vfloat16m2x2_t vd, const _Float16 *rs1,
```

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                                      vuint8m1_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8_tu(vfloat16m2x3_t vd, const _Float16 *rs1,
                                      vuint8m1_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8_tu(vfloat16m2x4_t vd, const _Float16 *rs1,
                                      vuint8m1_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8_tu(vfloat16m4x2_t vd, const _Float16 *rs1,
                                      vuint8m2_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei16_tu(vfloat16mf4x2_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16_tu(vfloat16mf4x3_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei16_tu(vfloat16mf4x4_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16_tu(vfloat16mf4x5_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16_tu(vfloat16mf4x6_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16_tu(vfloat16mf4x7_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16_tu(vfloat16mf4x8_t vd, const _Float16 *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16_tu(vfloat16mf2x2_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei16_tu(vfloat16mf2x3_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16_tu(vfloat16mf2x4_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16_tu(vfloat16mf2x5_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei16_tu(vfloat16mf2x6_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16_tu(vfloat16mf2x7_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16_tu(vfloat16mf2x8_t vd, const _Float16 *rs1,
                                        vuint16mf2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16_tu(vfloat16m1x2_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16_tu(vfloat16m1x3_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16_tu(vfloat16m1x4_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16_tu(vfloat16m1x5_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei16_tu(vfloat16m1x6_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16_tu(vfloat16m1x7_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16_tu(vfloat16m1x8_t vd, const _Float16 *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16_tu(vfloat16m2x2_t vd, const _Float16 *rs1,
                                       vuint16m2_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16_tu(vfloat16m2x3_t vd, const _Float16 *rs1,
                                       vuint16m2_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16_tu(vfloat16m2x4_t vd, const _Float16 *rs1,
                                       vuint16m2_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16_tu(vfloat16m4x2_t vd, const _Float16 *rs1,
                                       vuint16m4_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32_tu(vfloat16mf4x2_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32_tu(vfloat16mf4x3_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei32_tu(vfloat16mf4x4_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32_tu(vfloat16mf4x5_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei32_tu(vfloat16mf4x6_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
```

```
vfloat16mf4x7_t __riscv_vluxseg7ei32_tu(vfloat16mf4x7_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei32_tu(vfloat16mf4x8_t vd, const _Float16 *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32_tu(vfloat16mf2x2_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32_tu(vfloat16mf2x3_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32_tu(vfloat16mf2x4_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32_tu(vfloat16mf2x5_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32_tu(vfloat16mf2x6_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32_tu(vfloat16mf2x7_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32_tu(vfloat16mf2x8_t vd, const _Float16 *rs1,
                                        vuint32m1_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32_tu(vfloat16m1x2_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32_tu(vfloat16m1x3_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32_tu(vfloat16m1x4_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32_tu(vfloat16m1x5_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32_tu(vfloat16m1x6_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32_tu(vfloat16m1x7_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32_tu(vfloat16m1x8_t vd, const _Float16 *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32_tu(vfloat16m2x2_t vd, const _Float16 *rs1,
                                       vuint32m4_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei32_tu(vfloat16m2x3_t vd, const _Float16 *rs1,
                                       vuint32m4_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32_tu(vfloat16m2x4_t vd, const _Float16 *rs1,
                                       vuint32m4_t rs2, size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32_tu(vfloat16m4x2_t vd, const _Float16 *rs1,
                                       vuint32m8_t rs2, size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64_tu(vfloat16mf4x2_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64_tu(vfloat16mf4x3_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64_tu(vfloat16mf4x4_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64_tu(vfloat16mf4x5_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64_tu(vfloat16mf4x6_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei64_tu(vfloat16mf4x7_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64_tu(vfloat16mf4x8_t vd, const _Float16 *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64_tu(vfloat16mf2x2_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64_tu(vfloat16mf2x3_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64_tu(vfloat16mf2x4_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64_tu(vfloat16mf2x5_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64_tu(vfloat16mf2x6_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64_tu(vfloat16mf2x7_t vd, const _Float16 *rs1,
                                        vuint64m2_t rs2, size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64_tu(vfloat16mf2x8_t vd, const _Float16 *rs1,
```

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                                        vuint64m2_t rs2, size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64_tu(vfloat16m1x2_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64_tu(vfloat16m1x3_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64_tu(vfloat16m1x4_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei64_tu(vfloat16m1x5_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64_tu(vfloat16m1x6_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei64_tu(vfloat16m1x7_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64_tu(vfloat16m1x8_t vd, const _Float16 *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64_tu(vfloat16m2x2_t vd, const _Float16 *rs1,
                                       vuint64m8_t rs2, size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64_tu(vfloat16m2x3_t vd, const _Float16 *rs1,
                                       vuint64m8_t rs2, size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64_tu(vfloat16m2x4_t vd, const _Float16 *rs1,
                                       vuint64m8_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8_tu(vfloat32mf2x2_t vd, const float *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8_tu(vfloat32mf2x3_t vd, const float *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8_tu(vfloat32mf2x4_t vd, const float *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8_tu(vfloat32mf2x5_t vd, const float *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei8_tu(vfloat32mf2x6_t vd, const float *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8_tu(vfloat32mf2x7_t vd, const float *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8_tu(vfloat32mf2x8_t vd, const float *rs1,
                                       vuint8mf8_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8_tu(vfloat32m1x2_t vd, const float *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8_tu(vfloat32m1x3_t vd, const float *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8_tu(vfloat32m1x4_t vd, const float *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8_tu(vfloat32m1x5_t vd, const float *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8_tu(vfloat32m1x6_t vd, const float *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8_tu(vfloat32m1x7_t vd, const float *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8_tu(vfloat32m1x8_t vd, const float *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8_tu(vfloat32m2x2_t vd, const float *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8_tu(vfloat32m2x3_t vd, const float *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8_tu(vfloat32m2x4_t vd, const float *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8_tu(vfloat32m4x2_t vd, const float *rs1,
                                      vuint8m1_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16_tu(vfloat32mf2x2_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16_tu(vfloat32mf2x3_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei16_tu(vfloat32mf2x4_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16_tu(vfloat32mf2x5_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei16_tu(vfloat32mf2x6_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
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vfloat32mf2x7_t __riscv_vluxseg7ei16_tu(vfloat32mf2x7_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16_tu(vfloat32mf2x8_t vd, const float *rs1,
                                        vuint16mf4_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16_tu(vfloat32m1x2_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16_tu(vfloat32m1x3_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16_tu(vfloat32m1x4_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16_tu(vfloat32m1x5_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16_tu(vfloat32m1x6_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16_tu(vfloat32m1x7_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16_tu(vfloat32m1x8_t vd, const float *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16_tu(vfloat32m2x2_t vd, const float *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16_tu(vfloat32m2x3_t vd, const float *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16_tu(vfloat32m2x4_t vd, const float *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16_tu(vfloat32m4x2_t vd, const float *rs1,
                                       vuint16m2_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32_tu(vfloat32mf2x2_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32_tu(vfloat32mf2x3_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32_tu(vfloat32mf2x4_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32_tu(vfloat32mf2x5_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei32_tu(vfloat32mf2x6_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32_tu(vfloat32mf2x7_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32_tu(vfloat32mf2x8_t vd, const float *rs1,
                                        vuint32mf2_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei32_tu(vfloat32m1x2_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32_tu(vfloat32m1x3_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32_tu(vfloat32m1x4_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32_tu(vfloat32m1x5_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32_tu(vfloat32m1x6_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32_tu(vfloat32m1x7_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32_tu(vfloat32m1x8_t vd, const float *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32_tu(vfloat32m2x2_t vd, const float *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32_tu(vfloat32m2x3_t vd, const float *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32_tu(vfloat32m2x4_t vd, const float *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32_tu(vfloat32m4x2_t vd, const float *rs1,
                                       vuint32m4_t rs2, size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64_tu(vfloat32mf2x2_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64_tu(vfloat32mf2x3_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64_tu(vfloat32mf2x4_t vd, const float *rs1,
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                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64_tu(vfloat32mf2x5_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei64_tu(vfloat32mf2x6_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64_tu(vfloat32mf2x7_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei64_tu(vfloat32mf2x8_t vd, const float *rs1,
                                        vuint64m1_t rs2, size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64_tu(vfloat32m1x2_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei64_tu(vfloat32m1x3_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64_tu(vfloat32m1x4_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64_tu(vfloat32m1x5_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64_tu(vfloat32m1x6_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64_tu(vfloat32m1x7_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64_tu(vfloat32m1x8_t vd, const float *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64_tu(vfloat32m2x2_t vd, const float *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64_tu(vfloat32m2x3_t vd, const float *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei64_tu(vfloat32m2x4_t vd, const float *rs1,
                                       vuint64m4_t rs2, size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei64_tu(vfloat32m4x2_t vd, const float *rs1,
                                       vuint64m8_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8_tu(vfloat64m1x2_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei8_tu(vfloat64m1x3_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8_tu(vfloat64m1x4_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8_tu(vfloat64m1x5_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8_tu(vfloat64m1x6_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8_tu(vfloat64m1x7_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8_tu(vfloat64m1x8_t vd, const double *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8_tu(vfloat64m2x2_t vd, const double *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8_tu(vfloat64m2x3_t vd, const double *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8_tu(vfloat64m2x4_t vd, const double *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei8_tu(vfloat64m4x2_t vd, const double *rs1,
                                      vuint8mf2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16_tu(vfloat64m1x2_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16_tu(vfloat64m1x3_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16_tu(vfloat64m1x4_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16_tu(vfloat64m1x5_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei16_tu(vfloat64m1x6_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16_tu(vfloat64m1x7_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei16_tu(vfloat64m1x8_t vd, const double *rs1,
                                       vuint16mf4_t rs2, size_t vl);
```

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vfloat64m2x2_t __riscv_vluxseg2ei16_tu(vfloat64m2x2_t vd, const double *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16_tu(vfloat64m2x3_t vd, const double *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16_tu(vfloat64m2x4_t vd, const double *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16_tu(vfloat64m4x2_t vd, const double *rs1,
                                       vuint16m1_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32_tu(vfloat64m1x2_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei32_tu(vfloat64m1x3_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32_tu(vfloat64m1x4_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32_tu(vfloat64m1x5_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32_tu(vfloat64m1x6_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei32_tu(vfloat64m1x7_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32_tu(vfloat64m1x8_t vd, const double *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32_tu(vfloat64m2x2_t vd, const double *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32_tu(vfloat64m2x3_t vd, const double *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32_tu(vfloat64m2x4_t vd, const double *rs1,
                                       vuint32m1_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32_tu(vfloat64m4x2_t vd, const double *rs1,
                                       vuint32m2_t rs2, size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64_tu(vfloat64m1x2_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64_tu(vfloat64m1x3_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei64_tu(vfloat64m1x4_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64_tu(vfloat64m1x5_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64_tu(vfloat64m1x6_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64_tu(vfloat64m1x7_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64_tu(vfloat64m1x8_t vd, const double *rs1,
                                       vuint64m1_t rs2, size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64_tu(vfloat64m2x2_t vd, const double *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64_tu(vfloat64m2x3_t vd, const double *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64_tu(vfloat64m2x4_t vd, const double *rs1,
                                       vuint64m2_t rs2, size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64_tu(vfloat64m4x2_t vd, const double *rs1,
                                       vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8_tu(vint8mf4x2_t vd, const int8_t *rs1,
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                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei8_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei8_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8_tu(vint8mf2x3_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei8_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8_tu(vint8m1x2_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei8_tu(vint8m1x3_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8_tu(vint8m1x4_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei8_tu(vint8m1x5_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8_tu(vint8m1x6_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8_tu(vint8m1x7_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei8_tu(vint8m2x2_t vd, const int8_t *rs1,
                                   vuint8m2_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8_tu(vint8m2x3_t vd, const int8_t *rs1,
                                   vuint8m2_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8_tu(vint8m2x4_t vd, const int8_t *rs1,
                                   vuint8m2_t rs2, size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8_tu(vint8m4x2_t vd, const int8_t *rs1,
                                   vuint8m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei16_tu(vint8mf4x2_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei16_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
```

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vint8mf4x4_t __riscv_vloxseg4ei16_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei16_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei16_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16_tu(vint8mf2x3_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei16_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei16_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei16_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16_tu(vint8m1x2_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16_tu(vint8m1x3_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16_tu(vint8m1x4_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16_tu(vint8m1x5_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16_tu(vint8m1x6_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei16_tu(vint8m1x7_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16_tu(vint8m1x8_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16_tu(vint8m2x2_t vd, const int8_t *rs1,
                                    vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16_tu(vint8m2x3_t vd, const int8_t *rs1,
                                    vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16_tu(vint8m2x4_t vd, const int8_t *rs1,
                                    vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16_tu(vint8m4x2_t vd, const int8_t *rs1,
                                    vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei32_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32_tu(vint8mf4x2_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32_tu(vint8mf4x5_t vd, const int8_t *rs1,
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                                     vuint32m1_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei32_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei32_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei32_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32_tu(vint8mf2x3_t vd, const int8_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei32_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei32_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32_tu(vint8m1x2_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei32_tu(vint8m1x3_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32_tu(vint8m1x4_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei32_tu(vint8m1x5_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei32_tu(vint8m1x6_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32_tu(vint8m1x7_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei32_tu(vint8m1x8_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32_tu(vint8m2x2_t vd, const int8_t *rs1,
                                    vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32_tu(vint8m2x3_t vd, const int8_t *rs1,
                                    vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32_tu(vint8m2x4_t vd, const int8_t *rs1,
                                    vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei64_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64_tu(vint8mf4x2_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei64_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei64_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei64_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei64_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
```

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vint8mf4x8_t __riscv_vloxseg8ei64_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei64_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei64_tu(vint8mf2x3_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei64_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei64_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei64_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei64_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei64_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64_tu(vint8m1x2_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64_tu(vint8m1x3_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vloxseg4ei64_tu(vint8m1x4_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vloxseg5ei64_tu(vint8m1x5_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vloxseg6ei64_tu(vint8m1x6_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64_tu(vint8m1x7_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64_tu(vint8m1x8_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8_tu(vint16mf4x2_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8_tu(vint16mf4x3_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei8_tu(vint16mf4x4_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8_tu(vint16mf4x5_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8_tu(vint16mf4x6_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8_tu(vint16mf4x7_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8_tu(vint16mf4x8_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8_tu(vint16mf2x2_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8_tu(vint16mf2x3_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8_tu(vint16mf2x4_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8_tu(vint16mf2x5_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8_tu(vint16mf2x6_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8_tu(vint16mf2x7_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8_tu(vint16mf2x8_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8_tu(vint16m1x2_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8_tu(vint16m1x3_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8_tu(vint16m1x4_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8_tu(vint16m1x5_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8_tu(vint16m1x6_t vd, const int16_t *rs1,
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                                    vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8_tu(vint16m1x7_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8_tu(vint16m1x8_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8_tu(vint16m2x2_t vd, const int16_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei8_tu(vint16m2x3_t vd, const int16_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8_tu(vint16m2x4_t vd, const int16_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei8_tu(vint16m4x2_t vd, const int16_t *rs1,
                                    vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16_tu(vint16mf4x2_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16_tu(vint16mf4x3_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei16_tu(vint16mf4x4_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16_tu(vint16mf4x5_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16_tu(vint16mf4x6_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16_tu(vint16mf4x7_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16_tu(vint16mf4x8_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei16_tu(vint16mf2x2_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei16_tu(vint16mf2x3_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16_tu(vint16mf2x4_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16_tu(vint16mf2x5_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16_tu(vint16mf2x6_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16_tu(vint16mf2x7_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16_tu(vint16mf2x8_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16_tu(vint16m1x2_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16_tu(vint16m1x3_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16_tu(vint16m1x4_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16_tu(vint16m1x5_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16_tu(vint16m1x6_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16_tu(vint16m1x7_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16_tu(vint16m1x8_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16_tu(vint16m2x2_t vd, const int16_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16_tu(vint16m2x3_t vd, const int16_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16_tu(vint16m2x4_t vd, const int16_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16_tu(vint16m4x2_t vd, const int16_t *rs1,
                                     vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32_tu(vint16mf4x2_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei32_tu(vint16mf4x3_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
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vint16mf4x4_t __riscv_vloxseg4ei32_tu(vint16mf4x4_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32_tu(vint16mf4x5_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32_tu(vint16mf4x6_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32_tu(vint16mf4x7_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32_tu(vint16mf4x8_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32_tu(vint16mf2x2_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32_tu(vint16mf2x3_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32_tu(vint16mf2x4_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32_tu(vint16mf2x5_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32_tu(vint16mf2x6_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei32_tu(vint16mf2x7_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32_tu(vint16mf2x8_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32_tu(vint16m1x2_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32_tu(vint16m1x3_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32_tu(vint16m1x4_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32_tu(vint16m1x5_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32_tu(vint16m1x6_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei32_tu(vint16m1x7_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32_tu(vint16m1x8_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32_tu(vint16m2x2_t vd, const int16_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32_tu(vint16m2x3_t vd, const int16_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32_tu(vint16m2x4_t vd, const int16_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32_tu(vint16m4x2_t vd, const int16_t *rs1,
                                     vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64_tu(vint16mf4x2_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64_tu(vint16mf4x3_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64_tu(vint16mf4x4_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64_tu(vint16mf4x5_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64_tu(vint16mf4x6_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64_tu(vint16mf4x7_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64_tu(vint16mf4x8_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64_tu(vint16mf2x2_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64_tu(vint16mf2x3_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64_tu(vint16mf2x4_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64_tu(vint16mf2x5_t vd, const int16_t *rs1,
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                                      vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64_tu(vint16mf2x6_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64_tu(vint16mf2x7_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64_tu(vint16mf2x8_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vloxseg2ei64_tu(vint16m1x2_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64_tu(vint16m1x3_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vloxseg4ei64_tu(vint16m1x4_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64_tu(vint16m1x5_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64_tu(vint16m1x6_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64_tu(vint16m1x7_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64_tu(vint16m1x8_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64_tu(vint16m2x2_t vd, const int16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64_tu(vint16m2x3_t vd, const int16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64_tu(vint16m2x4_t vd, const int16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8_tu(vint32mf2x2_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei8_tu(vint32mf2x3_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8_tu(vint32mf2x4_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8_tu(vint32mf2x5_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei8_tu(vint32mf2x6_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8_tu(vint32mf2x7_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8_tu(vint32mf2x8_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8_tu(vint32m1x2_t vd, const int32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
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                                    vuint8mf4_t rs2, size_t vl);
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                                    vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8_tu(vint32m1x5_t vd, const int32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
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                                    vuint8mf4_t rs2, size_t vl);
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                                    vuint8mf4_t rs2, size_t vl);
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                                    vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8_tu(vint32m2x2_t vd, const int32_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8_tu(vint32m2x3_t vd, const int32_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
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                                    vuint8mf2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8_tu(vint32m4x2_t vd, const int32_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16_tu(vint32mf2x2_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei16_tu(vint32mf2x3_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
```

```
vint32mf2x4_t __riscv_vloxseg4ei16_tu(vint32mf2x4_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
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                                      vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16_tu(vint32mf2x6_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16_tu(vint32mf2x7_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16_tu(vint32mf2x8_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16_tu(vint32m1x2_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16_tu(vint32m1x3_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
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                                     vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16_tu(vint32m1x5_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16_tu(vint32m1x6_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vloxseg7ei16_tu(vint32m1x7_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16_tu(vint32m1x8_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16_tu(vint32m2x2_t vd, const int32_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16_tu(vint32m2x3_t vd, const int32_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16_tu(vint32m2x4_t vd, const int32_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16_tu(vint32m4x2_t vd, const int32_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32_tu(vint32mf2x2_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei32_tu(vint32mf2x3_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32_tu(vint32mf2x4_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32_tu(vint32mf2x5_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32_tu(vint32mf2x6_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32_tu(vint32mf2x7_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32_tu(vint32mf2x8_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32_tu(vint32m1x2_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei32_tu(vint32m1x3_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32_tu(vint32m1x4_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32_tu(vint32m1x5_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
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                                     vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32_tu(vint32m1x8_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32_tu(vint32m2x2_t vd, const int32_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32_tu(vint32m2x3_t vd, const int32_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32_tu(vint32m2x4_t vd, const int32_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32_tu(vint32m4x2_t vd, const int32_t *rs1,
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                                      vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei64_tu(vint32mf2x2_t vd, const int32_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64_tu(vint32mf2x3_t vd, const int32_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64_tu(vint32mf2x4_t vd, const int32_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei64_tu(vint32mf2x5_t vd, const int32_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64_tu(vint32mf2x6_t vd, const int32_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei64_tu(vint32mf2x7_t vd, const int32_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64_tu(vint32mf2x8_t vd, const int32_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64_tu(vint32m1x2_t vd, const int32_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64_tu(vint32m1x3_t vd, const int32_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
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                                     vuint64m2_t rs2, size_t vl);
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                                     vuint64m2_t rs2, size_t vl);
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                                     vuint64m2_t rs2, size_t vl);
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                                     vuint64m4_t rs2, size_t vl);
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                                     vuint64m4_t rs2, size_t vl);
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                                     vuint64m4_t rs2, size_t vl);
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                                     vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei8_tu(vint64m1x2_t vd, const int64_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8_tu(vint64m1x3_t vd, const int64_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8_tu(vint64m1x4_t vd, const int64_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
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                                    vuint8mf8_t rs2, size_t vl);
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                                    vuint8mf8_t rs2, size_t vl);
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                                    vuint8mf4_t rs2, size_t vl);
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                                    vuint8mf4_t rs2, size_t vl);
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                                    vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16_tu(vint64m1x2_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16_tu(vint64m1x3_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16_tu(vint64m1x4_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei16_tu(vint64m1x5_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
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                                     vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16_tu(vint64m1x7_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16_tu(vint64m1x8_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
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                                     vuint16mf2_t rs2, size_t vl);
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                                     vuint16mf2_t rs2, size_t vl);
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                                     vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16_tu(vint64m4x2_t vd, const int64_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32_tu(vint64m1x2_t vd, const int64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32_tu(vint64m1x3_t vd, const int64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32_tu(vint64m1x4_t vd, const int64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
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                                     vuint32mf2_t rs2, size_t vl);
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                                     vuint32mf2_t rs2, size_t vl);
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                                     vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32_tu(vint64m1x8_t vd, const int64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32_tu(vint64m2x2_t vd, const int64_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32_tu(vint64m2x3_t vd, const int64_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
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vint64m4x2_t __riscv_vloxseg2ei32_tu(vint64m4x2_t vd, const int64_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64_tu(vint64m1x2_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64_tu(vint64m1x3_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64_tu(vint64m1x4_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64_tu(vint64m1x5_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64_tu(vint64m1x6_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64_tu(vint64m1x7_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64_tu(vint64m1x8_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64_tu(vint64m2x2_t vd, const int64_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vloxseg3ei64_tu(vint64m2x3_t vd, const int64_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64_tu(vint64m2x4_t vd, const int64_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64_tu(vint64m4x2_t vd, const int64_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8_tu(vint8mf8x6_t vd, const int8_t *rs1,
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                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8_tu(vint8mf4x2_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei8_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei8_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei8_tu(vint8mf2x3_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei8_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8_tu(vint8m1x2_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8_tu(vint8m1x3_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei8_tu(vint8m1x4_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8_tu(vint8m1x5_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8_tu(vint8m1x6_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8_tu(vint8m1x7_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8_tu(vint8m1x8_t vd, const int8_t *rs1,
                                   vuint8m1_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei8_tu(vint8m2x2_t vd, const int8_t *rs1,
                                   vuint8m2_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8_tu(vint8m2x3_t vd, const int8_t *rs1,
                                   vuint8m2_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8_tu(vint8m2x4_t vd, const int8_t *rs1,
                                   vuint8m2_t rs2, size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8_tu(vint8m4x2_t vd, const int8_t *rs1,
                                   vuint8m4_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei16_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
```

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vint8mf8x8_t __riscv_vluxseg8ei16_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16_tu(vint8mf4x2_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16_tu(vint8mf2x3_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16_tu(vint8m1x2_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16_tu(vint8m1x3_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei16_tu(vint8m1x4_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei16_tu(vint8m1x5_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16_tu(vint8m1x6_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16_tu(vint8m1x7_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16_tu(vint8m1x8_t vd, const int8_t *rs1,
                                    vuint16m2_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16_tu(vint8m2x2_t vd, const int8_t *rs1,
                                    vuint16m4_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16_tu(vint8m2x3_t vd, const int8_t *rs1,
                                    vuint16m4_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16_tu(vint8m2x4_t vd, const int8_t *rs1,
                                    vuint16m4_t rs2, size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16_tu(vint8m4x2_t vd, const int8_t *rs1,
                                    vuint16m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei32_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32_tu(vint8mf4x2_t vd, const int8_t *rs1,
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                                     vuint32m1_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei32_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei32_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei32_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei32_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei32_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
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                                     vuint32m2_t rs2, size_t vl);
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                                     vuint32m2_t rs2, size_t vl);
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                                     vuint32m2_t rs2, size_t vl);
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                                     vuint32m2_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
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                                     vuint32m2_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32_tu(vint8m1x2_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei32_tu(vint8m1x3_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32_tu(vint8m1x4_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32_tu(vint8m1x5_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32_tu(vint8m1x6_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei32_tu(vint8m1x7_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32_tu(vint8m1x8_t vd, const int8_t *rs1,
                                    vuint32m4_t rs2, size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32_tu(vint8m2x2_t vd, const int8_t *rs1,
                                    vuint32m8_t rs2, size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32_tu(vint8m2x3_t vd, const int8_t *rs1,
                                    vuint32m8_t rs2, size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32_tu(vint8m2x4_t vd, const int8_t *rs1,
                                    vuint32m8_t rs2, size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64_tu(vint8mf8x2_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64_tu(vint8mf8x3_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64_tu(vint8mf8x4_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64_tu(vint8mf8x5_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64_tu(vint8mf8x6_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64_tu(vint8mf8x7_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64_tu(vint8mf8x8_t vd, const int8_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64_tu(vint8mf4x2_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64_tu(vint8mf4x3_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei64_tu(vint8mf4x4_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
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vint8mf4x5_t __riscv_vluxseg5ei64_tu(vint8mf4x5_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64_tu(vint8mf4x6_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei64_tu(vint8mf4x7_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei64_tu(vint8mf4x8_t vd, const int8_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei64_tu(vint8mf2x2_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei64_tu(vint8mf2x3_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei64_tu(vint8mf2x4_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei64_tu(vint8mf2x5_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei64_tu(vint8mf2x6_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei64_tu(vint8mf2x7_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei64_tu(vint8mf2x8_t vd, const int8_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64_tu(vint8m1x2_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64_tu(vint8m1x3_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64_tu(vint8m1x4_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64_tu(vint8m1x5_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64_tu(vint8m1x6_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64_tu(vint8m1x7_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint8m1x8_t __riscv_vluxseg8ei64_tu(vint8m1x8_t vd, const int8_t *rs1,
                                    vuint64m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8_tu(vint16mf4x2_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8_tu(vint16mf4x3_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8_tu(vint16mf4x4_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8_tu(vint16mf4x5_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8_tu(vint16mf4x6_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei8_tu(vint16mf4x7_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei8_tu(vint16mf4x8_t vd, const int16_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8_tu(vint16mf2x2_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8_tu(vint16mf2x3_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8_tu(vint16mf2x4_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8_tu(vint16mf2x5_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8_tu(vint16mf2x6_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8_tu(vint16mf2x7_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8_tu(vint16mf2x8_t vd, const int16_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8_tu(vint16m1x2_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8_tu(vint16m1x3_t vd, const int16_t *rs1,
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                                    vuint8mf2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8_tu(vint16m1x4_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8_tu(vint16m1x5_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8_tu(vint16m1x6_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei8_tu(vint16m1x7_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8_tu(vint16m1x8_t vd, const int16_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei8_tu(vint16m2x2_t vd, const int16_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8_tu(vint16m2x3_t vd, const int16_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8_tu(vint16m2x4_t vd, const int16_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8_tu(vint16m4x2_t vd, const int16_t *rs1,
                                    vuint8m2_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16_tu(vint16mf4x2_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16_tu(vint16mf4x3_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16_tu(vint16mf4x4_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16_tu(vint16mf4x5_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16_tu(vint16mf4x6_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei16_tu(vint16mf4x7_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei16_tu(vint16mf4x8_t vd, const int16_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16_tu(vint16mf2x2_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16_tu(vint16mf2x3_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16_tu(vint16mf2x4_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16_tu(vint16mf2x5_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16_tu(vint16mf2x6_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16_tu(vint16mf2x7_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16_tu(vint16mf2x8_t vd, const int16_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16_tu(vint16m1x2_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16_tu(vint16m1x3_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16_tu(vint16m1x4_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16_tu(vint16m1x5_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16_tu(vint16m1x6_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16_tu(vint16m1x7_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16_tu(vint16m1x8_t vd, const int16_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16_tu(vint16m2x2_t vd, const int16_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16_tu(vint16m2x3_t vd, const int16_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei16_tu(vint16m2x4_t vd, const int16_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
```

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vint16m4x2_t __riscv_vluxseg2ei16_tu(vint16m4x2_t vd, const int16_t *rs1,
                                     vuint16m4_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32_tu(vint16mf4x2_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32_tu(vint16mf4x3_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32_tu(vint16mf4x4_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32_tu(vint16mf4x5_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32_tu(vint16mf4x6_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32_tu(vint16mf4x7_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32_tu(vint16mf4x8_t vd, const int16_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei32_tu(vint16mf2x2_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32_tu(vint16mf2x3_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32_tu(vint16mf2x4_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32_tu(vint16mf2x5_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32_tu(vint16mf2x6_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei32_tu(vint16mf2x7_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32_tu(vint16mf2x8_t vd, const int16_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32_tu(vint16m1x2_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32_tu(vint16m1x3_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei32_tu(vint16m1x4_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32_tu(vint16m1x5_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32_tu(vint16m1x6_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32_tu(vint16m1x7_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32_tu(vint16m1x8_t vd, const int16_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32_tu(vint16m2x2_t vd, const int16_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei32_tu(vint16m2x3_t vd, const int16_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32_tu(vint16m2x4_t vd, const int16_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32_tu(vint16m4x2_t vd, const int16_t *rs1,
                                     vuint32m8_t rs2, size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64_tu(vint16mf4x2_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64_tu(vint16mf4x3_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64_tu(vint16mf4x4_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64_tu(vint16mf4x5_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64_tu(vint16mf4x6_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64_tu(vint16mf4x7_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64_tu(vint16mf4x8_t vd, const int16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64_tu(vint16mf2x2_t vd, const int16_t *rs1,
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                                      vuint64m2_t rs2, size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei64_tu(vint16mf2x3_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64_tu(vint16mf2x4_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64_tu(vint16mf2x5_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei64_tu(vint16mf2x6_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64_tu(vint16mf2x7_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei64_tu(vint16mf2x8_t vd, const int16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64_tu(vint16m1x2_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64_tu(vint16m1x3_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64_tu(vint16m1x4_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64_tu(vint16m1x5_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64_tu(vint16m1x6_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64_tu(vint16m1x7_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64_tu(vint16m1x8_t vd, const int16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64_tu(vint16m2x2_t vd, const int16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vint16m2x3_t __riscv_vluxseg3ei64_tu(vint16m2x3_t vd, const int16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64_tu(vint16m2x4_t vd, const int16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8_tu(vint32mf2x2_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8_tu(vint32mf2x3_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8_tu(vint32mf2x4_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8_tu(vint32mf2x5_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8_tu(vint32mf2x6_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8_tu(vint32mf2x7_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8_tu(vint32mf2x8_t vd, const int32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8_tu(vint32m1x2_t vd, const int32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8_tu(vint32m1x3_t vd, const int32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8_tu(vint32m1x4_t vd, const int32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8_tu(vint32m1x5_t vd, const int32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8_tu(vint32m1x6_t vd, const int32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8_tu(vint32m1x7_t vd, const int32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8_tu(vint32m1x8_t vd, const int32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8_tu(vint32m2x2_t vd, const int32_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8_tu(vint32m2x3_t vd, const int32_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei8_tu(vint32m2x4_t vd, const int32_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
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vint32m4x2_t __riscv_vluxseg2ei8_tu(vint32m4x2_t vd, const int32_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16_tu(vint32mf2x2_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16_tu(vint32mf2x3_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16_tu(vint32mf2x4_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei16_tu(vint32mf2x5_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16_tu(vint32mf2x6_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei16_tu(vint32mf2x7_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16_tu(vint32mf2x8_t vd, const int32_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16_tu(vint32m1x2_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16_tu(vint32m1x3_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16_tu(vint32m1x4_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16_tu(vint32m1x5_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16_tu(vint32m1x6_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16_tu(vint32m1x7_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16_tu(vint32m1x8_t vd, const int32_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16_tu(vint32m2x2_t vd, const int32_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16_tu(vint32m2x3_t vd, const int32_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei16_tu(vint32m2x4_t vd, const int32_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16_tu(vint32m4x2_t vd, const int32_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32_tu(vint32mf2x2_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32_tu(vint32mf2x3_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32_tu(vint32mf2x4_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32_tu(vint32mf2x5_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei32_tu(vint32mf2x6_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32_tu(vint32mf2x7_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32_tu(vint32mf2x8_t vd, const int32_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32_tu(vint32m1x2_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32_tu(vint32m1x3_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32_tu(vint32m1x4_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32_tu(vint32m1x5_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32_tu(vint32m1x6_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32_tu(vint32m1x7_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32_tu(vint32m1x8_t vd, const int32_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei32_tu(vint32m2x2_t vd, const int32_t *rs1,
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                                      vuint32m2_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32_tu(vint32m2x3_t vd, const int32_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32_tu(vint32m2x4_t vd, const int32_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32_tu(vint32m4x2_t vd, const int32_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei64_tu(vint32mf2x2_t vd, const int32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64_tu(vint32mf2x3_t vd, const int32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei64_tu(vint32mf2x4_t vd, const int32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64_tu(vint32mf2x5_t vd, const int32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64_tu(vint32mf2x6_t vd, const int32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64_tu(vint32mf2x7_t vd, const int32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei64_tu(vint32mf2x8_t vd, const int32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64_tu(vint32m1x2_t vd, const int32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64_tu(vint32m1x3_t vd, const int32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64_tu(vint32m1x4_t vd, const int32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64_tu(vint32m1x5_t vd, const int32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint32m1x6_t __riscv_vluxseg6ei64_tu(vint32m1x6_t vd, const int32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64_tu(vint32m1x7_t vd, const int32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64_tu(vint32m1x8_t vd, const int32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64_tu(vint32m2x2_t vd, const int32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64_tu(vint32m2x3_t vd, const int32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64_tu(vint32m2x4_t vd, const int32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vint32m4x2_t __riscv_vluxseg2ei64_tu(vint32m4x2_t vd, const int32_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8_tu(vint64m1x2_t vd, const int64_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8_tu(vint64m1x3_t vd, const int64_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8_tu(vint64m1x4_t vd, const int64_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8_tu(vint64m1x5_t vd, const int64_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8_tu(vint64m1x6_t vd, const int64_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8_tu(vint64m1x7_t vd, const int64_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8_tu(vint64m1x8_t vd, const int64_t *rs1,
                                    vuint8mf8_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8_tu(vint64m2x2_t vd, const int64_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8_tu(vint64m2x3_t vd, const int64_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8_tu(vint64m2x4_t vd, const int64_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei8_tu(vint64m4x2_t vd, const int64_t *rs1,
                                    vuint8mf2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei16_tu(vint64m1x2_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
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vint64m1x3_t __riscv_vluxseg3ei16_tu(vint64m1x3_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16_tu(vint64m1x4_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16_tu(vint64m1x5_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16_tu(vint64m1x6_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16_tu(vint64m1x7_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16_tu(vint64m1x8_t vd, const int64_t *rs1,
                                     vuint16mf4_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16_tu(vint64m2x2_t vd, const int64_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16_tu(vint64m2x3_t vd, const int64_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16_tu(vint64m2x4_t vd, const int64_t *rs1,
                                     vuint16mf2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16_tu(vint64m4x2_t vd, const int64_t *rs1,
                                     vuint16m1_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32_tu(vint64m1x2_t vd, const int64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32_tu(vint64m1x3_t vd, const int64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32_tu(vint64m1x4_t vd, const int64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32_tu(vint64m1x5_t vd, const int64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32_tu(vint64m1x6_t vd, const int64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32_tu(vint64m1x7_t vd, const int64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32_tu(vint64m1x8_t vd, const int64_t *rs1,
                                     vuint32mf2_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei32_tu(vint64m2x2_t vd, const int64_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32_tu(vint64m2x3_t vd, const int64_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32_tu(vint64m2x4_t vd, const int64_t *rs1,
                                     vuint32m1_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32_tu(vint64m4x2_t vd, const int64_t *rs1,
                                     vuint32m2_t rs2, size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64_tu(vint64m1x2_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64_tu(vint64m1x3_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x4_t __riscv_vluxseg4ei64_tu(vint64m1x4_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64_tu(vint64m1x5_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64_tu(vint64m1x6_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64_tu(vint64m1x7_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64_tu(vint64m1x8_t vd, const int64_t *rs1,
                                     vuint64m1_t rs2, size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64_tu(vint64m2x2_t vd, const int64_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64_tu(vint64m2x3_t vd, const int64_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64_tu(vint64m2x4_t vd, const int64_t *rs1,
                                     vuint64m2_t rs2, size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64_tu(vint64m4x2_t vd, const int64_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8_tu(vuint8mf8x2_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei8_tu(vuint8mf8x3_t vd, const uint8_t *rs1,
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                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8_tu(vuint8mf8x4_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8_tu(vuint8mf8x5_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8_tu(vuint8mf8x6_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei8_tu(vuint8mf8x7_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8_tu(vuint8mf8x8_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei8_tu(vuint8mf4x2_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8_tu(vuint8mf4x3_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8_tu(vuint8mf4x4_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8_tu(vuint8mf4x5_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8_tu(vuint8mf4x6_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8_tu(vuint8mf4x7_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8_tu(vuint8mf4x8_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8_tu(vuint8mf2x2_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8_tu(vuint8mf2x3_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei8_tu(vuint8mf2x4_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8_tu(vuint8mf2x5_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8_tu(vuint8mf2x6_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8_tu(vuint8mf2x7_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8_tu(vuint8mf2x8_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei8_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8_tu(vuint8m2x2_t vd, const uint8_t *rs1,
                                    vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                    vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                    vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8_tu(vuint8m4x2_t vd, const uint8_t *rs1,
                                    vuint8m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16_tu(vuint8mf8x2_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16_tu(vuint8mf8x3_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei16_tu(vuint8mf8x4_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
```

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vuint8mf8x5_t __riscv_vloxseg5ei16_tu(vuint8mf8x5_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16_tu(vuint8mf8x6_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16_tu(vuint8mf8x7_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16_tu(vuint8mf8x8_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16_tu(vuint8mf4x2_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei16_tu(vuint8mf4x3_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16_tu(vuint8mf4x4_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16_tu(vuint8mf4x5_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16_tu(vuint8mf4x6_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16_tu(vuint8mf4x7_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16_tu(vuint8mf4x8_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16_tu(vuint8mf2x2_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16_tu(vuint8mf2x3_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16_tu(vuint8mf2x4_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16_tu(vuint8mf2x5_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16_tu(vuint8mf2x6_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16_tu(vuint8mf2x7_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei16_tu(vuint8mf2x8_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei16_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16_tu(vuint8m2x2_t vd, const uint8_t *rs1,
                                     vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                     vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                     vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16_tu(vuint8m4x2_t vd, const uint8_t *rs1,
                                     vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32_tu(vuint8mf8x2_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32_tu(vuint8mf8x3_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32_tu(vuint8mf8x4_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32_tu(vuint8mf8x5_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32_tu(vuint8mf8x6_t vd, const uint8_t *rs1,
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                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei32_tu(vuint8mf8x7_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32_tu(vuint8mf8x8_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32_tu(vuint8mf4x2_t vd, const uint8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei32_tu(vuint8mf4x3_t vd, const uint8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32_tu(vuint8mf4x4_t vd, const uint8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei32_tu(vuint8mf4x5_t vd, const uint8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32_tu(vuint8mf4x6_t vd, const uint8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32_tu(vuint8mf4x7_t vd, const uint8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32_tu(vuint8mf4x8_t vd, const uint8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32_tu(vuint8mf2x2_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32_tu(vuint8mf2x3_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32_tu(vuint8mf2x4_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32_tu(vuint8mf2x5_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32_tu(vuint8mf2x6_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei32_tu(vuint8mf2x7_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32_tu(vuint8mf2x8_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei32_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei32_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32_tu(vuint8m2x2_t vd, const uint8_t *rs1,
                                     vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                     vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                     vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64_tu(vuint8mf8x2_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64_tu(vuint8mf8x3_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64_tu(vuint8mf8x4_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64_tu(vuint8mf8x5_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64_tu(vuint8mf8x6_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64_tu(vuint8mf8x7_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei64_tu(vuint8mf8x8_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
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vuint8mf4x2_t __riscv_vloxseg2ei64_tu(vuint8mf4x2_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64_tu(vuint8mf4x3_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64_tu(vuint8mf4x4_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei64_tu(vuint8mf4x5_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64_tu(vuint8mf4x6_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei64_tu(vuint8mf4x7_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64_tu(vuint8mf4x8_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64_tu(vuint8mf2x2_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64_tu(vuint8mf2x3_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64_tu(vuint8mf2x4_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64_tu(vuint8mf2x5_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64_tu(vuint8mf2x6_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64_tu(vuint8mf2x7_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64_tu(vuint8mf2x8_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei64_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8_tu(vuint16mf4x2_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8_tu(vuint16mf4x3_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei8_tu(vuint16mf4x4_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8_tu(vuint16mf4x5_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8_tu(vuint16mf4x6_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8_tu(vuint16mf4x7_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8_tu(vuint16mf4x8_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8_tu(vuint16mf2x2_t vd, const uint16_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8_tu(vuint16mf2x3_t vd, const uint16_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8_tu(vuint16mf2x4_t vd, const uint16_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8_tu(vuint16mf2x5_t vd, const uint16_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8_tu(vuint16mf2x6_t vd, const uint16_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8_tu(vuint16mf2x7_t vd, const uint16_t *rs1,
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                                      vuint8mf4_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8_tu(vuint16mf2x8_t vd, const uint16_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8_tu(vuint16m1x2_t vd, const uint16_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8_tu(vuint16m1x3_t vd, const uint16_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei8_tu(vuint16m1x4_t vd, const uint16_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8_tu(vuint16m1x5_t vd, const uint16_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei8_tu(vuint16m1x6_t vd, const uint16_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8_tu(vuint16m1x7_t vd, const uint16_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8_tu(vuint16m1x8_t vd, const uint16_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8_tu(vuint16m2x2_t vd, const uint16_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8_tu(vuint16m2x3_t vd, const uint16_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8_tu(vuint16m2x4_t vd, const uint16_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8_tu(vuint16m4x2_t vd, const uint16_t *rs1,
                                     vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16_tu(vuint16mf4x2_t vd, const uint16_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16_tu(vuint16mf4x3_t vd, const uint16_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei16_tu(vuint16mf4x4_t vd, const uint16_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16_tu(vuint16mf4x5_t vd, const uint16_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16_tu(vuint16mf4x6_t vd, const uint16_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16_tu(vuint16mf4x7_t vd, const uint16_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16_tu(vuint16mf4x8_t vd, const uint16_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16_tu(vuint16mf2x2_t vd, const uint16_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16_tu(vuint16mf2x3_t vd, const uint16_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16_tu(vuint16mf2x4_t vd, const uint16_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16_tu(vuint16mf2x5_t vd, const uint16_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16_tu(vuint16mf2x6_t vd, const uint16_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16_tu(vuint16mf2x7_t vd, const uint16_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16_tu(vuint16mf2x8_t vd, const uint16_t *rs1,
                                       vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16_tu(vuint16m1x2_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei16_tu(vuint16m1x3_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16_tu(vuint16m1x4_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16_tu(vuint16m1x5_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16_tu(vuint16m1x6_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16_tu(vuint16m1x7_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei16_tu(vuint16m1x8_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
```

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vuint16m2x2_t __riscv_vloxseg2ei16_tu(vuint16m2x2_t vd, const uint16_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16_tu(vuint16m2x3_t vd, const uint16_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16_tu(vuint16m2x4_t vd, const uint16_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei16_tu(vuint16m4x2_t vd, const uint16_t *rs1,
                                      vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32_tu(vuint16mf4x2_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei32_tu(vuint16mf4x3_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32_tu(vuint16mf4x4_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32_tu(vuint16mf4x5_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32_tu(vuint16mf4x6_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32_tu(vuint16mf4x7_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32_tu(vuint16mf4x8_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32_tu(vuint16mf2x2_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32_tu(vuint16mf2x3_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32_tu(vuint16mf2x4_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32_tu(vuint16mf2x5_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32_tu(vuint16mf2x6_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32_tu(vuint16mf2x7_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei32_tu(vuint16mf2x8_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32_tu(vuint16m1x2_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32_tu(vuint16m1x3_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei32_tu(vuint16m1x4_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32_tu(vuint16m1x5_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32_tu(vuint16m1x6_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei32_tu(vuint16m1x7_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32_tu(vuint16m1x8_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32_tu(vuint16m2x2_t vd, const uint16_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei32_tu(vuint16m2x3_t vd, const uint16_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32_tu(vuint16m2x4_t vd, const uint16_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32_tu(vuint16m4x2_t vd, const uint16_t *rs1,
                                      vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64_tu(vuint16mf4x2_t vd, const uint16_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64_tu(vuint16mf4x3_t vd, const uint16_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64_tu(vuint16mf4x4_t vd, const uint16_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64_tu(vuint16mf4x5_t vd, const uint16_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64_tu(vuint16mf4x6_t vd, const uint16_t *rs1,
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                                      vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64_tu(vuint16mf4x7_t vd, const uint16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64_tu(vuint16mf4x8_t vd, const uint16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64_tu(vuint16mf2x2_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei64_tu(vuint16mf2x3_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64_tu(vuint16mf2x4_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei64_tu(vuint16mf2x5_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64_tu(vuint16mf2x6_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64_tu(vuint16mf2x7_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64_tu(vuint16mf2x8_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64_tu(vuint16m1x2_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64_tu(vuint16m1x3_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64_tu(vuint16m1x4_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64_tu(vuint16m1x5_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64_tu(vuint16m1x6_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei64_tu(vuint16m1x7_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei64_tu(vuint16m1x8_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64_tu(vuint16m2x2_t vd, const uint16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64_tu(vuint16m2x3_t vd, const uint16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64_tu(vuint16m2x4_t vd, const uint16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8_tu(vuint32mf2x2_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8_tu(vuint32mf2x3_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8_tu(vuint32mf2x4_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8_tu(vuint32mf2x5_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8_tu(vuint32mf2x6_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8_tu(vuint32mf2x7_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8_tu(vuint32mf2x8_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8_tu(vuint32m1x2_t vd, const uint32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8_tu(vuint32m1x3_t vd, const uint32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8_tu(vuint32m1x4_t vd, const uint32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8_tu(vuint32m1x5_t vd, const uint32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8_tu(vuint32m1x6_t vd, const uint32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8_tu(vuint32m1x7_t vd, const uint32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei8_tu(vuint32m1x8_t vd, const uint32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
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vuint32m2x2_t __riscv_vloxseg2ei8_tu(vuint32m2x2_t vd, const uint32_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8_tu(vuint32m2x3_t vd, const uint32_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei8_tu(vuint32m2x4_t vd, const uint32_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8_tu(vuint32m4x2_t vd, const uint32_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16_tu(vuint32mf2x2_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei16_tu(vuint32mf2x3_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16_tu(vuint32mf2x4_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei16_tu(vuint32mf2x5_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16_tu(vuint32mf2x6_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16_tu(vuint32mf2x7_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16_tu(vuint32mf2x8_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16_tu(vuint32m1x2_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16_tu(vuint32m1x3_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16_tu(vuint32m1x4_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16_tu(vuint32m1x5_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16_tu(vuint32m1x6_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16_tu(vuint32m1x7_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei16_tu(vuint32m1x8_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16_tu(vuint32m2x2_t vd, const uint32_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16_tu(vuint32m2x3_t vd, const uint32_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16_tu(vuint32m2x4_t vd, const uint32_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16_tu(vuint32m4x2_t vd, const uint32_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei32_tu(vuint32mf2x2_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei32_tu(vuint32mf2x3_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei32_tu(vuint32mf2x4_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32_tu(vuint32mf2x5_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32_tu(vuint32mf2x6_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32_tu(vuint32mf2x7_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32_tu(vuint32mf2x8_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32_tu(vuint32m1x2_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32_tu(vuint32m1x3_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32_tu(vuint32m1x4_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei32_tu(vuint32m1x5_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32_tu(vuint32m1x6_t vd, const uint32_t *rs1,
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                                      vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32_tu(vuint32m1x7_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32_tu(vuint32m1x8_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32_tu(vuint32m2x2_t vd, const uint32_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei32_tu(vuint32m2x3_t vd, const uint32_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei32_tu(vuint32m2x4_t vd, const uint32_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei32_tu(vuint32m4x2_t vd, const uint32_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64_tu(vuint32mf2x2_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64_tu(vuint32mf2x3_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64_tu(vuint32mf2x4_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64_tu(vuint32mf2x5_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64_tu(vuint32mf2x6_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64_tu(vuint32mf2x7_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64_tu(vuint32mf2x8_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64_tu(vuint32m1x2_t vd, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei64_tu(vuint32m1x3_t vd, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64_tu(vuint32m1x4_t vd, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64_tu(vuint32m1x5_t vd, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64_tu(vuint32m1x6_t vd, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64_tu(vuint32m1x7_t vd, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64_tu(vuint32m1x8_t vd, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64_tu(vuint32m2x2_t vd, const uint32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei64_tu(vuint32m2x3_t vd, const uint32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64_tu(vuint32m2x4_t vd, const uint32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64_tu(vuint32m4x2_t vd, const uint32_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8_tu(vuint64m1x2_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8_tu(vuint64m1x3_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8_tu(vuint64m1x4_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8_tu(vuint64m1x5_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei8_tu(vuint64m1x6_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8_tu(vuint64m1x7_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8_tu(vuint64m1x8_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8_tu(vuint64m2x2_t vd, const uint64_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei8_tu(vuint64m2x3_t vd, const uint64_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
```

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vuint64m2x4_t __riscv_vloxseg4ei8_tu(vuint64m2x4_t vd, const uint64_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8_tu(vuint64m4x2_t vd, const uint64_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16_tu(vuint64m1x2_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16_tu(vuint64m1x3_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16_tu(vuint64m1x4_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei16_tu(vuint64m1x5_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16_tu(vuint64m1x6_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16_tu(vuint64m1x7_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16_tu(vuint64m1x8_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16_tu(vuint64m2x2_t vd, const uint64_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16_tu(vuint64m2x3_t vd, const uint64_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16_tu(vuint64m2x4_t vd, const uint64_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16_tu(vuint64m4x2_t vd, const uint64_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32_tu(vuint64m1x2_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei32_tu(vuint64m1x3_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32_tu(vuint64m1x4_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32_tu(vuint64m1x5_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei32_tu(vuint64m1x6_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32_tu(vuint64m1x7_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32_tu(vuint64m1x8_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei32_tu(vuint64m2x2_t vd, const uint64_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32_tu(vuint64m2x3_t vd, const uint64_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32_tu(vuint64m2x4_t vd, const uint64_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei32_tu(vuint64m4x2_t vd, const uint64_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64_tu(vuint64m1x2_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64_tu(vuint64m1x3_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64_tu(vuint64m1x4_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64_tu(vuint64m1x5_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64_tu(vuint64m1x6_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64_tu(vuint64m1x7_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64_tu(vuint64m1x8_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64_tu(vuint64m2x2_t vd, const uint64_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64_tu(vuint64m2x3_t vd, const uint64_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64_tu(vuint64m2x4_t vd, const uint64_t *rs1,
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                                      vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64_tu(vuint64m4x2_t vd, const uint64_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8_tu(vuint8mf8x2_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8_tu(vuint8mf8x3_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei8_tu(vuint8mf8x4_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8_tu(vuint8mf8x5_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei8_tu(vuint8mf8x6_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8_tu(vuint8mf8x7_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8_tu(vuint8mf8x8_t vd, const uint8_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8_tu(vuint8mf4x2_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8_tu(vuint8mf4x3_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8_tu(vuint8mf4x4_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8_tu(vuint8mf4x5_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8_tu(vuint8mf4x6_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8_tu(vuint8mf4x7_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei8_tu(vuint8mf4x8_t vd, const uint8_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8_tu(vuint8mf2x2_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8_tu(vuint8mf2x3_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8_tu(vuint8mf2x4_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8_tu(vuint8mf2x5_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8_tu(vuint8mf2x6_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8_tu(vuint8mf2x7_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8_tu(vuint8mf2x8_t vd, const uint8_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei8_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                    vuint8m1_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8_tu(vuint8m2x2_t vd, const uint8_t *rs1,
                                    vuint8m2_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                    vuint8m2_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                    vuint8m2_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei8_tu(vuint8m4x2_t vd, const uint8_t *rs1,
                                    vuint8m4_t rs2, size_t vl);
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vuint8mf8x2_t __riscv_vluxseg2ei16_tu(vuint8mf8x2_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16_tu(vuint8mf8x3_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16_tu(vuint8mf8x4_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16_tu(vuint8mf8x5_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16_tu(vuint8mf8x6_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16_tu(vuint8mf8x7_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16_tu(vuint8mf8x8_t vd, const uint8_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16_tu(vuint8mf4x2_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16_tu(vuint8mf4x3_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16_tu(vuint8mf4x4_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16_tu(vuint8mf4x5_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16_tu(vuint8mf4x6_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16_tu(vuint8mf4x7_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16_tu(vuint8mf4x8_t vd, const uint8_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16_tu(vuint8mf2x2_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16_tu(vuint8mf2x3_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16_tu(vuint8mf2x4_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei16_tu(vuint8mf2x5_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16_tu(vuint8mf2x6_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16_tu(vuint8mf2x7_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei16_tu(vuint8mf2x8_t vd, const uint8_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei16_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                     vuint16m2_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16_tu(vuint8m2x2_t vd, const uint8_t *rs1,
                                     vuint16m4_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                     vuint16m4_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                     vuint16m4_t rs2, size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16_tu(vuint8m4x2_t vd, const uint8_t *rs1,
                                     vuint16m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32_tu(vuint8mf8x2_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32_tu(vuint8mf8x3_t vd, const uint8_t *rs1,
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                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32_tu(vuint8mf8x4_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32_tu(vuint8mf8x5_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32_tu(vuint8mf8x6_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei32_tu(vuint8mf8x7_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32_tu(vuint8mf8x8_t vd, const uint8_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei32_tu(vuint8mf4x2_t vd, const uint8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32_tu(vuint8mf4x3_t vd, const uint8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32_tu(vuint8mf4x4_t vd, const uint8_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
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                                      vuint32m1_t rs2, size_t vl);
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                                      vuint32m1_t rs2, size_t vl);
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                                      vuint32m1_t rs2, size_t vl);
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                                      vuint32m1_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32_tu(vuint8mf2x2_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32_tu(vuint8mf2x3_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei32_tu(vuint8mf2x4_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32_tu(vuint8mf2x5_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32_tu(vuint8mf2x6_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
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                                      vuint32m2_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei32_tu(vuint8mf2x8_t vd, const uint8_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32_tu(vuint8m1x5_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                     vuint32m4_t rs2, size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32_tu(vuint8m2x2_t vd, const uint8_t *rs1,
                                     vuint32m8_t rs2, size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32_tu(vuint8m2x3_t vd, const uint8_t *rs1,
                                     vuint32m8_t rs2, size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei32_tu(vuint8m2x4_t vd, const uint8_t *rs1,
                                     vuint32m8_t rs2, size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64_tu(vuint8mf8x2_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64_tu(vuint8mf8x3_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64_tu(vuint8mf8x4_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei64_tu(vuint8mf8x5_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
```

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vuint8mf8x6_t __riscv_vluxseg6ei64_tu(vuint8mf8x6_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64_tu(vuint8mf8x7_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64_tu(vuint8mf8x8_t vd, const uint8_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64_tu(vuint8mf4x2_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64_tu(vuint8mf4x3_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64_tu(vuint8mf4x4_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64_tu(vuint8mf4x5_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64_tu(vuint8mf4x6_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64_tu(vuint8mf4x7_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64_tu(vuint8mf4x8_t vd, const uint8_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64_tu(vuint8mf2x2_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64_tu(vuint8mf2x3_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64_tu(vuint8mf2x4_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64_tu(vuint8mf2x5_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64_tu(vuint8mf2x6_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64_tu(vuint8mf2x7_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64_tu(vuint8mf2x8_t vd, const uint8_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei64_tu(vuint8m1x2_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64_tu(vuint8m1x3_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64_tu(vuint8m1x4_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
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                                     vuint64m8_t rs2, size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64_tu(vuint8m1x6_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64_tu(vuint8m1x7_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei64_tu(vuint8m1x8_t vd, const uint8_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8_tu(vuint16mf4x2_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8_tu(vuint16mf4x3_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8_tu(vuint16mf4x4_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8_tu(vuint16mf4x5_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
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                                      vuint8mf8_t rs2, size_t vl);
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                                      vuint8mf8_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8_tu(vuint16mf4x8_t vd, const uint16_t *rs1,
                                      vuint8mf8_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8_tu(vuint16mf2x2_t vd, const uint16_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8_tu(vuint16mf2x3_t vd, const uint16_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8_tu(vuint16mf2x4_t vd, const uint16_t *rs1,
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                                      vuint8mf4_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8_tu(vuint16mf2x5_t vd, const uint16_t *rs1,
                                      vuint8mf4_t rs2, size_t vl);
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                                      vuint8mf4_t rs2, size_t vl);
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                                      vuint8mf4_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8_tu(vuint16m1x2_t vd, const uint16_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
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                                     vuint8mf2_t rs2, size_t vl);
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                                     vuint8mf2_t rs2, size_t vl);
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                                     vuint8mf2_t rs2, size_t vl);
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                                     vuint8mf2_t rs2, size_t vl);
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                                     vuint8mf2_t rs2, size_t vl);
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                                     vuint8m1_t rs2, size_t vl);
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                                     vuint8m1_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8_tu(vuint16m2x4_t vd, const uint16_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei8_tu(vuint16m4x2_t vd, const uint16_t *rs1,
                                     vuint8m2_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16_tu(vuint16mf4x2_t vd, const uint16_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16_tu(vuint16mf4x3_t vd, const uint16_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16_tu(vuint16mf4x4_t vd, const uint16_t *rs1,
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                                       vuint16mf4_t rs2, size_t vl);
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                                       vuint16mf2_t rs2, size_t vl);
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                                       vuint16mf2_t rs2, size_t vl);
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                                       vuint16mf2_t rs2, size_t vl);
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                                       vuint16mf2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16_tu(vuint16m1x2_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
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                                      vuint16m1_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16_tu(vuint16m1x4_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei16_tu(vuint16m1x5_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
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vuint16m1x6_t __riscv_vluxseg6ei16_tu(vuint16m1x6_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16_tu(vuint16m1x7_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16_tu(vuint16m1x8_t vd, const uint16_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16_tu(vuint16m2x2_t vd, const uint16_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16_tu(vuint16m2x3_t vd, const uint16_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
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                                      vuint16m2_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei16_tu(vuint16m4x2_t vd, const uint16_t *rs1,
                                      vuint16m4_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32_tu(vuint16mf4x2_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32_tu(vuint16mf4x3_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32_tu(vuint16mf4x4_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32_tu(vuint16mf4x5_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32_tu(vuint16mf4x6_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32_tu(vuint16mf4x7_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32_tu(vuint16mf4x8_t vd, const uint16_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32_tu(vuint16mf2x2_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32_tu(vuint16mf2x3_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32_tu(vuint16mf2x4_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei32_tu(vuint16mf2x5_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32_tu(vuint16mf2x6_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32_tu(vuint16mf2x7_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32_tu(vuint16mf2x8_t vd, const uint16_t *rs1,
                                       vuint32m1_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32_tu(vuint16m1x2_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32_tu(vuint16m1x3_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei32_tu(vuint16m1x4_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32_tu(vuint16m1x5_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32_tu(vuint16m1x6_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32_tu(vuint16m1x7_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32_tu(vuint16m1x8_t vd, const uint16_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32_tu(vuint16m2x2_t vd, const uint16_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32_tu(vuint16m2x3_t vd, const uint16_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32_tu(vuint16m2x4_t vd, const uint16_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32_tu(vuint16m4x2_t vd, const uint16_t *rs1,
                                      vuint32m8_t rs2, size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64_tu(vuint16mf4x2_t vd, const uint16_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64_tu(vuint16mf4x3_t vd, const uint16_t *rs1,
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                                      vuint64m1_t rs2, size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64_tu(vuint16mf4x4_t vd, const uint16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64_tu(vuint16mf4x5_t vd, const uint16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64_tu(vuint16mf4x6_t vd, const uint16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei64_tu(vuint16mf4x7_t vd, const uint16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64_tu(vuint16mf4x8_t vd, const uint16_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei64_tu(vuint16mf2x2_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64_tu(vuint16mf2x3_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64_tu(vuint16mf2x4_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64_tu(vuint16mf2x5_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64_tu(vuint16mf2x6_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei64_tu(vuint16mf2x7_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64_tu(vuint16mf2x8_t vd, const uint16_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei64_tu(vuint16m1x2_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64_tu(vuint16m1x3_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei64_tu(vuint16m1x4_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64_tu(vuint16m1x5_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64_tu(vuint16m1x6_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64_tu(vuint16m1x7_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64_tu(vuint16m1x8_t vd, const uint16_t *rs1,
                                     vuint64m4_t rs2, size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64_tu(vuint16m2x2_t vd, const uint16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64_tu(vuint16m2x3_t vd, const uint16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64_tu(vuint16m2x4_t vd, const uint16_t *rs1,
                                     vuint64m8_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8_tu(vuint32mf2x2_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8_tu(vuint32mf2x3_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8_tu(vuint32mf2x4_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8_tu(vuint32mf2x5_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8_tu(vuint32mf2x6_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8_tu(vuint32mf2x7_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8_tu(vuint32mf2x8_t vd, const uint32_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8_tu(vuint32m1x2_t vd, const uint32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8_tu(vuint32m1x3_t vd, const uint32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8_tu(vuint32m1x4_t vd, const uint32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei8_tu(vuint32m1x5_t vd, const uint32_t *rs1,
                                    vuint8mf4_t rs2, size_t vl);
```

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vuint32m1x6_t __riscv_vluxseg6ei8_tu(vuint32m1x6_t vd, const uint32_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8_tu(vuint32m1x7_t vd, const uint32_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8_tu(vuint32m1x8_t vd, const uint32_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8_tu(vuint32m2x2_t vd, const uint32_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8_tu(vuint32m2x3_t vd, const uint32_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8_tu(vuint32m2x4_t vd, const uint32_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8_tu(vuint32m4x2_t vd, const uint32_t *rs1,
                                     vuint8m1_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16_tu(vuint32mf2x2_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16_tu(vuint32mf2x3_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16_tu(vuint32mf2x4_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16_tu(vuint32mf2x5_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16_tu(vuint32mf2x6_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16_tu(vuint32mf2x7_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16_tu(vuint32mf2x8_t vd, const uint32_t *rs1,
                                       vuint16mf4_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16_tu(vuint32m1x2_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16_tu(vuint32m1x3_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16_tu(vuint32m1x4_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei16_tu(vuint32m1x5_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16_tu(vuint32m1x6_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei16_tu(vuint32m1x7_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16_tu(vuint32m1x8_t vd, const uint32_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16_tu(vuint32m2x2_t vd, const uint32_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16_tu(vuint32m2x3_t vd, const uint32_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei16_tu(vuint32m2x4_t vd, const uint32_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei16_tu(vuint32m4x2_t vd, const uint32_t *rs1,
                                      vuint16m2_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32_tu(vuint32mf2x2_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32_tu(vuint32mf2x3_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32_tu(vuint32mf2x4_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32_tu(vuint32mf2x5_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32_tu(vuint32mf2x6_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32_tu(vuint32mf2x7_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32_tu(vuint32mf2x8_t vd, const uint32_t *rs1,
                                       vuint32mf2_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32_tu(vuint32m1x2_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32_tu(vuint32m1x3_t vd, const uint32_t *rs1,
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                                      vuint32m1_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32_tu(vuint32m1x4_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32_tu(vuint32m1x5_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32_tu(vuint32m1x6_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei32_tu(vuint32m1x7_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32_tu(vuint32m1x8_t vd, const uint32_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei32_tu(vuint32m2x2_t vd, const uint32_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32_tu(vuint32m2x3_t vd, const uint32_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32_tu(vuint32m2x4_t vd, const uint32_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32_tu(vuint32m4x2_t vd, const uint32_t *rs1,
                                      vuint32m4_t rs2, size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64_tu(vuint32mf2x2_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei64_tu(vuint32mf2x3_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64_tu(vuint32mf2x4_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64_tu(vuint32mf2x5_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64_tu(vuint32mf2x6_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei64_tu(vuint32mf2x7_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64_tu(vuint32mf2x8_t vd, const uint32_t *rs1,
                                       vuint64m1_t rs2, size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64_tu(vuint32m1x2_t vd, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64_tu(vuint32m1x3_t vd, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64_tu(vuint32m1x4_t vd, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
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                                      vuint64m2_t rs2, size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64_tu(vuint32m1x6_t vd, const uint32_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
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                                      vuint64m2_t rs2, size_t vl);
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                                      vuint64m2_t rs2, size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64_tu(vuint32m2x2_t vd, const uint32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64_tu(vuint32m2x3_t vd, const uint32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei64_tu(vuint32m2x4_t vd, const uint32_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64_tu(vuint32m4x2_t vd, const uint32_t *rs1,
                                      vuint64m8_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8_tu(vuint64m1x2_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8_tu(vuint64m1x3_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8_tu(vuint64m1x4_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8_tu(vuint64m1x5_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8_tu(vuint64m1x6_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei8_tu(vuint64m1x7_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
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vuint64m1x8_t __riscv_vluxseg8ei8_tu(vuint64m1x8_t vd, const uint64_t *rs1,
                                     vuint8mf8_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8_tu(vuint64m2x2_t vd, const uint64_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8_tu(vuint64m2x3_t vd, const uint64_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei8_tu(vuint64m2x4_t vd, const uint64_t *rs1,
                                     vuint8mf4_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8_tu(vuint64m4x2_t vd, const uint64_t *rs1,
                                     vuint8mf2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16_tu(vuint64m1x2_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16_tu(vuint64m1x3_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16_tu(vuint64m1x4_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16_tu(vuint64m1x5_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei16_tu(vuint64m1x6_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16_tu(vuint64m1x7_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16_tu(vuint64m1x8_t vd, const uint64_t *rs1,
                                      vuint16mf4_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16_tu(vuint64m2x2_t vd, const uint64_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16_tu(vuint64m2x3_t vd, const uint64_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16_tu(vuint64m2x4_t vd, const uint64_t *rs1,
                                      vuint16mf2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16_tu(vuint64m4x2_t vd, const uint64_t *rs1,
                                      vuint16m1_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32_tu(vuint64m1x2_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei32_tu(vuint64m1x3_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32_tu(vuint64m1x4_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32_tu(vuint64m1x5_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32_tu(vuint64m1x6_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32_tu(vuint64m1x7_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32_tu(vuint64m1x8_t vd, const uint64_t *rs1,
                                      vuint32mf2_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei32_tu(vuint64m2x2_t vd, const uint64_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32_tu(vuint64m2x3_t vd, const uint64_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32_tu(vuint64m2x4_t vd, const uint64_t *rs1,
                                      vuint32m1_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei32_tu(vuint64m4x2_t vd, const uint64_t *rs1,
                                      vuint32m2_t rs2, size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64_tu(vuint64m1x2_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64_tu(vuint64m1x3_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64_tu(vuint64m1x4_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64_tu(vuint64m1x5_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64_tu(vuint64m1x6_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64_tu(vuint64m1x7_t vd, const uint64_t *rs1,
                                      vuint64m1_t rs2, size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64_tu(vuint64m1x8_t vd, const uint64_t *rs1,
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                                      vuint64m1_t rs2, size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei64_tu(vuint64m2x2_t vd, const uint64_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64_tu(vuint64m2x3_t vd, const uint64_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64_tu(vuint64m2x4_t vd, const uint64_t *rs1,
                                      vuint64m2_t rs2, size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei64_tu(vuint64m4x2_t vd, const uint64_t *rs1,
                                      vuint64m4_t rs2, size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vloxseg2ei8_tum(vbool64_t vm, vfloat16mf4x2_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei8_tum(vbool64_t vm, vfloat16mf4x3_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei8_tum(vbool64_t vm, vfloat16mf4x4_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8_tum(vbool64_t vm, vfloat16mf4x5_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8_tum(vbool64_t vm, vfloat16mf4x6_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8_tum(vbool64_t vm, vfloat16mf4x7_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8_tum(vbool64_t vm, vfloat16mf4x8_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8_tum(vbool32_t vm, vfloat16mf2x2_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8_tum(vbool32_t vm, vfloat16mf2x3_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8_tum(vbool32_t vm, vfloat16mf2x4_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8_tum(vbool32_t vm, vfloat16mf2x5_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8_tum(vbool32_t vm, vfloat16mf2x6_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8_tum(vbool32_t vm, vfloat16mf2x7_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8_tum(vbool32_t vm, vfloat16mf2x8_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
```

```
vfloat16m1x7_t __riscv_vloxseg7ei8_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                       const _Float16 *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                       const _Float16 *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                       const _Float16 *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                       const _Float16 *rs1, vuint8m2_t rs2,
                                       size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16_tum(vbool64_t vm, vfloat16mf4x2_t vd,
                                         const _Float16 *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16_tum(vbool64_t vm, vfloat16mf4x3_t vd,
                                         const _Float16 *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16_tum(vbool64_t vm, vfloat16mf4x4_t vd,
                                         const _Float16 *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16_tum(vbool64_t vm, vfloat16mf4x5_t vd,
                                         const _Float16 *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16_tum(vbool64_t vm, vfloat16mf4x6_t vd,
                                         const _Float16 *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16_tum(vbool64_t vm, vfloat16mf4x7_t vd,
                                         const _Float16 *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16_tum(vbool64_t vm, vfloat16mf4x8_t vd,
                                         const _Float16 *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16_tum(vbool32_t vm, vfloat16mf2x2_t vd,
                                         const _Float16 *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16_tum(vbool32_t vm, vfloat16mf2x3_t vd,
                                         const _Float16 *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16_tum(vbool32_t vm, vfloat16mf2x4_t vd,
                                         const _Float16 *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16_tum(vbool32_t vm, vfloat16mf2x5_t vd,
                                         const _Float16 *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei16_tum(vbool32_t vm, vfloat16mf2x6_t vd,
                                         const _Float16 *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16_tum(vbool32_t vm, vfloat16mf2x7_t vd,
                                         const _Float16 *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16_tum(vbool32_t vm, vfloat16mf2x8_t vd,
                                         const _Float16 *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei16_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                        const _Float16 *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                        const _Float16 *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei16_tum(vbool16_t vm, vfloat16m1x4_t vd,
```

```
                                      const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                      const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                      const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                      const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                      const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                      const _Float16 *rs1, vuint16m2_t rs2,
                                      size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                      const _Float16 *rs1, vuint16m2_t rs2,
                                      size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                      const _Float16 *rs1, vuint16m2_t rs2,
                                      size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                      const _Float16 *rs1, vuint16m4_t rs2,
                                      size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei32_tum(vbool64_t vm, vfloat16mf4x2_t vd,
                                       const _Float16 *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32_tum(vbool64_t vm, vfloat16mf4x3_t vd,
                                       const _Float16 *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32_tum(vbool64_t vm, vfloat16mf4x4_t vd,
                                       const _Float16 *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32_tum(vbool64_t vm, vfloat16mf4x5_t vd,
                                       const _Float16 *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32_tum(vbool64_t vm, vfloat16mf4x6_t vd,
                                       const _Float16 *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32_tum(vbool64_t vm, vfloat16mf4x7_t vd,
                                       const _Float16 *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32_tum(vbool64_t vm, vfloat16mf4x8_t vd,
                                       const _Float16 *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32_tum(vbool32_t vm, vfloat16mf2x2_t vd,
                                       const _Float16 *rs1, vuint32m1_t rs2,
                                       size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32_tum(vbool32_t vm, vfloat16mf2x3_t vd,
                                       const _Float16 *rs1, vuint32m1_t rs2,
                                       size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32_tum(vbool32_t vm, vfloat16mf2x4_t vd,
                                       const _Float16 *rs1, vuint32m1_t rs2,
                                       size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32_tum(vbool32_t vm, vfloat16mf2x5_t vd,
                                       const _Float16 *rs1, vuint32m1_t rs2,
                                       size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32_tum(vbool32_t vm, vfloat16mf2x6_t vd,
                                       const _Float16 *rs1, vuint32m1_t rs2,
                                       size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32_tum(vbool32_t vm, vfloat16mf2x7_t vd,
                                       const _Float16 *rs1, vuint32m1_t rs2,
                                       size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32_tum(vbool32_t vm, vfloat16mf2x8_t vd,
                                       const _Float16 *rs1, vuint32m1_t rs2,
```

```
                                        size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei32_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei32_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei32_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                       const _Float16 *rs1, vuint32m4_t rs2,
                                       size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                       const _Float16 *rs1, vuint32m4_t rs2,
                                       size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                       const _Float16 *rs1, vuint32m4_t rs2,
                                       size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                       const _Float16 *rs1, vuint32m8_t rs2,
                                       size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64_tum(vbool64_t vm, vfloat16mf4x2_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei64_tum(vbool64_t vm, vfloat16mf4x3_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64_tum(vbool64_t vm, vfloat16mf4x4_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64_tum(vbool64_t vm, vfloat16mf4x5_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64_tum(vbool64_t vm, vfloat16mf4x6_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64_tum(vbool64_t vm, vfloat16mf4x7_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64_tum(vbool64_t vm, vfloat16mf4x8_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64_tum(vbool32_t vm, vfloat16mf2x2_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64_tum(vbool32_t vm, vfloat16mf2x3_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64_tum(vbool32_t vm, vfloat16mf2x4_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64_tum(vbool32_t vm, vfloat16mf2x5_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
```

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vfloat16mf2x6_t __riscv_vloxseg6ei64_tum(vbool32_t vm, vfloat16mf2x6_t vd,
                                         const _Float16 *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64_tum(vbool32_t vm, vfloat16mf2x7_t vd,
                                         const _Float16 *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64_tum(vbool32_t vm, vfloat16mf2x8_t vd,
                                         const _Float16 *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei64_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                        const _Float16 *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                        const _Float16 *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                        const _Float16 *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8_tum(vbool64_t vm, vfloat32mf2x2_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8_tum(vbool64_t vm, vfloat32mf2x3_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8_tum(vbool64_t vm, vfloat32mf2x4_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8_tum(vbool64_t vm, vfloat32mf2x5_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei8_tum(vbool64_t vm, vfloat32mf2x6_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8_tum(vbool64_t vm, vfloat32mf2x7_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8_tum(vbool64_t vm, vfloat32mf2x8_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei8_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei8_tum(vbool32_t vm, vfloat32m1x4_t vd,
```

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                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                      const float *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                      const float *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                      const float *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                      const float *rs1, vuint8m1_t rs2,
                                      size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei16_tum(vbool64_t vm, vfloat32mf2x2_t vd,
                                       const float *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16_tum(vbool64_t vm, vfloat32mf2x3_t vd,
                                       const float *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16_tum(vbool64_t vm, vfloat32mf2x4_t vd,
                                       const float *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16_tum(vbool64_t vm, vfloat32mf2x5_t vd,
                                       const float *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16_tum(vbool64_t vm, vfloat32mf2x6_t vd,
                                       const float *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16_tum(vbool64_t vm, vfloat32mf2x7_t vd,
                                       const float *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16_tum(vbool64_t vm, vfloat32mf2x8_t vd,
                                       const float *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
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                                        size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                        const float *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                        const float *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei16_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                        const float *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                        const float *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei32_tum(vbool64_t vm, vfloat32mf2x2_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei32_tum(vbool64_t vm, vfloat32mf2x3_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei32_tum(vbool64_t vm, vfloat32mf2x4_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32_tum(vbool64_t vm, vfloat32mf2x5_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32_tum(vbool64_t vm, vfloat32mf2x6_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32_tum(vbool64_t vm, vfloat32mf2x7_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32_tum(vbool64_t vm, vfloat32mf2x8_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei32_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                        const float *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                        const float *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                        const float *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                        const float *rs1, vuint32m4_t rs2,
                                        size_t vl);
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vfloat32mf2x2_t __riscv_vloxseg2ei64_tum(vbool64_t vm, vfloat32mf2x2_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64_tum(vbool64_t vm, vfloat32mf2x3_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64_tum(vbool64_t vm, vfloat32mf2x4_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64_tum(vbool64_t vm, vfloat32mf2x5_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64_tum(vbool64_t vm, vfloat32mf2x6_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64_tum(vbool64_t vm, vfloat32mf2x7_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64_tum(vbool64_t vm, vfloat32mf2x8_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                        const float *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                        const float *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                        const float *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                        const float *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                       const double *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                       const double *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei8_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                       const double *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                       const double *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei8_tum(vbool64_t vm, vfloat64m1x6_t vd,
```

```
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei8_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                      const double *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                      const double *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                      const double *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                      const double *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei16_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei16_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                       const double *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                       const double *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                       const double *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                       const double *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
```

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                                        size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei32_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                        const double *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                        const double *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei32_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                        const double *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei32_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                        const double *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei64_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                        const double *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8_tum(vbool64_t vm, vfloat16mf4x2_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8_tum(vbool64_t vm, vfloat16mf4x3_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei8_tum(vbool64_t vm, vfloat16mf4x4_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8_tum(vbool64_t vm, vfloat16mf4x5_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8_tum(vbool64_t vm, vfloat16mf4x6_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
```

```
vfloat16mf4x7_t __riscv_vluxseg7ei8_tum(vbool64_t vm, vfloat16mf4x7_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8_tum(vbool64_t vm, vfloat16mf4x8_t vd,
                                        const _Float16 *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8_tum(vbool32_t vm, vfloat16mf2x2_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8_tum(vbool32_t vm, vfloat16mf2x3_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8_tum(vbool32_t vm, vfloat16mf2x4_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8_tum(vbool32_t vm, vfloat16mf2x5_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8_tum(vbool32_t vm, vfloat16mf2x6_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8_tum(vbool32_t vm, vfloat16mf2x7_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8_tum(vbool32_t vm, vfloat16mf2x8_t vd,
                                        const _Float16 *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                       const _Float16 *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                       const _Float16 *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                       const _Float16 *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                       const _Float16 *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                       const _Float16 *rs1, vuint8m2_t rs2,
                                       size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei16_tum(vbool64_t vm, vfloat16mf4x2_t vd,
                                         const _Float16 *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16_tum(vbool64_t vm, vfloat16mf4x3_t vd,
                                         const _Float16 *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei16_tum(vbool64_t vm, vfloat16mf4x4_t vd,
```

```
                                      const _Float16 *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16_tum(vbool64_t vm, vfloat16mf4x5_t vd,
                                      const _Float16 *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16_tum(vbool64_t vm, vfloat16mf4x6_t vd,
                                      const _Float16 *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16_tum(vbool64_t vm, vfloat16mf4x7_t vd,
                                      const _Float16 *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16_tum(vbool64_t vm, vfloat16mf4x8_t vd,
                                      const _Float16 *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16_tum(vbool32_t vm, vfloat16mf2x2_t vd,
                                      const _Float16 *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei16_tum(vbool32_t vm, vfloat16mf2x3_t vd,
                                      const _Float16 *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16_tum(vbool32_t vm, vfloat16mf2x4_t vd,
                                      const _Float16 *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16_tum(vbool32_t vm, vfloat16mf2x5_t vd,
                                      const _Float16 *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei16_tum(vbool32_t vm, vfloat16mf2x6_t vd,
                                      const _Float16 *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16_tum(vbool32_t vm, vfloat16mf2x7_t vd,
                                      const _Float16 *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16_tum(vbool32_t vm, vfloat16mf2x8_t vd,
                                      const _Float16 *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                     const _Float16 *rs1, vuint16m1_t rs2,
                                     size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                     const _Float16 *rs1, vuint16m1_t rs2,
                                     size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                     const _Float16 *rs1, vuint16m1_t rs2,
                                     size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                     const _Float16 *rs1, vuint16m1_t rs2,
                                     size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei16_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                     const _Float16 *rs1, vuint16m1_t rs2,
                                     size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                     const _Float16 *rs1, vuint16m1_t rs2,
                                     size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                     const _Float16 *rs1, vuint16m1_t rs2,
                                     size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                     const _Float16 *rs1, vuint16m2_t rs2,
                                     size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                     const _Float16 *rs1, vuint16m2_t rs2,
                                     size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                     const _Float16 *rs1, vuint16m2_t rs2,
                                     size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                     const _Float16 *rs1, vuint16m4_t rs2,
```

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                                        size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32_tum(vbool64_t vm, vfloat16mf4x2_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32_tum(vbool64_t vm, vfloat16mf4x3_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei32_tum(vbool64_t vm, vfloat16mf4x4_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32_tum(vbool64_t vm, vfloat16mf4x5_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei32_tum(vbool64_t vm, vfloat16mf4x6_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei32_tum(vbool64_t vm, vfloat16mf4x7_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei32_tum(vbool64_t vm, vfloat16mf4x8_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32_tum(vbool32_t vm, vfloat16mf2x2_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32_tum(vbool32_t vm, vfloat16mf2x3_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32_tum(vbool32_t vm, vfloat16mf2x4_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32_tum(vbool32_t vm, vfloat16mf2x5_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32_tum(vbool32_t vm, vfloat16mf2x6_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32_tum(vbool32_t vm, vfloat16mf2x7_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32_tum(vbool32_t vm, vfloat16mf2x8_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32_tum(vbool16_t vm, vfloat16m1x7_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                        const _Float16 *rs1, vuint32m4_t rs2,
                                        size_t vl);
```

```
vfloat16m2x3_t __riscv_vluxseg3ei32_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                        const _Float16 *rs1, vuint32m4_t rs2,
                                        size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                       const _Float16 *rs1, vuint32m4_t rs2,
                                       size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32_tum(vbool4_t vm, vfloat16m4x2_t vd,
                                       const _Float16 *rs1, vuint32m8_t rs2,
                                       size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64_tum(vbool64_t vm, vfloat16mf4x2_t vd,
                                         const _Float16 *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64_tum(vbool64_t vm, vfloat16mf4x3_t vd,
                                         const _Float16 *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64_tum(vbool64_t vm, vfloat16mf4x4_t vd,
                                         const _Float16 *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64_tum(vbool64_t vm, vfloat16mf4x5_t vd,
                                         const _Float16 *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64_tum(vbool64_t vm, vfloat16mf4x6_t vd,
                                         const _Float16 *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei64_tum(vbool64_t vm, vfloat16mf4x7_t vd,
                                         const _Float16 *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64_tum(vbool64_t vm, vfloat16mf4x8_t vd,
                                         const _Float16 *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64_tum(vbool32_t vm, vfloat16mf2x2_t vd,
                                         const _Float16 *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64_tum(vbool32_t vm, vfloat16mf2x3_t vd,
                                         const _Float16 *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64_tum(vbool32_t vm, vfloat16mf2x4_t vd,
                                         const _Float16 *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64_tum(vbool32_t vm, vfloat16mf2x5_t vd,
                                         const _Float16 *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64_tum(vbool32_t vm, vfloat16mf2x6_t vd,
                                         const _Float16 *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64_tum(vbool32_t vm, vfloat16mf2x7_t vd,
                                         const _Float16 *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64_tum(vbool32_t vm, vfloat16mf2x8_t vd,
                                         const _Float16 *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64_tum(vbool16_t vm, vfloat16m1x2_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64_tum(vbool16_t vm, vfloat16m1x3_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64_tum(vbool16_t vm, vfloat16m1x4_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei64_tum(vbool16_t vm, vfloat16m1x5_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64_tum(vbool16_t vm, vfloat16m1x6_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei64_tum(vbool16_t vm, vfloat16m1x7_t vd,
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                                      const _Float16 *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64_tum(vbool16_t vm, vfloat16m1x8_t vd,
                                      const _Float16 *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64_tum(vbool8_t vm, vfloat16m2x2_t vd,
                                      const _Float16 *rs1, vuint64m8_t rs2,
                                      size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64_tum(vbool8_t vm, vfloat16m2x3_t vd,
                                      const _Float16 *rs1, vuint64m8_t rs2,
                                      size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64_tum(vbool8_t vm, vfloat16m2x4_t vd,
                                      const _Float16 *rs1, vuint64m8_t rs2,
                                      size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8_tum(vbool64_t vm, vfloat32mf2x2_t vd,
                                      const float *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8_tum(vbool64_t vm, vfloat32mf2x3_t vd,
                                      const float *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8_tum(vbool64_t vm, vfloat32mf2x4_t vd,
                                      const float *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8_tum(vbool64_t vm, vfloat32mf2x5_t vd,
                                      const float *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei8_tum(vbool64_t vm, vfloat32mf2x6_t vd,
                                      const float *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8_tum(vbool64_t vm, vfloat32mf2x7_t vd,
                                      const float *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8_tum(vbool64_t vm, vfloat32mf2x8_t vd,
                                      const float *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                     const float *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                     const float *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                     const float *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                     const float *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                     const float *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                     const float *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                     const float *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                     const float *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                     const float *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                     const float *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                     const float *rs1, vuint8m1_t rs2,
```

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                                      size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16_tum(vbool64_t vm, vfloat32mf2x2_t vd,
                                         const float *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16_tum(vbool64_t vm, vfloat32mf2x3_t vd,
                                         const float *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei16_tum(vbool64_t vm, vfloat32mf2x4_t vd,
                                         const float *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16_tum(vbool64_t vm, vfloat32mf2x5_t vd,
                                         const float *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei16_tum(vbool64_t vm, vfloat32mf2x6_t vd,
                                         const float *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei16_tum(vbool64_t vm, vfloat32mf2x7_t vd,
                                         const float *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16_tum(vbool64_t vm, vfloat32mf2x8_t vd,
                                         const float *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                        const float *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                        const float *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                        const float *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                        const float *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                        const float *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                        const float *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                        const float *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                        const float *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                        const float *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                        const float *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                        const float *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32_tum(vbool64_t vm, vfloat32mf2x2_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32_tum(vbool64_t vm, vfloat32mf2x3_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32_tum(vbool64_t vm, vfloat32mf2x4_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32_tum(vbool64_t vm, vfloat32mf2x5_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
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vfloat32mf2x6_t __riscv_vluxseg6ei32_tum(vbool64_t vm, vfloat32mf2x6_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32_tum(vbool64_t vm, vfloat32mf2x7_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32_tum(vbool64_t vm, vfloat32mf2x8_t vd,
                                         const float *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei32_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32_tum(vbool32_t vm, vfloat32m1x3_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                        const float *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                        const float *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                        const float *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                        const float *rs1, vuint32m4_t rs2,
                                        size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64_tum(vbool64_t vm, vfloat32mf2x2_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64_tum(vbool64_t vm, vfloat32mf2x3_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64_tum(vbool64_t vm, vfloat32mf2x4_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64_tum(vbool64_t vm, vfloat32mf2x5_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei64_tum(vbool64_t vm, vfloat32mf2x6_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64_tum(vbool64_t vm, vfloat32mf2x7_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei64_tum(vbool64_t vm, vfloat32mf2x8_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64_tum(vbool32_t vm, vfloat32m1x2_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei64_tum(vbool32_t vm, vfloat32m1x3_t vd,
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                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64_tum(vbool32_t vm, vfloat32m1x4_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64_tum(vbool32_t vm, vfloat32m1x5_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64_tum(vbool32_t vm, vfloat32m1x6_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64_tum(vbool32_t vm, vfloat32m1x7_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64_tum(vbool32_t vm, vfloat32m1x8_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64_tum(vbool16_t vm, vfloat32m2x2_t vd,
                                      const float *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64_tum(vbool16_t vm, vfloat32m2x3_t vd,
                                      const float *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei64_tum(vbool16_t vm, vfloat32m2x4_t vd,
                                      const float *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei64_tum(vbool8_t vm, vfloat32m4x2_t vd,
                                      const float *rs1, vuint64m8_t rs2,
                                      size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                     const double *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei8_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                     const double *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                     const double *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                     const double *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                     const double *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                     const double *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                     const double *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                     const double *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                     const double *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                     const double *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei8_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                     const double *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                      const double *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                      const double *rs1, vuint16mf4_t rs2,
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                                        size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                        const double *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                        const double *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei16_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                        const double *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                        const double *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei16_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                        const double *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei16_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                        const double *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                        const double *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                        const double *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                        const double *rs1, vuint16m1_t rs2,
                                        size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei32_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei32_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                        const double *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                        const double *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                        const double *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                        const double *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                        const double *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64_tum(vbool64_t vm, vfloat64m1x2_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64_tum(vbool64_t vm, vfloat64m1x3_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
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vfloat64m1x4_t __riscv_vluxseg4ei64_tum(vbool64_t vm, vfloat64m1x4_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64_tum(vbool64_t vm, vfloat64m1x5_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64_tum(vbool64_t vm, vfloat64m1x6_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64_tum(vbool64_t vm, vfloat64m1x7_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64_tum(vbool64_t vm, vfloat64m1x8_t vd,
                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64_tum(vbool32_t vm, vfloat64m2x2_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64_tum(vbool32_t vm, vfloat64m2x3_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64_tum(vbool32_t vm, vfloat64m2x4_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64_tum(vbool16_t vm, vfloat64m4x2_t vd,
                                        const double *rs1, vuint64m4_t rs2,
                                        size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8_tum(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8_tum(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8_tum(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8_tum(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8_tum(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8_tum(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8_tum(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8_tum(vbool32_t vm, vint8mf4x3_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8_tum(vbool32_t vm, vint8mf4x4_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8_tum(vbool32_t vm, vint8mf4x5_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei8_tum(vbool32_t vm, vint8mf4x6_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8_tum(vbool32_t vm, vint8mf4x7_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei8_tum(vbool32_t vm, vint8mf4x8_t vd,
```

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                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8_tum(vbool16_t vm, vint8mf2x2_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8_tum(vbool16_t vm, vint8mf2x3_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8_tum(vbool16_t vm, vint8mf2x4_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8_tum(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei8_tum(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8_tum(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8_tum(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vloxseg3ei8_tum(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8_tum(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vloxseg5ei8_tum(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8_tum(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8_tum(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8_tum(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m2x2_t __riscv_vloxseg2ei8_tum(vbool4_t vm, vint8m2x2_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8_tum(vbool4_t vm, vint8m2x3_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8_tum(vbool4_t vm, vint8m2x4_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8_tum(vbool2_t vm, vint8m4x2_t vd,
                                   const int8_t *rs1, vuint8m4_t rs2,
                                   size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16_tum(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16_tum(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16_tum(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16_tum(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
```

```
                                     size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16_tum(vbool64_t vm, vint8mf8x6_t vd,
                                      const int8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16_tum(vbool64_t vm, vint8mf8x7_t vd,
                                      const int8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16_tum(vbool64_t vm, vint8mf8x8_t vd,
                                      const int8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei16_tum(vbool32_t vm, vint8mf4x2_t vd,
                                      const int8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei16_tum(vbool32_t vm, vint8mf4x3_t vd,
                                      const int8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei16_tum(vbool32_t vm, vint8mf4x4_t vd,
                                      const int8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei16_tum(vbool32_t vm, vint8mf4x5_t vd,
                                      const int8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei16_tum(vbool32_t vm, vint8mf4x6_t vd,
                                      const int8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16_tum(vbool32_t vm, vint8mf4x7_t vd,
                                      const int8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16_tum(vbool32_t vm, vint8mf4x8_t vd,
                                      const int8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16_tum(vbool16_t vm, vint8mf2x2_t vd,
                                      const int8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16_tum(vbool16_t vm, vint8mf2x3_t vd,
                                      const int8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei16_tum(vbool16_t vm, vint8mf2x4_t vd,
                                      const int8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16_tum(vbool16_t vm, vint8mf2x5_t vd,
                                      const int8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei16_tum(vbool16_t vm, vint8mf2x6_t vd,
                                      const int8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16_tum(vbool16_t vm, vint8mf2x7_t vd,
                                      const int8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei16_tum(vbool16_t vm, vint8mf2x8_t vd,
                                      const int8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16_tum(vbool8_t vm, vint8m1x2_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16_tum(vbool8_t vm, vint8m1x3_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16_tum(vbool8_t vm, vint8m1x4_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16_tum(vbool8_t vm, vint8m1x5_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16_tum(vbool8_t vm, vint8m1x6_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
```

```
vint8m1x7_t __riscv_vloxseg7ei16_tum(vbool8_t vm, vint8m1x7_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16_tum(vbool8_t vm, vint8m1x8_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16_tum(vbool4_t vm, vint8m2x2_t vd,
                                     const int8_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16_tum(vbool4_t vm, vint8m2x3_t vd,
                                     const int8_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16_tum(vbool4_t vm, vint8m2x4_t vd,
                                     const int8_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16_tum(vbool2_t vm, vint8m4x2_t vd,
                                     const int8_t *rs1, vuint16m8_t rs2,
                                     size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei32_tum(vbool64_t vm, vint8mf8x2_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32_tum(vbool64_t vm, vint8mf8x3_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32_tum(vbool64_t vm, vint8mf8x4_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32_tum(vbool64_t vm, vint8mf8x5_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32_tum(vbool64_t vm, vint8mf8x6_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32_tum(vbool64_t vm, vint8mf8x7_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32_tum(vbool64_t vm, vint8mf8x8_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32_tum(vbool32_t vm, vint8mf4x2_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32_tum(vbool32_t vm, vint8mf4x3_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32_tum(vbool32_t vm, vint8mf4x4_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32_tum(vbool32_t vm, vint8mf4x5_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei32_tum(vbool32_t vm, vint8mf4x6_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei32_tum(vbool32_t vm, vint8mf4x7_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32_tum(vbool32_t vm, vint8mf4x8_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei32_tum(vbool16_t vm, vint8mf2x2_t vd,
                                      const int8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32_tum(vbool16_t vm, vint8mf2x3_t vd,
                                      const int8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei32_tum(vbool16_t vm, vint8mf2x4_t vd,
```

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                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32_tum(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32_tum(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32_tum(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei32_tum(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32_tum(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vloxseg3ei32_tum(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32_tum(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vloxseg5ei32_tum(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x6_t __riscv_vloxseg6ei32_tum(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32_tum(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x8_t __riscv_vloxseg8ei32_tum(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32_tum(vbool4_t vm, vint8m2x2_t vd,
                                   const int8_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32_tum(vbool4_t vm, vint8m2x3_t vd,
                                   const int8_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32_tum(vbool4_t vm, vint8m2x4_t vd,
                                   const int8_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei64_tum(vbool64_t vm, vint8mf8x2_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64_tum(vbool64_t vm, vint8mf8x3_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64_tum(vbool64_t vm, vint8mf8x4_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64_tum(vbool64_t vm, vint8mf8x5_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64_tum(vbool64_t vm, vint8mf8x6_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64_tum(vbool64_t vm, vint8mf8x7_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64_tum(vbool64_t vm, vint8mf8x8_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64_tum(vbool32_t vm, vint8mf4x2_t vd,
                                    const int8_t *rs1, vuint64m2_t rs2,
```

```
                                     size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64_tum(vbool32_t vm, vint8mf4x3_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei64_tum(vbool32_t vm, vint8mf4x4_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei64_tum(vbool32_t vm, vint8mf4x5_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei64_tum(vbool32_t vm, vint8mf4x6_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei64_tum(vbool32_t vm, vint8mf4x7_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei64_tum(vbool32_t vm, vint8mf4x8_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei64_tum(vbool16_t vm, vint8mf2x2_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei64_tum(vbool16_t vm, vint8mf2x3_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei64_tum(vbool16_t vm, vint8mf2x4_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei64_tum(vbool16_t vm, vint8mf2x5_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei64_tum(vbool16_t vm, vint8mf2x6_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei64_tum(vbool16_t vm, vint8mf2x7_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei64_tum(vbool16_t vm, vint8mf2x8_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64_tum(vbool8_t vm, vint8m1x2_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64_tum(vbool8_t vm, vint8m1x3_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint8m1x4_t __riscv_vloxseg4ei64_tum(vbool8_t vm, vint8m1x4_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint8m1x5_t __riscv_vloxseg5ei64_tum(vbool8_t vm, vint8m1x5_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint8m1x6_t __riscv_vloxseg6ei64_tum(vbool8_t vm, vint8m1x6_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64_tum(vbool8_t vm, vint8m1x7_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64_tum(vbool8_t vm, vint8m1x8_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8_tum(vbool64_t vm, vint16mf4x2_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8_tum(vbool64_t vm, vint16mf4x3_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
```

```
vint16mf4x4_t __riscv_vloxseg4ei8_tum(vbool64_t vm, vint16mf4x4_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8_tum(vbool64_t vm, vint16mf4x5_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8_tum(vbool64_t vm, vint16mf4x6_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8_tum(vbool64_t vm, vint16mf4x7_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8_tum(vbool64_t vm, vint16mf4x8_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8_tum(vbool32_t vm, vint16mf2x2_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8_tum(vbool32_t vm, vint16mf2x3_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8_tum(vbool32_t vm, vint16mf2x4_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8_tum(vbool32_t vm, vint16mf2x5_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8_tum(vbool32_t vm, vint16mf2x6_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8_tum(vbool32_t vm, vint16mf2x7_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8_tum(vbool32_t vm, vint16mf2x8_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8_tum(vbool16_t vm, vint16m1x2_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8_tum(vbool16_t vm, vint16m1x3_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8_tum(vbool16_t vm, vint16m1x4_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8_tum(vbool16_t vm, vint16m1x5_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8_tum(vbool16_t vm, vint16m1x6_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8_tum(vbool16_t vm, vint16m1x7_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8_tum(vbool16_t vm, vint16m1x8_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8_tum(vbool8_t vm, vint16m2x2_t vd,
                                     const int16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint16m2x3_t __riscv_vloxseg3ei8_tum(vbool8_t vm, vint16m2x3_t vd,
                                     const int16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8_tum(vbool8_t vm, vint16m2x4_t vd,
                                     const int16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint16m4x2_t __riscv_vloxseg2ei8_tum(vbool4_t vm, vint16m4x2_t vd,
```

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                                    const int16_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16_tum(vbool64_t vm, vint16mf4x2_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16_tum(vbool64_t vm, vint16mf4x3_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei16_tum(vbool64_t vm, vint16mf4x4_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16_tum(vbool64_t vm, vint16mf4x5_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16_tum(vbool64_t vm, vint16mf4x6_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16_tum(vbool64_t vm, vint16mf4x7_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16_tum(vbool64_t vm, vint16mf4x8_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei16_tum(vbool32_t vm, vint16mf2x2_t vd,
                                       const int16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei16_tum(vbool32_t vm, vint16mf2x3_t vd,
                                       const int16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16_tum(vbool32_t vm, vint16mf2x4_t vd,
                                       const int16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16_tum(vbool32_t vm, vint16mf2x5_t vd,
                                       const int16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16_tum(vbool32_t vm, vint16mf2x6_t vd,
                                       const int16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16_tum(vbool32_t vm, vint16mf2x7_t vd,
                                       const int16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16_tum(vbool32_t vm, vint16mf2x8_t vd,
                                       const int16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16_tum(vbool16_t vm, vint16m1x2_t vd,
                                      const int16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16_tum(vbool16_t vm, vint16m1x3_t vd,
                                      const int16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16_tum(vbool16_t vm, vint16m1x4_t vd,
                                      const int16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16_tum(vbool16_t vm, vint16m1x5_t vd,
                                      const int16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16_tum(vbool16_t vm, vint16m1x6_t vd,
                                      const int16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16_tum(vbool16_t vm, vint16m1x7_t vd,
                                      const int16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16_tum(vbool16_t vm, vint16m1x8_t vd,
                                      const int16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16_tum(vbool8_t vm, vint16m2x2_t vd,
                                      const int16_t *rs1, vuint16m2_t rs2,
```

```
                                    size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16_tum(vbool8_t vm, vint16m2x3_t vd,
                                    const int16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16_tum(vbool8_t vm, vint16m2x4_t vd,
                                    const int16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16_tum(vbool4_t vm, vint16m4x2_t vd,
                                    const int16_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32_tum(vbool64_t vm, vint16mf4x2_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei32_tum(vbool64_t vm, vint16mf4x3_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei32_tum(vbool64_t vm, vint16mf4x4_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32_tum(vbool64_t vm, vint16mf4x5_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32_tum(vbool64_t vm, vint16mf4x6_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32_tum(vbool64_t vm, vint16mf4x7_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32_tum(vbool64_t vm, vint16mf4x8_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32_tum(vbool32_t vm, vint16mf2x2_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32_tum(vbool32_t vm, vint16mf2x3_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32_tum(vbool32_t vm, vint16mf2x4_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32_tum(vbool32_t vm, vint16mf2x5_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32_tum(vbool32_t vm, vint16mf2x6_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei32_tum(vbool32_t vm, vint16mf2x7_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32_tum(vbool32_t vm, vint16mf2x8_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32_tum(vbool16_t vm, vint16m1x2_t vd,
                                    const int16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32_tum(vbool16_t vm, vint16m1x3_t vd,
                                    const int16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32_tum(vbool16_t vm, vint16m1x4_t vd,
                                    const int16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32_tum(vbool16_t vm, vint16m1x5_t vd,
                                    const int16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32_tum(vbool16_t vm, vint16m1x6_t vd,
                                    const int16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
```

```
vint16m1x7_t __riscv_vloxseg7ei32_tum(vbool16_t vm, vint16m1x7_t vd,
                                      const int16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32_tum(vbool16_t vm, vint16m1x8_t vd,
                                      const int16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32_tum(vbool8_t vm, vint16m2x2_t vd,
                                      const int16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32_tum(vbool8_t vm, vint16m2x3_t vd,
                                      const int16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32_tum(vbool8_t vm, vint16m2x4_t vd,
                                      const int16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32_tum(vbool4_t vm, vint16m4x2_t vd,
                                      const int16_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64_tum(vbool64_t vm, vint16mf4x2_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64_tum(vbool64_t vm, vint16mf4x3_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64_tum(vbool64_t vm, vint16mf4x4_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64_tum(vbool64_t vm, vint16mf4x5_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64_tum(vbool64_t vm, vint16mf4x6_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64_tum(vbool64_t vm, vint16mf4x7_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64_tum(vbool64_t vm, vint16mf4x8_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64_tum(vbool32_t vm, vint16mf2x2_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64_tum(vbool32_t vm, vint16mf2x3_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64_tum(vbool32_t vm, vint16mf2x4_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64_tum(vbool32_t vm, vint16mf2x5_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64_tum(vbool32_t vm, vint16mf2x6_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64_tum(vbool32_t vm, vint16mf2x7_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64_tum(vbool32_t vm, vint16mf2x8_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16m1x2_t __riscv_vloxseg2ei64_tum(vbool16_t vm, vint16m1x2_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64_tum(vbool16_t vm, vint16m1x3_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x4_t __riscv_vloxseg4ei64_tum(vbool16_t vm, vint16m1x4_t vd,
```

```
                                    const int16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64_tum(vbool16_t vm, vint16m1x5_t vd,
                                    const int16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64_tum(vbool16_t vm, vint16m1x6_t vd,
                                    const int16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64_tum(vbool16_t vm, vint16m1x7_t vd,
                                    const int16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64_tum(vbool16_t vm, vint16m1x8_t vd,
                                    const int16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64_tum(vbool8_t vm, vint16m2x2_t vd,
                                    const int16_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64_tum(vbool8_t vm, vint16m2x3_t vd,
                                    const int16_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64_tum(vbool8_t vm, vint16m2x4_t vd,
                                    const int16_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8_tum(vbool64_t vm, vint32mf2x2_t vd,
                                    const int32_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei8_tum(vbool64_t vm, vint32mf2x3_t vd,
                                    const int32_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8_tum(vbool64_t vm, vint32mf2x4_t vd,
                                    const int32_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8_tum(vbool64_t vm, vint32mf2x5_t vd,
                                    const int32_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei8_tum(vbool64_t vm, vint32mf2x6_t vd,
                                    const int32_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8_tum(vbool64_t vm, vint32mf2x7_t vd,
                                    const int32_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8_tum(vbool64_t vm, vint32mf2x8_t vd,
                                    const int32_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8_tum(vbool32_t vm, vint32m1x2_t vd,
                                   const int32_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint32m1x3_t __riscv_vloxseg3ei8_tum(vbool32_t vm, vint32m1x3_t vd,
                                   const int32_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint32m1x4_t __riscv_vloxseg4ei8_tum(vbool32_t vm, vint32m1x4_t vd,
                                   const int32_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8_tum(vbool32_t vm, vint32m1x5_t vd,
                                   const int32_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint32m1x6_t __riscv_vloxseg6ei8_tum(vbool32_t vm, vint32m1x6_t vd,
                                   const int32_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint32m1x7_t __riscv_vloxseg7ei8_tum(vbool32_t vm, vint32m1x7_t vd,
                                   const int32_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint32m1x8_t __riscv_vloxseg8ei8_tum(vbool32_t vm, vint32m1x8_t vd,
                                   const int32_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8_tum(vbool16_t vm, vint32m2x2_t vd,
                                   const int32_t *rs1, vuint8mf2_t rs2,
```

```
                                    size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8_tum(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint32m2x4_t __riscv_vloxseg4ei8_tum(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8_tum(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16_tum(vbool64_t vm, vint32mf2x2_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei16_tum(vbool64_t vm, vint32mf2x3_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei16_tum(vbool64_t vm, vint32mf2x4_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei16_tum(vbool64_t vm, vint32mf2x5_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16_tum(vbool64_t vm, vint32mf2x6_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16_tum(vbool64_t vm, vint32mf2x7_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16_tum(vbool64_t vm, vint32mf2x8_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16_tum(vbool32_t vm, vint32m1x2_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16_tum(vbool32_t vm, vint32m1x3_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x4_t __riscv_vloxseg4ei16_tum(vbool32_t vm, vint32m1x4_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16_tum(vbool32_t vm, vint32m1x5_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16_tum(vbool32_t vm, vint32m1x6_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x7_t __riscv_vloxseg7ei16_tum(vbool32_t vm, vint32m1x7_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16_tum(vbool32_t vm, vint32m1x8_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16_tum(vbool16_t vm, vint32m2x2_t vd,
                                     const int32_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16_tum(vbool16_t vm, vint32m2x3_t vd,
                                     const int32_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16_tum(vbool16_t vm, vint32m2x4_t vd,
                                     const int32_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16_tum(vbool8_t vm, vint32m4x2_t vd,
                                     const int32_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32_tum(vbool64_t vm, vint32mf2x2_t vd,
                                      const int32_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
```

```
vint32mf2x3_t __riscv_vloxseg3ei32_tum(vbool64_t vm, vint32mf2x3_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32_tum(vbool64_t vm, vint32mf2x4_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32_tum(vbool64_t vm, vint32mf2x5_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32_tum(vbool64_t vm, vint32mf2x6_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32_tum(vbool64_t vm, vint32mf2x7_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32_tum(vbool64_t vm, vint32mf2x8_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32_tum(vbool32_t vm, vint32m1x2_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x3_t __riscv_vloxseg3ei32_tum(vbool32_t vm, vint32m1x3_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32_tum(vbool32_t vm, vint32m1x4_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32_tum(vbool32_t vm, vint32m1x5_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x6_t __riscv_vloxseg6ei32_tum(vbool32_t vm, vint32m1x6_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x7_t __riscv_vloxseg7ei32_tum(vbool32_t vm, vint32m1x7_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32_tum(vbool32_t vm, vint32m1x8_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32_tum(vbool16_t vm, vint32m2x2_t vd,
                                      const int32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32_tum(vbool16_t vm, vint32m2x3_t vd,
                                      const int32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32_tum(vbool16_t vm, vint32m2x4_t vd,
                                      const int32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32_tum(vbool8_t vm, vint32m4x2_t vd,
                                      const int32_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei64_tum(vbool64_t vm, vint32mf2x2_t vd,
                                       const int32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64_tum(vbool64_t vm, vint32mf2x3_t vd,
                                       const int32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64_tum(vbool64_t vm, vint32mf2x4_t vd,
                                       const int32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei64_tum(vbool64_t vm, vint32mf2x5_t vd,
                                       const int32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64_tum(vbool64_t vm, vint32mf2x6_t vd,
                                       const int32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei64_tum(vbool64_t vm, vint32mf2x7_t vd,
```

```
                                     const int32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64_tum(vbool64_t vm, vint32mf2x8_t vd,
                                     const int32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64_tum(vbool32_t vm, vint32m1x2_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64_tum(vbool32_t vm, vint32m1x3_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x4_t __riscv_vloxseg4ei64_tum(vbool32_t vm, vint32m1x4_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x5_t __riscv_vloxseg5ei64_tum(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x6_t __riscv_vloxseg6ei64_tum(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x7_t __riscv_vloxseg7ei64_tum(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x8_t __riscv_vloxseg8ei64_tum(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m2x2_t __riscv_vloxseg2ei64_tum(vbool16_t vm, vint32m2x2_t vd,
                                    const int32_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint32m2x3_t __riscv_vloxseg3ei64_tum(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint32m2x4_t __riscv_vloxseg4ei64_tum(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint32m4x2_t __riscv_vloxseg2ei64_tum(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vloxseg2ei8_tum(vbool64_t vm, vint64m1x2_t vd,
                                   const int64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8_tum(vbool64_t vm, vint64m1x3_t vd,
                                   const int64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8_tum(vbool64_t vm, vint64m1x4_t vd,
                                   const int64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint64m1x5_t __riscv_vloxseg5ei8_tum(vbool64_t vm, vint64m1x5_t vd,
                                   const int64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint64m1x6_t __riscv_vloxseg6ei8_tum(vbool64_t vm, vint64m1x6_t vd,
                                   const int64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint64m1x7_t __riscv_vloxseg7ei8_tum(vbool64_t vm, vint64m1x7_t vd,
                                   const int64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint64m1x8_t __riscv_vloxseg8ei8_tum(vbool64_t vm, vint64m1x8_t vd,
                                   const int64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint64m2x2_t __riscv_vloxseg2ei8_tum(vbool32_t vm, vint64m2x2_t vd,
                                   const int64_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint64m2x3_t __riscv_vloxseg3ei8_tum(vbool32_t vm, vint64m2x3_t vd,
                                   const int64_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint64m2x4_t __riscv_vloxseg4ei8_tum(vbool32_t vm, vint64m2x4_t vd,
                                   const int64_t *rs1, vuint8mf4_t rs2,
```

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                                    size_t vl);
vint64m4x2_t __riscv_vloxseg2ei8_tum(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16_tum(vbool64_t vm, vint64m1x2_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16_tum(vbool64_t vm, vint64m1x3_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16_tum(vbool64_t vm, vint64m1x4_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x5_t __riscv_vloxseg5ei16_tum(vbool64_t vm, vint64m1x5_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x6_t __riscv_vloxseg6ei16_tum(vbool64_t vm, vint64m1x6_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16_tum(vbool64_t vm, vint64m1x7_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16_tum(vbool64_t vm, vint64m1x8_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m2x2_t __riscv_vloxseg2ei16_tum(vbool32_t vm, vint64m2x2_t vd,
                                     const int64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint64m2x3_t __riscv_vloxseg3ei16_tum(vbool32_t vm, vint64m2x3_t vd,
                                     const int64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint64m2x4_t __riscv_vloxseg4ei16_tum(vbool32_t vm, vint64m2x4_t vd,
                                     const int64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16_tum(vbool16_t vm, vint64m4x2_t vd,
                                     const int64_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32_tum(vbool64_t vm, vint64m1x2_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32_tum(vbool64_t vm, vint64m1x3_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32_tum(vbool64_t vm, vint64m1x4_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x5_t __riscv_vloxseg5ei32_tum(vbool64_t vm, vint64m1x5_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x6_t __riscv_vloxseg6ei32_tum(vbool64_t vm, vint64m1x6_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x7_t __riscv_vloxseg7ei32_tum(vbool64_t vm, vint64m1x7_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32_tum(vbool64_t vm, vint64m1x8_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32_tum(vbool32_t vm, vint64m2x2_t vd,
                                     const int64_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32_tum(vbool32_t vm, vint64m2x3_t vd,
                                     const int64_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint64m2x4_t __riscv_vloxseg4ei32_tum(vbool32_t vm, vint64m2x4_t vd,
                                     const int64_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
```

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vint64m4x2_t __riscv_vloxseg2ei32_tum(vbool16_t vm, vint64m4x2_t vd,
                                      const int64_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64_tum(vbool64_t vm, vint64m1x2_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64_tum(vbool64_t vm, vint64m1x3_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64_tum(vbool64_t vm, vint64m1x4_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64_tum(vbool64_t vm, vint64m1x5_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64_tum(vbool64_t vm, vint64m1x6_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64_tum(vbool64_t vm, vint64m1x7_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64_tum(vbool64_t vm, vint64m1x8_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64_tum(vbool32_t vm, vint64m2x2_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m2x3_t __riscv_vloxseg3ei64_tum(vbool32_t vm, vint64m2x3_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64_tum(vbool32_t vm, vint64m2x4_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64_tum(vbool16_t vm, vint64m4x2_t vd,
                                      const int64_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8_tum(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8_tum(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8_tum(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8_tum(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8_tum(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8_tum(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8_tum(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8_tum(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei8_tum(vbool32_t vm, vint8mf4x3_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8_tum(vbool32_t vm, vint8mf4x4_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei8_tum(vbool32_t vm, vint8mf4x5_t vd,
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                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8_tum(vbool32_t vm, vint8mf4x6_t vd,
                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8_tum(vbool32_t vm, vint8mf4x7_t vd,
                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8_tum(vbool32_t vm, vint8mf4x8_t vd,
                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8_tum(vbool16_t vm, vint8mf2x2_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei8_tum(vbool16_t vm, vint8mf2x3_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8_tum(vbool16_t vm, vint8mf2x4_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8_tum(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8_tum(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei8_tum(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8_tum(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8_tum(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8_tum(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vluxseg4ei8_tum(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8_tum(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8_tum(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8_tum(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8_tum(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m2x2_t __riscv_vluxseg2ei8_tum(vbool4_t vm, vint8m2x2_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8_tum(vbool4_t vm, vint8m2x3_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8_tum(vbool4_t vm, vint8m2x4_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8_tum(vbool2_t vm, vint8m4x2_t vd,
                                   const int8_t *rs1, vuint8m4_t rs2,
                                   size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16_tum(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
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                                    size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16_tum(vbool64_t vm, vint8mf8x3_t vd,
                                    const int8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16_tum(vbool64_t vm, vint8mf8x4_t vd,
                                    const int8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16_tum(vbool64_t vm, vint8mf8x5_t vd,
                                    const int8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16_tum(vbool64_t vm, vint8mf8x6_t vd,
                                    const int8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei16_tum(vbool64_t vm, vint8mf8x7_t vd,
                                    const int8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei16_tum(vbool64_t vm, vint8mf8x8_t vd,
                                    const int8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16_tum(vbool32_t vm, vint8mf4x2_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16_tum(vbool32_t vm, vint8mf4x3_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16_tum(vbool32_t vm, vint8mf4x4_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16_tum(vbool32_t vm, vint8mf4x5_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16_tum(vbool32_t vm, vint8mf4x6_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16_tum(vbool32_t vm, vint8mf4x7_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16_tum(vbool32_t vm, vint8mf4x8_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16_tum(vbool16_t vm, vint8mf2x2_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16_tum(vbool16_t vm, vint8mf2x3_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16_tum(vbool16_t vm, vint8mf2x4_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16_tum(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16_tum(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16_tum(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16_tum(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16_tum(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16_tum(vbool8_t vm, vint8m1x3_t vd,
                                    const int8_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
```

```
vint8m1x4_t __riscv_vluxseg4ei16_tum(vbool8_t vm, vint8m1x4_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m1x5_t __riscv_vluxseg5ei16_tum(vbool8_t vm, vint8m1x5_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16_tum(vbool8_t vm, vint8m1x6_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16_tum(vbool8_t vm, vint8m1x7_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16_tum(vbool8_t vm, vint8m1x8_t vd,
                                     const int8_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16_tum(vbool4_t vm, vint8m2x2_t vd,
                                     const int8_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16_tum(vbool4_t vm, vint8m2x3_t vd,
                                     const int8_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16_tum(vbool4_t vm, vint8m2x4_t vd,
                                     const int8_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16_tum(vbool2_t vm, vint8m4x2_t vd,
                                     const int8_t *rs1, vuint16m8_t rs2,
                                     size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei32_tum(vbool64_t vm, vint8mf8x2_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32_tum(vbool64_t vm, vint8mf8x3_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32_tum(vbool64_t vm, vint8mf8x4_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32_tum(vbool64_t vm, vint8mf8x5_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32_tum(vbool64_t vm, vint8mf8x6_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32_tum(vbool64_t vm, vint8mf8x7_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32_tum(vbool64_t vm, vint8mf8x8_t vd,
                                      const int8_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32_tum(vbool32_t vm, vint8mf4x2_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32_tum(vbool32_t vm, vint8mf4x3_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32_tum(vbool32_t vm, vint8mf4x4_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei32_tum(vbool32_t vm, vint8mf4x5_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei32_tum(vbool32_t vm, vint8mf4x6_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei32_tum(vbool32_t vm, vint8mf4x7_t vd,
                                      const int8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei32_tum(vbool32_t vm, vint8mf4x8_t vd,
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                                    const int8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei32_tum(vbool16_t vm, vint8mf2x2_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei32_tum(vbool16_t vm, vint8mf2x3_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei32_tum(vbool16_t vm, vint8mf2x4_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei32_tum(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei32_tum(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32_tum(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei32_tum(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32_tum(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vluxseg3ei32_tum(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32_tum(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32_tum(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32_tum(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x7_t __riscv_vluxseg7ei32_tum(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32_tum(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32_tum(vbool4_t vm, vint8m2x2_t vd,
                                   const int8_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32_tum(vbool4_t vm, vint8m2x3_t vd,
                                   const int8_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32_tum(vbool4_t vm, vint8m2x4_t vd,
                                   const int8_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64_tum(vbool64_t vm, vint8mf8x2_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64_tum(vbool64_t vm, vint8mf8x3_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64_tum(vbool64_t vm, vint8mf8x4_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64_tum(vbool64_t vm, vint8mf8x5_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64_tum(vbool64_t vm, vint8mf8x6_t vd,
                                    const int8_t *rs1, vuint64m1_t rs2,
```

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                                    size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64_tum(vbool64_t vm, vint8mf8x7_t vd,
                                      const int8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64_tum(vbool64_t vm, vint8mf8x8_t vd,
                                      const int8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64_tum(vbool32_t vm, vint8mf4x2_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64_tum(vbool32_t vm, vint8mf4x3_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei64_tum(vbool32_t vm, vint8mf4x4_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei64_tum(vbool32_t vm, vint8mf4x5_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64_tum(vbool32_t vm, vint8mf4x6_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei64_tum(vbool32_t vm, vint8mf4x7_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei64_tum(vbool32_t vm, vint8mf4x8_t vd,
                                      const int8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei64_tum(vbool16_t vm, vint8mf2x2_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei64_tum(vbool16_t vm, vint8mf2x3_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei64_tum(vbool16_t vm, vint8mf2x4_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei64_tum(vbool16_t vm, vint8mf2x5_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei64_tum(vbool16_t vm, vint8mf2x6_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei64_tum(vbool16_t vm, vint8mf2x7_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei64_tum(vbool16_t vm, vint8mf2x8_t vd,
                                      const int8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64_tum(vbool8_t vm, vint8m1x2_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64_tum(vbool8_t vm, vint8m1x3_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64_tum(vbool8_t vm, vint8m1x4_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64_tum(vbool8_t vm, vint8m1x5_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64_tum(vbool8_t vm, vint8m1x6_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64_tum(vbool8_t vm, vint8m1x7_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
```

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vint8m1x8_t __riscv_vluxseg8ei64_tum(vbool8_t vm, vint8m1x8_t vd,
                                     const int8_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8_tum(vbool64_t vm, vint16mf4x2_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8_tum(vbool64_t vm, vint16mf4x3_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8_tum(vbool64_t vm, vint16mf4x4_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8_tum(vbool64_t vm, vint16mf4x5_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8_tum(vbool64_t vm, vint16mf4x6_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei8_tum(vbool64_t vm, vint16mf4x7_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei8_tum(vbool64_t vm, vint16mf4x8_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8_tum(vbool32_t vm, vint16mf2x2_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8_tum(vbool32_t vm, vint16mf2x3_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8_tum(vbool32_t vm, vint16mf2x4_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8_tum(vbool32_t vm, vint16mf2x5_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8_tum(vbool32_t vm, vint16mf2x6_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8_tum(vbool32_t vm, vint16mf2x7_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8_tum(vbool32_t vm, vint16mf2x8_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8_tum(vbool16_t vm, vint16m1x2_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8_tum(vbool16_t vm, vint16m1x3_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8_tum(vbool16_t vm, vint16m1x4_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8_tum(vbool16_t vm, vint16m1x5_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8_tum(vbool16_t vm, vint16m1x6_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x7_t __riscv_vluxseg7ei8_tum(vbool16_t vm, vint16m1x7_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8_tum(vbool16_t vm, vint16m1x8_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m2x2_t __riscv_vluxseg2ei8_tum(vbool8_t vm, vint16m2x2_t vd,
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```
                                    const int16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8_tum(vbool8_t vm, vint16m2x3_t vd,
                                    const int16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8_tum(vbool8_t vm, vint16m2x4_t vd,
                                    const int16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8_tum(vbool4_t vm, vint16m4x2_t vd,
                                    const int16_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16_tum(vbool64_t vm, vint16mf4x2_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16_tum(vbool64_t vm, vint16mf4x3_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16_tum(vbool64_t vm, vint16mf4x4_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16_tum(vbool64_t vm, vint16mf4x5_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16_tum(vbool64_t vm, vint16mf4x6_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei16_tum(vbool64_t vm, vint16mf4x7_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei16_tum(vbool64_t vm, vint16mf4x8_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16_tum(vbool32_t vm, vint16mf2x2_t vd,
                                     const int16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16_tum(vbool32_t vm, vint16mf2x3_t vd,
                                     const int16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16_tum(vbool32_t vm, vint16mf2x4_t vd,
                                     const int16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16_tum(vbool32_t vm, vint16mf2x5_t vd,
                                     const int16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16_tum(vbool32_t vm, vint16mf2x6_t vd,
                                     const int16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16_tum(vbool32_t vm, vint16mf2x7_t vd,
                                     const int16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16_tum(vbool32_t vm, vint16mf2x8_t vd,
                                     const int16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16_tum(vbool16_t vm, vint16m1x2_t vd,
                                    const int16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16_tum(vbool16_t vm, vint16m1x3_t vd,
                                    const int16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16_tum(vbool16_t vm, vint16m1x4_t vd,
                                    const int16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16_tum(vbool16_t vm, vint16m1x5_t vd,
                                    const int16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16_tum(vbool16_t vm, vint16m1x6_t vd,
                                    const int16_t *rs1, vuint16m1_t rs2,
```

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                                    size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16_tum(vbool16_t vm, vint16m1x7_t vd,
                                    const int16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16_tum(vbool16_t vm, vint16m1x8_t vd,
                                    const int16_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16_tum(vbool8_t vm, vint16m2x2_t vd,
                                    const int16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16_tum(vbool8_t vm, vint16m2x3_t vd,
                                    const int16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint16m2x4_t __riscv_vluxseg4ei16_tum(vbool8_t vm, vint16m2x4_t vd,
                                    const int16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint16m4x2_t __riscv_vluxseg2ei16_tum(vbool4_t vm, vint16m4x2_t vd,
                                    const int16_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32_tum(vbool64_t vm, vint16mf4x2_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32_tum(vbool64_t vm, vint16mf4x3_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32_tum(vbool64_t vm, vint16mf4x4_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32_tum(vbool64_t vm, vint16mf4x5_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32_tum(vbool64_t vm, vint16mf4x6_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32_tum(vbool64_t vm, vint16mf4x7_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32_tum(vbool64_t vm, vint16mf4x8_t vd,
                                     const int16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei32_tum(vbool32_t vm, vint16mf2x2_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32_tum(vbool32_t vm, vint16mf2x3_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32_tum(vbool32_t vm, vint16mf2x4_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32_tum(vbool32_t vm, vint16mf2x5_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32_tum(vbool32_t vm, vint16mf2x6_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei32_tum(vbool32_t vm, vint16mf2x7_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32_tum(vbool32_t vm, vint16mf2x8_t vd,
                                     const int16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32_tum(vbool16_t vm, vint16m1x2_t vd,
                                    const int16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32_tum(vbool16_t vm, vint16m1x3_t vd,
                                    const int16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
```

```
vint16m1x4_t __riscv_vluxseg4ei32_tum(vbool16_t vm, vint16m1x4_t vd,
                                      const int16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32_tum(vbool16_t vm, vint16m1x5_t vd,
                                      const int16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32_tum(vbool16_t vm, vint16m1x6_t vd,
                                      const int16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32_tum(vbool16_t vm, vint16m1x7_t vd,
                                      const int16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32_tum(vbool16_t vm, vint16m1x8_t vd,
                                      const int16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32_tum(vbool8_t vm, vint16m2x2_t vd,
                                      const int16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint16m2x3_t __riscv_vluxseg3ei32_tum(vbool8_t vm, vint16m2x3_t vd,
                                      const int16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32_tum(vbool8_t vm, vint16m2x4_t vd,
                                      const int16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32_tum(vbool4_t vm, vint16m4x2_t vd,
                                      const int16_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64_tum(vbool64_t vm, vint16mf4x2_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64_tum(vbool64_t vm, vint16mf4x3_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64_tum(vbool64_t vm, vint16mf4x4_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64_tum(vbool64_t vm, vint16mf4x5_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64_tum(vbool64_t vm, vint16mf4x6_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64_tum(vbool64_t vm, vint16mf4x7_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64_tum(vbool64_t vm, vint16mf4x8_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64_tum(vbool32_t vm, vint16mf2x2_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei64_tum(vbool32_t vm, vint16mf2x3_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64_tum(vbool32_t vm, vint16mf2x4_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64_tum(vbool32_t vm, vint16mf2x5_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei64_tum(vbool32_t vm, vint16mf2x6_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64_tum(vbool32_t vm, vint16mf2x7_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei64_tum(vbool32_t vm, vint16mf2x8_t vd,
```

```
                                     const int16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64_tum(vbool16_t vm, vint16m1x2_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64_tum(vbool16_t vm, vint16m1x3_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64_tum(vbool16_t vm, vint16m1x4_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64_tum(vbool16_t vm, vint16m1x5_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64_tum(vbool16_t vm, vint16m1x6_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64_tum(vbool16_t vm, vint16m1x7_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64_tum(vbool16_t vm, vint16m1x8_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64_tum(vbool8_t vm, vint16m2x2_t vd,
                                      const int16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint16m2x3_t __riscv_vluxseg3ei64_tum(vbool8_t vm, vint16m2x3_t vd,
                                      const int16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64_tum(vbool8_t vm, vint16m2x4_t vd,
                                      const int16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8_tum(vbool64_t vm, vint32mf2x2_t vd,
                                      const int32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8_tum(vbool64_t vm, vint32mf2x3_t vd,
                                      const int32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8_tum(vbool64_t vm, vint32mf2x4_t vd,
                                      const int32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8_tum(vbool64_t vm, vint32mf2x5_t vd,
                                      const int32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8_tum(vbool64_t vm, vint32mf2x6_t vd,
                                      const int32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8_tum(vbool64_t vm, vint32mf2x7_t vd,
                                      const int32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8_tum(vbool64_t vm, vint32mf2x8_t vd,
                                      const int32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8_tum(vbool32_t vm, vint32m1x2_t vd,
                                     const int32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8_tum(vbool32_t vm, vint32m1x3_t vd,
                                     const int32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8_tum(vbool32_t vm, vint32m1x4_t vd,
                                     const int32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8_tum(vbool32_t vm, vint32m1x5_t vd,
                                     const int32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8_tum(vbool32_t vm, vint32m1x6_t vd,
                                     const int32_t *rs1, vuint8mf4_t rs2,
```

```
                                    size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8_tum(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8_tum(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8_tum(vbool16_t vm, vint32m2x2_t vd,
                                    const int32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8_tum(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint32m2x4_t __riscv_vluxseg4ei8_tum(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint32m4x2_t __riscv_vluxseg2ei8_tum(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16_tum(vbool64_t vm, vint32mf2x2_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16_tum(vbool64_t vm, vint32mf2x3_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16_tum(vbool64_t vm, vint32mf2x4_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei16_tum(vbool64_t vm, vint32mf2x5_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16_tum(vbool64_t vm, vint32mf2x6_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei16_tum(vbool64_t vm, vint32mf2x7_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16_tum(vbool64_t vm, vint32mf2x8_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16_tum(vbool32_t vm, vint32m1x2_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16_tum(vbool32_t vm, vint32m1x3_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16_tum(vbool32_t vm, vint32m1x4_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16_tum(vbool32_t vm, vint32m1x5_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16_tum(vbool32_t vm, vint32m1x6_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16_tum(vbool32_t vm, vint32m1x7_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16_tum(vbool32_t vm, vint32m1x8_t vd,
                                     const int32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16_tum(vbool16_t vm, vint32m2x2_t vd,
                                     const int32_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16_tum(vbool16_t vm, vint32m2x3_t vd,
                                     const int32_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
```

```
vint32m2x4_t __riscv_vluxseg4ei16_tum(vbool16_t vm, vint32m2x4_t vd,
                                      const int32_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16_tum(vbool8_t vm, vint32m4x2_t vd,
                                      const int32_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32_tum(vbool64_t vm, vint32mf2x2_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32_tum(vbool64_t vm, vint32mf2x3_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32_tum(vbool64_t vm, vint32mf2x4_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32_tum(vbool64_t vm, vint32mf2x5_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei32_tum(vbool64_t vm, vint32mf2x6_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32_tum(vbool64_t vm, vint32mf2x7_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32_tum(vbool64_t vm, vint32mf2x8_t vd,
                                       const int32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32_tum(vbool32_t vm, vint32m1x2_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32_tum(vbool32_t vm, vint32m1x3_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32_tum(vbool32_t vm, vint32m1x4_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32_tum(vbool32_t vm, vint32m1x5_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32_tum(vbool32_t vm, vint32m1x6_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32_tum(vbool32_t vm, vint32m1x7_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32_tum(vbool32_t vm, vint32m1x8_t vd,
                                      const int32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint32m2x2_t __riscv_vluxseg2ei32_tum(vbool16_t vm, vint32m2x2_t vd,
                                      const int32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32_tum(vbool16_t vm, vint32m2x3_t vd,
                                      const int32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32_tum(vbool16_t vm, vint32m2x4_t vd,
                                      const int32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32_tum(vbool8_t vm, vint32m4x2_t vd,
                                      const int32_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei64_tum(vbool64_t vm, vint32mf2x2_t vd,
                                       const int32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64_tum(vbool64_t vm, vint32mf2x3_t vd,
                                       const int32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei64_tum(vbool64_t vm, vint32mf2x4_t vd,
```

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                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64_tum(vbool64_t vm, vint32mf2x5_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64_tum(vbool64_t vm, vint32mf2x6_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64_tum(vbool64_t vm, vint32mf2x7_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei64_tum(vbool64_t vm, vint32mf2x8_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64_tum(vbool32_t vm, vint32m1x2_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64_tum(vbool32_t vm, vint32m1x3_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64_tum(vbool32_t vm, vint32m1x4_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64_tum(vbool32_t vm, vint32m1x5_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x6_t __riscv_vluxseg6ei64_tum(vbool32_t vm, vint32m1x6_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64_tum(vbool32_t vm, vint32m1x7_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64_tum(vbool32_t vm, vint32m1x8_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64_tum(vbool16_t vm, vint32m2x2_t vd,
                                     const int32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64_tum(vbool16_t vm, vint32m2x3_t vd,
                                     const int32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64_tum(vbool16_t vm, vint32m2x4_t vd,
                                     const int32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint32m4x2_t __riscv_vluxseg2ei64_tum(vbool8_t vm, vint32m4x2_t vd,
                                     const int32_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8_tum(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8_tum(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8_tum(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8_tum(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8_tum(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8_tum(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8_tum(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
```

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                                    size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8_tum(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8_tum(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8_tum(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vluxseg2ei8_tum(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vluxseg2ei16_tum(vbool64_t vm, vint64m1x2_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x3_t __riscv_vluxseg3ei16_tum(vbool64_t vm, vint64m1x3_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16_tum(vbool64_t vm, vint64m1x4_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16_tum(vbool64_t vm, vint64m1x5_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16_tum(vbool64_t vm, vint64m1x6_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16_tum(vbool64_t vm, vint64m1x7_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16_tum(vbool64_t vm, vint64m1x8_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16_tum(vbool32_t vm, vint64m2x2_t vd,
                                     const int64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16_tum(vbool32_t vm, vint64m2x3_t vd,
                                     const int64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16_tum(vbool32_t vm, vint64m2x4_t vd,
                                     const int64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16_tum(vbool16_t vm, vint64m4x2_t vd,
                                     const int64_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32_tum(vbool64_t vm, vint64m1x2_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32_tum(vbool64_t vm, vint64m1x3_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32_tum(vbool64_t vm, vint64m1x4_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32_tum(vbool64_t vm, vint64m1x5_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32_tum(vbool64_t vm, vint64m1x6_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32_tum(vbool64_t vm, vint64m1x7_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32_tum(vbool64_t vm, vint64m1x8_t vd,
                                     const int64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
```

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vint64m2x2_t __riscv_vluxseg2ei32_tum(vbool32_t vm, vint64m2x2_t vd,
                                      const int64_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32_tum(vbool32_t vm, vint64m2x3_t vd,
                                      const int64_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32_tum(vbool32_t vm, vint64m2x4_t vd,
                                      const int64_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32_tum(vbool16_t vm, vint64m4x2_t vd,
                                      const int64_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64_tum(vbool64_t vm, vint64m1x2_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64_tum(vbool64_t vm, vint64m1x3_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x4_t __riscv_vluxseg4ei64_tum(vbool64_t vm, vint64m1x4_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64_tum(vbool64_t vm, vint64m1x5_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64_tum(vbool64_t vm, vint64m1x6_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64_tum(vbool64_t vm, vint64m1x7_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64_tum(vbool64_t vm, vint64m1x8_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64_tum(vbool32_t vm, vint64m2x2_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64_tum(vbool32_t vm, vint64m2x3_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64_tum(vbool32_t vm, vint64m2x4_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64_tum(vbool16_t vm, vint64m4x2_t vd,
                                      const int64_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei8_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei8_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei8_tum(vbool32_t vm, vuint8mf4x2_t vd,
```

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                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei8_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8_tum(vbool8_t vm, vuint8m1x2_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei8_tum(vbool8_t vm, vuint8m1x3_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8_tum(vbool8_t vm, vuint8m1x4_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8_tum(vbool8_t vm, vuint8m1x5_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8_tum(vbool8_t vm, vuint8m1x6_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8_tum(vbool8_t vm, vuint8m1x7_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8_tum(vbool4_t vm, vuint8m2x2_t vd,
                                   const uint8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8_tum(vbool4_t vm, vuint8m2x3_t vd,
                                   const uint8_t *rs1, vuint8m2_t rs2,
```

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                                    size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8_tum(vbool4_t vm, vuint8m2x4_t vd,
                                    const uint8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8_tum(vbool2_t vm, vuint8m4x2_t vd,
                                    const uint8_t *rs1, vuint8m4_t rs2,
                                    size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei16_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei16_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei16_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                      const uint8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                      const uint8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                      const uint8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                      const uint8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                      const uint8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                      const uint8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
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vuint8mf2x8_t __riscv_vloxseg8ei16_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                       const uint8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16_tum(vbool8_t vm, vuint8m1x2_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16_tum(vbool8_t vm, vuint8m1x3_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16_tum(vbool8_t vm, vuint8m1x4_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16_tum(vbool8_t vm, vuint8m1x5_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16_tum(vbool8_t vm, vuint8m1x6_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei16_tum(vbool8_t vm, vuint8m1x7_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16_tum(vbool8_t vm, vuint8m1x8_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16_tum(vbool4_t vm, vuint8m2x2_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16_tum(vbool4_t vm, vuint8m2x3_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16_tum(vbool4_t vm, vuint8m2x4_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16_tum(vbool2_t vm, vuint8m4x2_t vd,
                                      const uint8_t *rs1, vuint16m8_t rs2,
                                      size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei32_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                       const uint8_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei32_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                       const uint8_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                       const uint8_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei32_tum(vbool32_t vm, vuint8mf4x5_t vd,
```

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                                      const uint8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                      const uint8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                      const uint8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                      const uint8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei32_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32_tum(vbool8_t vm, vuint8m1x2_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei32_tum(vbool8_t vm, vuint8m1x3_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32_tum(vbool8_t vm, vuint8m1x4_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32_tum(vbool8_t vm, vuint8m1x5_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei32_tum(vbool8_t vm, vuint8m1x6_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32_tum(vbool8_t vm, vuint8m1x7_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32_tum(vbool8_t vm, vuint8m1x8_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32_tum(vbool4_t vm, vuint8m2x2_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32_tum(vbool4_t vm, vuint8m2x3_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32_tum(vbool4_t vm, vuint8m2x4_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
```

```
                                      size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                       const uint8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                       const uint8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                       const uint8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                       const uint8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei64_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                       const uint8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei64_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                       const uint8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                       const uint8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                       const uint8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei64_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                       const uint8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                       const uint8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei64_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                       const uint8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                       const uint8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                       const uint8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                       const uint8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                       const uint8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                       const uint8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                       const uint8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                       const uint8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                       const uint8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64_tum(vbool8_t vm, vuint8m1x2_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64_tum(vbool8_t vm, vuint8m1x3_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64_tum(vbool8_t vm, vuint8m1x4_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
```

```
vuint8m1x5_t __riscv_vloxseg5ei64_tum(vbool8_t vm, vuint8m1x5_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64_tum(vbool8_t vm, vuint8m1x6_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64_tum(vbool8_t vm, vuint8m1x7_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64_tum(vbool8_t vm, vuint8m1x8_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei8_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8_tum(vbool64_t vm, vuint16mf4x7_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8_tum(vbool32_t vm, vuint16mf2x2_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8_tum(vbool32_t vm, vuint16mf2x4_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8_tum(vbool32_t vm, vuint16mf2x5_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8_tum(vbool16_t vm, vuint16m1x2_t vd,
                                      const uint16_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8_tum(vbool16_t vm, vuint16m1x3_t vd,
                                      const uint16_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei8_tum(vbool16_t vm, vuint16m1x4_t vd,
                                      const uint16_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8_tum(vbool16_t vm, vuint16m1x5_t vd,
                                      const uint16_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei8_tum(vbool16_t vm, vuint16m1x6_t vd,
```

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                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8_tum(vbool16_t vm, vuint16m1x7_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8_tum(vbool8_t vm, vuint16m2x2_t vd,
                                    const uint16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8_tum(vbool8_t vm, vuint16m2x3_t vd,
                                    const uint16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8_tum(vbool8_t vm, vuint16m2x4_t vd,
                                    const uint16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8_tum(vbool4_t vm, vuint16m4x2_t vd,
                                    const uint16_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei16_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16_tum(vbool64_t vm, vuint16mf4x7_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16_tum(vbool32_t vm, vuint16mf2x2_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16_tum(vbool32_t vm, vuint16mf2x4_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16_tum(vbool32_t vm, vuint16mf2x5_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16_tum(vbool16_t vm, vuint16m1x2_t vd,
                                     const uint16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei16_tum(vbool16_t vm, vuint16m1x3_t vd,
                                     const uint16_t *rs1, vuint16m1_t rs2,
```

```
                                      size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16_tum(vbool16_t vm, vuint16m1x4_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16_tum(vbool16_t vm, vuint16m1x5_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16_tum(vbool16_t vm, vuint16m1x6_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16_tum(vbool16_t vm, vuint16m1x7_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei16_tum(vbool16_t vm, vuint16m1x8_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei16_tum(vbool8_t vm, vuint16m2x2_t vd,
                                      const uint16_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16_tum(vbool8_t vm, vuint16m2x3_t vd,
                                      const uint16_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16_tum(vbool8_t vm, vuint16m2x4_t vd,
                                      const uint16_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei16_tum(vbool4_t vm, vuint16m4x2_t vd,
                                      const uint16_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei32_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32_tum(vbool64_t vm, vuint16mf4x7_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32_tum(vbool32_t vm, vuint16mf2x2_t vd,
                                       const uint16_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                       const uint16_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32_tum(vbool32_t vm, vuint16mf2x4_t vd,
                                       const uint16_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32_tum(vbool32_t vm, vuint16mf2x5_t vd,
                                       const uint16_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                       const uint16_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                       const uint16_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
```

```
vuint16mf2x8_t __riscv_vloxseg8ei32_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                        const uint16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32_tum(vbool16_t vm, vuint16m1x2_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32_tum(vbool16_t vm, vuint16m1x3_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei32_tum(vbool16_t vm, vuint16m1x4_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32_tum(vbool16_t vm, vuint16m1x5_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32_tum(vbool16_t vm, vuint16m1x6_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei32_tum(vbool16_t vm, vuint16m1x7_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32_tum(vbool16_t vm, vuint16m1x8_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32_tum(vbool8_t vm, vuint16m2x2_t vd,
                                       const uint16_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei32_tum(vbool8_t vm, vuint16m2x3_t vd,
                                       const uint16_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32_tum(vbool8_t vm, vuint16m2x4_t vd,
                                       const uint16_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32_tum(vbool4_t vm, vuint16m4x2_t vd,
                                       const uint16_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64_tum(vbool64_t vm, vuint16mf4x7_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64_tum(vbool32_t vm, vuint16mf2x2_t vd,
                                        const uint16_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei64_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                        const uint16_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64_tum(vbool32_t vm, vuint16mf2x4_t vd,
                                        const uint16_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei64_tum(vbool32_t vm, vuint16mf2x5_t vd,
```

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                                      const uint16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                      const uint16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                      const uint16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                      const uint16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64_tum(vbool16_t vm, vuint16m1x2_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64_tum(vbool16_t vm, vuint16m1x3_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64_tum(vbool16_t vm, vuint16m1x4_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64_tum(vbool16_t vm, vuint16m1x5_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64_tum(vbool16_t vm, vuint16m1x6_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei64_tum(vbool16_t vm, vuint16m1x7_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei64_tum(vbool16_t vm, vuint16m1x8_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64_tum(vbool8_t vm, vuint16m2x2_t vd,
                                     const uint16_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64_tum(vbool8_t vm, vuint16m2x3_t vd,
                                     const uint16_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64_tum(vbool8_t vm, vuint16m2x4_t vd,
                                     const uint16_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8_tum(vbool32_t vm, vuint32m1x2_t vd,
                                    const uint32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8_tum(vbool32_t vm, vuint32m1x3_t vd,
                                    const uint32_t *rs1, vuint8mf4_t rs2,
```

```
                                    size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8_tum(vbool32_t vm, vuint32m1x4_t vd,
                                    const uint32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8_tum(vbool32_t vm, vuint32m1x5_t vd,
                                    const uint32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8_tum(vbool32_t vm, vuint32m1x6_t vd,
                                    const uint32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8_tum(vbool32_t vm, vuint32m1x7_t vd,
                                    const uint32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                    const uint32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei8_tum(vbool16_t vm, vuint32m2x2_t vd,
                                    const uint32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8_tum(vbool16_t vm, vuint32m2x3_t vd,
                                    const uint32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei8_tum(vbool16_t vm, vuint32m2x4_t vd,
                                    const uint32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8_tum(vbool8_t vm, vuint32m4x2_t vd,
                                    const uint32_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                      const uint32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei16_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                      const uint32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                      const uint32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei16_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                      const uint32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                      const uint32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                      const uint32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                      const uint32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16_tum(vbool32_t vm, vuint32m1x2_t vd,
                                     const uint32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16_tum(vbool32_t vm, vuint32m1x3_t vd,
                                     const uint32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16_tum(vbool32_t vm, vuint32m1x4_t vd,
                                     const uint32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16_tum(vbool32_t vm, vuint32m1x5_t vd,
                                     const uint32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16_tum(vbool32_t vm, vuint32m1x6_t vd,
                                     const uint32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16_tum(vbool32_t vm, vuint32m1x7_t vd,
                                     const uint32_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
```

```
vuint32m1x8_t __riscv_vloxseg8ei16_tum(vbool32_t vm, vuint32m1x8_t vd,
                                       const uint32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16_tum(vbool16_t vm, vuint32m2x2_t vd,
                                       const uint32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16_tum(vbool16_t vm, vuint32m2x3_t vd,
                                       const uint32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16_tum(vbool16_t vm, vuint32m2x4_t vd,
                                       const uint32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16_tum(vbool8_t vm, vuint32m4x2_t vd,
                                       const uint32_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei32_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei32_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei32_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32_tum(vbool32_t vm, vuint32m1x2_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32_tum(vbool32_t vm, vuint32m1x3_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32_tum(vbool32_t vm, vuint32m1x4_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei32_tum(vbool32_t vm, vuint32m1x5_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32_tum(vbool32_t vm, vuint32m1x6_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32_tum(vbool32_t vm, vuint32m1x7_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32_tum(vbool32_t vm, vuint32m1x8_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32_tum(vbool16_t vm, vuint32m2x2_t vd,
                                       const uint32_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei32_tum(vbool16_t vm, vuint32m2x3_t vd,
                                       const uint32_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei32_tum(vbool16_t vm, vuint32m2x4_t vd,
                                       const uint32_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei32_tum(vbool8_t vm, vuint32m4x2_t vd,
```

```
                                    const uint32_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64_tum(vbool32_t vm, vuint32m1x2_t vd,
                                    const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei64_tum(vbool32_t vm, vuint32m1x3_t vd,
                                    const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64_tum(vbool32_t vm, vuint32m1x4_t vd,
                                    const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64_tum(vbool32_t vm, vuint32m1x5_t vd,
                                    const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64_tum(vbool32_t vm, vuint32m1x6_t vd,
                                    const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64_tum(vbool32_t vm, vuint32m1x7_t vd,
                                    const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64_tum(vbool32_t vm, vuint32m1x8_t vd,
                                    const uint32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64_tum(vbool16_t vm, vuint32m2x2_t vd,
                                    const uint32_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei64_tum(vbool16_t vm, vuint32m2x3_t vd,
                                    const uint32_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64_tum(vbool16_t vm, vuint32m2x4_t vd,
                                    const uint32_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64_tum(vbool8_t vm, vuint32m4x2_t vd,
                                    const uint32_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8_tum(vbool64_t vm, vuint64m1x2_t vd,
                                   const uint64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8_tum(vbool64_t vm, vuint64m1x3_t vd,
                                   const uint64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8_tum(vbool64_t vm, vuint64m1x4_t vd,
                                   const uint64_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8_tum(vbool64_t vm, vuint64m1x5_t vd,
                                   const uint64_t *rs1, vuint8mf8_t rs2,
```

```
                                    size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei8_tum(vbool64_t vm, vuint64m1x6_t vd,
                                    const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8_tum(vbool64_t vm, vuint64m1x7_t vd,
                                    const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                    const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8_tum(vbool32_t vm, vuint64m2x2_t vd,
                                    const uint64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei8_tum(vbool32_t vm, vuint64m2x3_t vd,
                                    const uint64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei8_tum(vbool32_t vm, vuint64m2x4_t vd,
                                    const uint64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8_tum(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16_tum(vbool64_t vm, vuint64m1x2_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16_tum(vbool64_t vm, vuint64m1x3_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16_tum(vbool64_t vm, vuint64m1x4_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei16_tum(vbool64_t vm, vuint64m1x5_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16_tum(vbool64_t vm, vuint64m1x6_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16_tum(vbool64_t vm, vuint64m1x7_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16_tum(vbool64_t vm, vuint64m1x8_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16_tum(vbool32_t vm, vuint64m2x2_t vd,
                                     const uint64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16_tum(vbool32_t vm, vuint64m2x3_t vd,
                                     const uint64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16_tum(vbool32_t vm, vuint64m2x4_t vd,
                                     const uint64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16_tum(vbool16_t vm, vuint64m4x2_t vd,
                                     const uint64_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32_tum(vbool64_t vm, vuint64m1x2_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei32_tum(vbool64_t vm, vuint64m1x3_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32_tum(vbool64_t vm, vuint64m1x4_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32_tum(vbool64_t vm, vuint64m1x5_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
```

```
vuint64m1x6_t __riscv_vloxseg6ei32_tum(vbool64_t vm, vuint64m1x6_t vd,
                                       const uint64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32_tum(vbool64_t vm, vuint64m1x7_t vd,
                                       const uint64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32_tum(vbool64_t vm, vuint64m1x8_t vd,
                                       const uint64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei32_tum(vbool32_t vm, vuint64m2x2_t vd,
                                       const uint64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32_tum(vbool32_t vm, vuint64m2x3_t vd,
                                       const uint64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32_tum(vbool32_t vm, vuint64m2x4_t vd,
                                       const uint64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei32_tum(vbool16_t vm, vuint64m4x2_t vd,
                                       const uint64_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64_tum(vbool64_t vm, vuint64m1x2_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64_tum(vbool64_t vm, vuint64m1x3_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64_tum(vbool64_t vm, vuint64m1x4_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64_tum(vbool64_t vm, vuint64m1x5_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64_tum(vbool64_t vm, vuint64m1x6_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64_tum(vbool64_t vm, vuint64m1x7_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64_tum(vbool64_t vm, vuint64m1x8_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64_tum(vbool32_t vm, vuint64m2x2_t vd,
                                       const uint64_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64_tum(vbool32_t vm, vuint64m2x3_t vd,
                                       const uint64_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64_tum(vbool32_t vm, vuint64m2x4_t vd,
                                       const uint64_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64_tum(vbool16_t vm, vuint64m4x2_t vd,
                                       const uint64_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei8_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                      const uint8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei8_tum(vbool64_t vm, vuint8mf8x6_t vd,
```

```
                                    const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                    const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                    const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei8_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8_tum(vbool8_t vm, vuint8m1x2_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8_tum(vbool8_t vm, vuint8m1x3_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8_tum(vbool8_t vm, vuint8m1x4_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8_tum(vbool8_t vm, vuint8m1x5_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8_tum(vbool8_t vm, vuint8m1x6_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8_tum(vbool8_t vm, vuint8m1x7_t vd,
                                   const uint8_t *rs1, vuint8m1_t rs2,
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                                    size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei8_tum(vbool8_t vm, vuint8m1x8_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8_tum(vbool4_t vm, vuint8m2x2_t vd,
                                    const uint8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8_tum(vbool4_t vm, vuint8m2x3_t vd,
                                    const uint8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8_tum(vbool4_t vm, vuint8m2x4_t vd,
                                    const uint8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei8_tum(vbool2_t vm, vuint8m4x2_t vd,
                                    const uint8_t *rs1, vuint8m4_t rs2,
                                    size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei16_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                      const uint8_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                      const uint8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                      const uint8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                      const uint8_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
```

```
vuint8mf2x5_t __riscv_vluxseg5ei16_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                       const uint8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                       const uint8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                       const uint8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei16_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                       const uint8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16_tum(vbool8_t vm, vuint8m1x2_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16_tum(vbool8_t vm, vuint8m1x3_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei16_tum(vbool8_t vm, vuint8m1x4_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16_tum(vbool8_t vm, vuint8m1x5_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16_tum(vbool8_t vm, vuint8m1x6_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16_tum(vbool8_t vm, vuint8m1x7_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16_tum(vbool8_t vm, vuint8m1x8_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16_tum(vbool4_t vm, vuint8m2x2_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16_tum(vbool4_t vm, vuint8m2x3_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16_tum(vbool4_t vm, vuint8m2x4_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16_tum(vbool2_t vm, vuint8m4x2_t vd,
                                      const uint8_t *rs1, vuint16m8_t rs2,
                                      size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei32_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei32_tum(vbool32_t vm, vuint8mf4x2_t vd,
```

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                                      const uint8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                      const uint8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                      const uint8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei32_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                      const uint8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei32_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                      const uint8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei32_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                      const uint8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei32_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                      const uint8_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei32_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei32_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei32_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32_tum(vbool8_t vm, vuint8m1x2_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32_tum(vbool8_t vm, vuint8m1x3_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32_tum(vbool8_t vm, vuint8m1x4_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32_tum(vbool8_t vm, vuint8m1x5_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32_tum(vbool8_t vm, vuint8m1x6_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32_tum(vbool8_t vm, vuint8m1x7_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32_tum(vbool8_t vm, vuint8m1x8_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32_tum(vbool4_t vm, vuint8m2x2_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32_tum(vbool4_t vm, vuint8m2x3_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
```

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                                     size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei32_tum(vbool4_t vm, vuint8m2x4_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64_tum(vbool64_t vm, vuint8mf8x2_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64_tum(vbool64_t vm, vuint8mf8x3_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64_tum(vbool64_t vm, vuint8mf8x4_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei64_tum(vbool64_t vm, vuint8mf8x5_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei64_tum(vbool64_t vm, vuint8mf8x6_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64_tum(vbool64_t vm, vuint8mf8x7_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64_tum(vbool64_t vm, vuint8mf8x8_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64_tum(vbool32_t vm, vuint8mf4x2_t vd,
                                      const uint8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64_tum(vbool32_t vm, vuint8mf4x3_t vd,
                                      const uint8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64_tum(vbool32_t vm, vuint8mf4x4_t vd,
                                      const uint8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64_tum(vbool32_t vm, vuint8mf4x5_t vd,
                                      const uint8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64_tum(vbool32_t vm, vuint8mf4x6_t vd,
                                      const uint8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64_tum(vbool32_t vm, vuint8mf4x7_t vd,
                                      const uint8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64_tum(vbool32_t vm, vuint8mf4x8_t vd,
                                      const uint8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64_tum(vbool16_t vm, vuint8mf2x2_t vd,
                                      const uint8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64_tum(vbool16_t vm, vuint8mf2x3_t vd,
                                      const uint8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64_tum(vbool16_t vm, vuint8mf2x4_t vd,
                                      const uint8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64_tum(vbool16_t vm, vuint8mf2x5_t vd,
                                      const uint8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64_tum(vbool16_t vm, vuint8mf2x6_t vd,
                                      const uint8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64_tum(vbool16_t vm, vuint8mf2x7_t vd,
                                      const uint8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64_tum(vbool16_t vm, vuint8mf2x8_t vd,
                                      const uint8_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
```

```
vuint8m1x2_t __riscv_vluxseg2ei64_tum(vbool8_t vm, vuint8m1x2_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64_tum(vbool8_t vm, vuint8m1x3_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64_tum(vbool8_t vm, vuint8m1x4_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei64_tum(vbool8_t vm, vuint8m1x5_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64_tum(vbool8_t vm, vuint8m1x6_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64_tum(vbool8_t vm, vuint8m1x7_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei64_tum(vbool8_t vm, vuint8m1x8_t vd,
                                      const uint8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei8_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei8_tum(vbool64_t vm, vuint16mf4x7_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                       const uint16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8_tum(vbool32_t vm, vuint16mf2x2_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8_tum(vbool32_t vm, vuint16mf2x4_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8_tum(vbool32_t vm, vuint16mf2x5_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei8_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei8_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei8_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                       const uint16_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8_tum(vbool16_t vm, vuint16m1x2_t vd,
                                      const uint16_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei8_tum(vbool16_t vm, vuint16m1x3_t vd,
```

```
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei8_tum(vbool16_t vm, vuint16m1x4_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei8_tum(vbool16_t vm, vuint16m1x5_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei8_tum(vbool16_t vm, vuint16m1x6_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei8_tum(vbool16_t vm, vuint16m1x7_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei8_tum(vbool16_t vm, vuint16m1x8_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei8_tum(vbool8_t vm, vuint16m2x2_t vd,
                                    const uint16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei8_tum(vbool8_t vm, vuint16m2x3_t vd,
                                    const uint16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8_tum(vbool8_t vm, vuint16m2x4_t vd,
                                    const uint16_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei8_tum(vbool4_t vm, vuint16m4x2_t vd,
                                    const uint16_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei16_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei16_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei16_tum(vbool64_t vm, vuint16mf4x7_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei16_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                      const uint16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei16_tum(vbool32_t vm, vuint16mf2x2_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei16_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei16_tum(vbool32_t vm, vuint16mf2x4_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei16_tum(vbool32_t vm, vuint16mf2x5_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei16_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei16_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                      const uint16_t *rs1, vuint16mf2_t rs2,
```

```
                                      size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei16_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16_tum(vbool16_t vm, vuint16m1x2_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei16_tum(vbool16_t vm, vuint16m1x3_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16_tum(vbool16_t vm, vuint16m1x4_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei16_tum(vbool16_t vm, vuint16m1x5_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei16_tum(vbool16_t vm, vuint16m1x6_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16_tum(vbool16_t vm, vuint16m1x7_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16_tum(vbool16_t vm, vuint16m1x8_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16_tum(vbool8_t vm, vuint16m2x2_t vd,
                                      const uint16_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16_tum(vbool8_t vm, vuint16m2x3_t vd,
                                      const uint16_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei16_tum(vbool8_t vm, vuint16m2x4_t vd,
                                      const uint16_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei16_tum(vbool4_t vm, vuint16m4x2_t vd,
                                      const uint16_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32_tum(vbool64_t vm, vuint16mf4x7_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                       const uint16_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32_tum(vbool32_t vm, vuint16mf2x2_t vd,
                                       const uint16_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                       const uint16_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32_tum(vbool32_t vm, vuint16mf2x4_t vd,
                                       const uint16_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
```

```
vuint16mf2x5_t __riscv_vluxseg5ei32_tum(vbool32_t vm, vuint16mf2x5_t vd,
                                        const uint16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                        const uint16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                        const uint16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                        const uint16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32_tum(vbool16_t vm, vuint16m1x2_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32_tum(vbool16_t vm, vuint16m1x3_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei32_tum(vbool16_t vm, vuint16m1x4_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32_tum(vbool16_t vm, vuint16m1x5_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32_tum(vbool16_t vm, vuint16m1x6_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32_tum(vbool16_t vm, vuint16m1x7_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32_tum(vbool16_t vm, vuint16m1x8_t vd,
                                       const uint16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32_tum(vbool8_t vm, vuint16m2x2_t vd,
                                       const uint16_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32_tum(vbool8_t vm, vuint16m2x3_t vd,
                                       const uint16_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32_tum(vbool8_t vm, vuint16m2x4_t vd,
                                       const uint16_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32_tum(vbool4_t vm, vuint16m4x2_t vd,
                                       const uint16_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64_tum(vbool64_t vm, vuint16mf4x2_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64_tum(vbool64_t vm, vuint16mf4x3_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64_tum(vbool64_t vm, vuint16mf4x4_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64_tum(vbool64_t vm, vuint16mf4x5_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64_tum(vbool64_t vm, vuint16mf4x6_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei64_tum(vbool64_t vm, vuint16mf4x7_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64_tum(vbool64_t vm, vuint16mf4x8_t vd,
                                        const uint16_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei64_tum(vbool32_t vm, vuint16mf2x2_t vd,
```

```
                                      const uint16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64_tum(vbool32_t vm, vuint16mf2x3_t vd,
                                      const uint16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64_tum(vbool32_t vm, vuint16mf2x4_t vd,
                                      const uint16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64_tum(vbool32_t vm, vuint16mf2x5_t vd,
                                      const uint16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64_tum(vbool32_t vm, vuint16mf2x6_t vd,
                                      const uint16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei64_tum(vbool32_t vm, vuint16mf2x7_t vd,
                                      const uint16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64_tum(vbool32_t vm, vuint16mf2x8_t vd,
                                      const uint16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei64_tum(vbool16_t vm, vuint16m1x2_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64_tum(vbool16_t vm, vuint16m1x3_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei64_tum(vbool16_t vm, vuint16m1x4_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64_tum(vbool16_t vm, vuint16m1x5_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64_tum(vbool16_t vm, vuint16m1x6_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64_tum(vbool16_t vm, vuint16m1x7_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64_tum(vbool16_t vm, vuint16m1x8_t vd,
                                     const uint16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64_tum(vbool8_t vm, vuint16m2x2_t vd,
                                     const uint16_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64_tum(vbool8_t vm, vuint16m2x3_t vd,
                                     const uint16_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64_tum(vbool8_t vm, vuint16m2x4_t vd,
                                     const uint16_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                     const uint32_t *rs1, vuint8mf8_t rs2,
```

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                                     size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                       const uint32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8_tum(vbool32_t vm, vuint32m1x2_t vd,
                                      const uint32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8_tum(vbool32_t vm, vuint32m1x3_t vd,
                                      const uint32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8_tum(vbool32_t vm, vuint32m1x4_t vd,
                                      const uint32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei8_tum(vbool32_t vm, vuint32m1x5_t vd,
                                      const uint32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei8_tum(vbool32_t vm, vuint32m1x6_t vd,
                                      const uint32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8_tum(vbool32_t vm, vuint32m1x7_t vd,
                                      const uint32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8_tum(vbool32_t vm, vuint32m1x8_t vd,
                                      const uint32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8_tum(vbool16_t vm, vuint32m2x2_t vd,
                                      const uint32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8_tum(vbool16_t vm, vuint32m2x3_t vd,
                                      const uint32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8_tum(vbool16_t vm, vuint32m2x4_t vd,
                                      const uint32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8_tum(vbool8_t vm, vuint32m4x2_t vd,
                                      const uint32_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                        const uint32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                        const uint32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                        const uint32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                        const uint32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                        const uint32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                        const uint32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                        const uint32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16_tum(vbool32_t vm, vuint32m1x2_t vd,
                                       const uint32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16_tum(vbool32_t vm, vuint32m1x3_t vd,
                                       const uint32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16_tum(vbool32_t vm, vuint32m1x4_t vd,
                                       const uint32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
```

```
vuint32m1x5_t __riscv_vluxseg5ei16_tum(vbool32_t vm, vuint32m1x5_t vd,
                                       const uint32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16_tum(vbool32_t vm, vuint32m1x6_t vd,
                                       const uint32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei16_tum(vbool32_t vm, vuint32m1x7_t vd,
                                       const uint32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16_tum(vbool32_t vm, vuint32m1x8_t vd,
                                       const uint32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16_tum(vbool16_t vm, vuint32m2x2_t vd,
                                       const uint32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16_tum(vbool16_t vm, vuint32m2x3_t vd,
                                       const uint32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei16_tum(vbool16_t vm, vuint32m2x4_t vd,
                                       const uint32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei16_tum(vbool8_t vm, vuint32m4x2_t vd,
                                       const uint32_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                        const uint32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32_tum(vbool32_t vm, vuint32m1x2_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32_tum(vbool32_t vm, vuint32m1x3_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32_tum(vbool32_t vm, vuint32m1x4_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32_tum(vbool32_t vm, vuint32m1x5_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32_tum(vbool32_t vm, vuint32m1x6_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei32_tum(vbool32_t vm, vuint32m1x7_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32_tum(vbool32_t vm, vuint32m1x8_t vd,
                                       const uint32_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei32_tum(vbool16_t vm, vuint32m2x2_t vd,
```

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                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32_tum(vbool16_t vm, vuint32m2x3_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32_tum(vbool16_t vm, vuint32m2x4_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32_tum(vbool8_t vm, vuint32m4x2_t vd,
                                      const uint32_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64_tum(vbool64_t vm, vuint32mf2x2_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei64_tum(vbool64_t vm, vuint32mf2x3_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64_tum(vbool64_t vm, vuint32mf2x4_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64_tum(vbool64_t vm, vuint32mf2x5_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64_tum(vbool64_t vm, vuint32mf2x6_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei64_tum(vbool64_t vm, vuint32mf2x7_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64_tum(vbool64_t vm, vuint32mf2x8_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64_tum(vbool32_t vm, vuint32m1x2_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64_tum(vbool32_t vm, vuint32m1x3_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64_tum(vbool32_t vm, vuint32m1x4_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei64_tum(vbool32_t vm, vuint32m1x5_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64_tum(vbool32_t vm, vuint32m1x6_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei64_tum(vbool32_t vm, vuint32m1x7_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei64_tum(vbool32_t vm, vuint32m1x8_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64_tum(vbool16_t vm, vuint32m2x2_t vd,
                                      const uint32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64_tum(vbool16_t vm, vuint32m2x3_t vd,
                                      const uint32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei64_tum(vbool16_t vm, vuint32m2x4_t vd,
                                      const uint32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64_tum(vbool8_t vm, vuint32m4x2_t vd,
                                      const uint32_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8_tum(vbool64_t vm, vuint64m1x2_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
```

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                                    size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8_tum(vbool64_t vm, vuint64m1x3_t vd,
                                    const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8_tum(vbool64_t vm, vuint64m1x4_t vd,
                                    const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8_tum(vbool64_t vm, vuint64m1x5_t vd,
                                    const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8_tum(vbool64_t vm, vuint64m1x6_t vd,
                                    const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei8_tum(vbool64_t vm, vuint64m1x7_t vd,
                                    const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei8_tum(vbool64_t vm, vuint64m1x8_t vd,
                                    const uint64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8_tum(vbool32_t vm, vuint64m2x2_t vd,
                                    const uint64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8_tum(vbool32_t vm, vuint64m2x3_t vd,
                                    const uint64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei8_tum(vbool32_t vm, vuint64m2x4_t vd,
                                    const uint64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8_tum(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16_tum(vbool64_t vm, vuint64m1x2_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16_tum(vbool64_t vm, vuint64m1x3_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16_tum(vbool64_t vm, vuint64m1x4_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16_tum(vbool64_t vm, vuint64m1x5_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei16_tum(vbool64_t vm, vuint64m1x6_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16_tum(vbool64_t vm, vuint64m1x7_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16_tum(vbool64_t vm, vuint64m1x8_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16_tum(vbool32_t vm, vuint64m2x2_t vd,
                                     const uint64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16_tum(vbool32_t vm, vuint64m2x3_t vd,
                                     const uint64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16_tum(vbool32_t vm, vuint64m2x4_t vd,
                                     const uint64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16_tum(vbool16_t vm, vuint64m4x2_t vd,
                                     const uint64_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32_tum(vbool64_t vm, vuint64m1x2_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
```

```
vuint64m1x3_t __riscv_vluxseg3ei32_tum(vbool64_t vm, vuint64m1x3_t vd,
                                       const uint64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32_tum(vbool64_t vm, vuint64m1x4_t vd,
                                       const uint64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32_tum(vbool64_t vm, vuint64m1x5_t vd,
                                       const uint64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32_tum(vbool64_t vm, vuint64m1x6_t vd,
                                       const uint64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32_tum(vbool64_t vm, vuint64m1x7_t vd,
                                       const uint64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32_tum(vbool64_t vm, vuint64m1x8_t vd,
                                       const uint64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei32_tum(vbool32_t vm, vuint64m2x2_t vd,
                                       const uint64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32_tum(vbool32_t vm, vuint64m2x3_t vd,
                                       const uint64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32_tum(vbool32_t vm, vuint64m2x4_t vd,
                                       const uint64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei32_tum(vbool16_t vm, vuint64m4x2_t vd,
                                       const uint64_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64_tum(vbool64_t vm, vuint64m1x2_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64_tum(vbool64_t vm, vuint64m1x3_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64_tum(vbool64_t vm, vuint64m1x4_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64_tum(vbool64_t vm, vuint64m1x5_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64_tum(vbool64_t vm, vuint64m1x6_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64_tum(vbool64_t vm, vuint64m1x7_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64_tum(vbool64_t vm, vuint64m1x8_t vd,
                                       const uint64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei64_tum(vbool32_t vm, vuint64m2x2_t vd,
                                       const uint64_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64_tum(vbool32_t vm, vuint64m2x3_t vd,
                                       const uint64_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64_tum(vbool32_t vm, vuint64m2x4_t vd,
                                       const uint64_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei64_tum(vbool16_t vm, vuint64m4x2_t vd,
                                       const uint64_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vloxseg2ei8_tumu(vbool64_t vm, vfloat16mf4x2_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
```

```
vfloat16mf4x3_t __riscv_vloxseg3ei8_tumu(vbool64_t vm, vfloat16mf4x3_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei8_tumu(vbool64_t vm, vfloat16mf4x4_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8_tumu(vbool64_t vm, vfloat16mf4x5_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8_tumu(vbool64_t vm, vfloat16mf4x6_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8_tumu(vbool64_t vm, vfloat16mf4x7_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8_tumu(vbool64_t vm, vfloat16mf4x8_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8_tumu(vbool32_t vm, vfloat16mf2x2_t vd,
                                         const _Float16 *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8_tumu(vbool32_t vm, vfloat16mf2x3_t vd,
                                         const _Float16 *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8_tumu(vbool32_t vm, vfloat16mf2x4_t vd,
                                         const _Float16 *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8_tumu(vbool32_t vm, vfloat16mf2x5_t vd,
                                         const _Float16 *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8_tumu(vbool32_t vm, vfloat16mf2x6_t vd,
                                         const _Float16 *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8_tumu(vbool32_t vm, vfloat16mf2x7_t vd,
                                         const _Float16 *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8_tumu(vbool32_t vm, vfloat16mf2x8_t vd,
                                         const _Float16 *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                        const _Float16 *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8_tumu(vbool16_t vm, vfloat16m1x3_t vd,
                                        const _Float16 *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                        const _Float16 *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                        const _Float16 *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                        const _Float16 *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei8_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                        const _Float16 *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                        const _Float16 *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                        const _Float16 *rs1, vuint8m1_t rs2,
                                        size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                        const _Float16 *rs1, vuint8m1_t rs2,
                                        size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8_tumu(vbool8_t vm, vfloat16m2x4_t vd,
```

```
                                      const _Float16 *rs1, vuint8m1_t rs2,
                                      size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8_tumu(vbool4_t vm, vfloat16m4x2_t vd,
                                      const _Float16 *rs1, vuint8m2_t rs2,
                                      size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16_tumu(vbool64_t vm, vfloat16mf4x2_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16_tumu(vbool64_t vm, vfloat16mf4x3_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16_tumu(vbool64_t vm, vfloat16mf4x4_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16_tumu(vbool64_t vm, vfloat16mf4x5_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16_tumu(vbool64_t vm, vfloat16mf4x6_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16_tumu(vbool64_t vm, vfloat16mf4x7_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16_tumu(vbool64_t vm, vfloat16mf4x8_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16_tumu(vbool32_t vm, vfloat16mf2x2_t vd,
                                       const _Float16 *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16_tumu(vbool32_t vm, vfloat16mf2x3_t vd,
                                       const _Float16 *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16_tumu(vbool32_t vm, vfloat16mf2x4_t vd,
                                       const _Float16 *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16_tumu(vbool32_t vm, vfloat16mf2x5_t vd,
                                       const _Float16 *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei16_tumu(vbool32_t vm, vfloat16mf2x6_t vd,
                                       const _Float16 *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16_tumu(vbool32_t vm, vfloat16mf2x7_t vd,
                                       const _Float16 *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16_tumu(vbool32_t vm, vfloat16mf2x8_t vd,
                                       const _Float16 *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei16_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                      const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16_tumu(vbool16_t vm, vfloat16m1x3_t vd,
                                      const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei16_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                      const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                      const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                      const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                      const _Float16 *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                      const _Float16 *rs1, vuint16m1_t rs2,
```

```
                                        size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                        const _Float16 *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                        const _Float16 *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                        const _Float16 *rs1, vuint16m2_t rs2,
                                        size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16_tumu(vbool4_t vm, vfloat16m4x2_t vd,
                                        const _Float16 *rs1, vuint16m4_t rs2,
                                        size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei32_tumu(vbool64_t vm, vfloat16mf4x2_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32_tumu(vbool64_t vm, vfloat16mf4x3_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32_tumu(vbool64_t vm, vfloat16mf4x4_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32_tumu(vbool64_t vm, vfloat16mf4x5_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32_tumu(vbool64_t vm, vfloat16mf4x6_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32_tumu(vbool64_t vm, vfloat16mf4x7_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32_tumu(vbool64_t vm, vfloat16mf4x8_t vd,
                                         const _Float16 *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32_tumu(vbool32_t vm, vfloat16mf2x2_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32_tumu(vbool32_t vm, vfloat16mf2x3_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32_tumu(vbool32_t vm, vfloat16mf2x4_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32_tumu(vbool32_t vm, vfloat16mf2x5_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32_tumu(vbool32_t vm, vfloat16mf2x6_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32_tumu(vbool32_t vm, vfloat16mf2x7_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32_tumu(vbool32_t vm, vfloat16mf2x8_t vd,
                                         const _Float16 *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32_tumu(vbool16_t vm, vfloat16m1x3_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei32_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                        const _Float16 *rs1, vuint32m2_t rs2,
                                        size_t vl);
```

```
vfloat16m1x6_t __riscv_vloxseg6ei32_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                         const _Float16 *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei32_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                         const _Float16 *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                         const _Float16 *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                         const _Float16 *rs1, vuint32m4_t rs2,
                                         size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                         const _Float16 *rs1, vuint32m4_t rs2,
                                         size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                         const _Float16 *rs1, vuint32m4_t rs2,
                                         size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32_tumu(vbool4_t vm, vfloat16m4x2_t vd,
                                         const _Float16 *rs1, vuint32m8_t rs2,
                                         size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64_tumu(vbool64_t vm, vfloat16mf4x2_t vd,
                                          const _Float16 *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei64_tumu(vbool64_t vm, vfloat16mf4x3_t vd,
                                          const _Float16 *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64_tumu(vbool64_t vm, vfloat16mf4x4_t vd,
                                          const _Float16 *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64_tumu(vbool64_t vm, vfloat16mf4x5_t vd,
                                          const _Float16 *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64_tumu(vbool64_t vm, vfloat16mf4x6_t vd,
                                          const _Float16 *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64_tumu(vbool64_t vm, vfloat16mf4x7_t vd,
                                          const _Float16 *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64_tumu(vbool64_t vm, vfloat16mf4x8_t vd,
                                          const _Float16 *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64_tumu(vbool32_t vm, vfloat16mf2x2_t vd,
                                          const _Float16 *rs1, vuint64m2_t rs2,
                                          size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64_tumu(vbool32_t vm, vfloat16mf2x3_t vd,
                                          const _Float16 *rs1, vuint64m2_t rs2,
                                          size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64_tumu(vbool32_t vm, vfloat16mf2x4_t vd,
                                          const _Float16 *rs1, vuint64m2_t rs2,
                                          size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64_tumu(vbool32_t vm, vfloat16mf2x5_t vd,
                                          const _Float16 *rs1, vuint64m2_t rs2,
                                          size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei64_tumu(vbool32_t vm, vfloat16mf2x6_t vd,
                                          const _Float16 *rs1, vuint64m2_t rs2,
                                          size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64_tumu(vbool32_t vm, vfloat16mf2x7_t vd,
                                          const _Float16 *rs1, vuint64m2_t rs2,
                                          size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64_tumu(vbool32_t vm, vfloat16mf2x8_t vd,
                                          const _Float16 *rs1, vuint64m2_t rs2,
                                          size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                         const _Float16 *rs1, vuint64m4_t rs2,
                                         size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64_tumu(vbool16_t vm, vfloat16m1x3_t vd,
```

```
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei64_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                        const _Float16 *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                        const _Float16 *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                        const _Float16 *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                        const _Float16 *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8_tumu(vbool64_t vm, vfloat32mf2x2_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8_tumu(vbool64_t vm, vfloat32mf2x3_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8_tumu(vbool64_t vm, vfloat32mf2x4_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8_tumu(vbool64_t vm, vfloat32mf2x5_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei8_tumu(vbool64_t vm, vfloat32mf2x6_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8_tumu(vbool64_t vm, vfloat32mf2x7_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8_tumu(vbool64_t vm, vfloat32mf2x8_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei8_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8_tumu(vbool32_t vm, vfloat32m1x3_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei8_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
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                                        size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                        const float *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                        const float *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                        const float *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                        const float *rs1, vuint8m1_t rs2,
                                        size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei16_tumu(vbool64_t vm, vfloat32mf2x2_t vd,
                                          const float *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16_tumu(vbool64_t vm, vfloat32mf2x3_t vd,
                                          const float *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16_tumu(vbool64_t vm, vfloat32mf2x4_t vd,
                                          const float *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16_tumu(vbool64_t vm, vfloat32mf2x5_t vd,
                                          const float *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16_tumu(vbool64_t vm, vfloat32mf2x6_t vd,
                                          const float *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16_tumu(vbool64_t vm, vfloat32mf2x7_t vd,
                                          const float *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16_tumu(vbool64_t vm, vfloat32mf2x8_t vd,
                                          const float *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16_tumu(vbool32_t vm, vfloat32m1x3_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                         const float *rs1, vuint16m1_t rs2,
                                         size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                         const float *rs1, vuint16m1_t rs2,
                                         size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei16_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                         const float *rs1, vuint16m1_t rs2,
                                         size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                         const float *rs1, vuint16m2_t rs2,
                                         size_t vl);
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vfloat32mf2x2_t __riscv_vloxseg2ei32_tumu(vbool64_t vm, vfloat32mf2x2_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei32_tumu(vbool64_t vm, vfloat32mf2x3_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei32_tumu(vbool64_t vm, vfloat32mf2x4_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32_tumu(vbool64_t vm, vfloat32mf2x5_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32_tumu(vbool64_t vm, vfloat32mf2x6_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32_tumu(vbool64_t vm, vfloat32mf2x7_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32_tumu(vbool64_t vm, vfloat32mf2x8_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                         const float *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32_tumu(vbool32_t vm, vfloat32m1x3_t vd,
                                         const float *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                         const float *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                         const float *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                         const float *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei32_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                         const float *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                         const float *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                         const float *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                         const float *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                         const float *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                         const float *rs1, vuint32m4_t rs2,
                                         size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei64_tumu(vbool64_t vm, vfloat32mf2x2_t vd,
                                          const float *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64_tumu(vbool64_t vm, vfloat32mf2x3_t vd,
                                          const float *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64_tumu(vbool64_t vm, vfloat32mf2x4_t vd,
                                          const float *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64_tumu(vbool64_t vm, vfloat32mf2x5_t vd,
                                          const float *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64_tumu(vbool64_t vm, vfloat32mf2x6_t vd,
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                                        const float *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64_tumu(vbool64_t vm, vfloat32mf2x7_t vd,
                                        const float *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64_tumu(vbool64_t vm, vfloat32mf2x8_t vd,
                                        const float *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64_tumu(vbool32_t vm, vfloat32m1x3_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                       const float *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                       const float *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                       const float *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                       const float *rs1, vuint64m8_t rs2,
                                       size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei8_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei8_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei8_tumu(vbool64_t vm, vfloat64m1x8_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                      const double *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                      const double *rs1, vuint8mf4_t rs2,
```

```
                                        size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                        const double *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                        const double *rs1, vuint8mf2_t rs2,
                                        size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei16_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                         const double *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                         const double *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei16_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                         const double *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                         const double *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                         const double *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                         const double *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16_tumu(vbool64_t vm, vfloat64m1x8_t vd,
                                         const double *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                         const double *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                         const double *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                         const double *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                         const double *rs1, vuint16m1_t rs2,
                                         size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32_tumu(vbool64_t vm, vfloat64m1x8_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei32_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                         const double *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                         const double *rs1, vuint32m1_t rs2,
                                         size_t vl);
```

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vfloat64m2x4_t __riscv_vloxseg4ei32_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                         const double *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei32_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                         const double *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei64_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64_tumu(vbool64_t vm, vfloat64m1x8_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                         const double *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                         const double *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                         const double *rs1, vuint64m2_t rs2,
                                         size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                         const double *rs1, vuint64m4_t rs2,
                                         size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8_tumu(vbool64_t vm, vfloat16mf4x2_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8_tumu(vbool64_t vm, vfloat16mf4x3_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei8_tumu(vbool64_t vm, vfloat16mf4x4_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8_tumu(vbool64_t vm, vfloat16mf4x5_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8_tumu(vbool64_t vm, vfloat16mf4x6_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei8_tumu(vbool64_t vm, vfloat16mf4x7_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8_tumu(vbool64_t vm, vfloat16mf4x8_t vd,
                                         const _Float16 *rs1, vuint8mf8_t rs2,
                                         size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8_tumu(vbool32_t vm, vfloat16mf2x2_t vd,
                                         const _Float16 *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8_tumu(vbool32_t vm, vfloat16mf2x3_t vd,
                                         const _Float16 *rs1, vuint8mf4_t rs2,
                                         size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8_tumu(vbool32_t vm, vfloat16mf2x4_t vd,
```

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                                      const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8_tumu(vbool32_t vm, vfloat16mf2x5_t vd,
                                      const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8_tumu(vbool32_t vm, vfloat16mf2x6_t vd,
                                      const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8_tumu(vbool32_t vm, vfloat16mf2x7_t vd,
                                      const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8_tumu(vbool32_t vm, vfloat16mf2x8_t vd,
                                      const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                     const _Float16 *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8_tumu(vbool16_t vm, vfloat16m1x3_t vd,
                                     const _Float16 *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                     const _Float16 *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                     const _Float16 *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                     const _Float16 *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                     const _Float16 *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                     const _Float16 *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                     const _Float16 *rs1, vuint8m1_t rs2,
                                     size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                     const _Float16 *rs1, vuint8m1_t rs2,
                                     size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                     const _Float16 *rs1, vuint8m1_t rs2,
                                     size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8_tumu(vbool4_t vm, vfloat16m4x2_t vd,
                                     const _Float16 *rs1, vuint8m2_t rs2,
                                     size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei16_tumu(vbool64_t vm, vfloat16mf4x2_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16_tumu(vbool64_t vm, vfloat16mf4x3_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei16_tumu(vbool64_t vm, vfloat16mf4x4_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16_tumu(vbool64_t vm, vfloat16mf4x5_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16_tumu(vbool64_t vm, vfloat16mf4x6_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16_tumu(vbool64_t vm, vfloat16mf4x7_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16_tumu(vbool64_t vm, vfloat16mf4x8_t vd,
                                       const _Float16 *rs1, vuint16mf4_t rs2,
```

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                                        size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16_tumu(vbool32_t vm, vfloat16mf2x2_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei16_tumu(vbool32_t vm, vfloat16mf2x3_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16_tumu(vbool32_t vm, vfloat16mf2x4_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16_tumu(vbool32_t vm, vfloat16mf2x5_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei16_tumu(vbool32_t vm, vfloat16mf2x6_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16_tumu(vbool32_t vm, vfloat16mf2x7_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16_tumu(vbool32_t vm, vfloat16mf2x8_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16_tumu(vbool16_t vm, vfloat16m1x3_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei16_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                       const _Float16 *rs1, vuint16m2_t rs2,
                                       size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                       const _Float16 *rs1, vuint16m2_t rs2,
                                       size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                       const _Float16 *rs1, vuint16m2_t rs2,
                                       size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16_tumu(vbool4_t vm, vfloat16m4x2_t vd,
                                       const _Float16 *rs1, vuint16m4_t rs2,
                                       size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32_tumu(vbool64_t vm, vfloat16mf4x2_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32_tumu(vbool64_t vm, vfloat16mf4x3_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei32_tumu(vbool64_t vm, vfloat16mf4x4_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32_tumu(vbool64_t vm, vfloat16mf4x5_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
```

```
vfloat16mf4x6_t __riscv_vluxseg6ei32_tumu(vbool64_t vm, vfloat16mf4x6_t vd,
                                          const _Float16 *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei32_tumu(vbool64_t vm, vfloat16mf4x7_t vd,
                                          const _Float16 *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei32_tumu(vbool64_t vm, vfloat16mf4x8_t vd,
                                          const _Float16 *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32_tumu(vbool32_t vm, vfloat16mf2x2_t vd,
                                          const _Float16 *rs1, vuint32m1_t rs2,
                                          size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32_tumu(vbool32_t vm, vfloat16mf2x3_t vd,
                                          const _Float16 *rs1, vuint32m1_t rs2,
                                          size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32_tumu(vbool32_t vm, vfloat16mf2x4_t vd,
                                          const _Float16 *rs1, vuint32m1_t rs2,
                                          size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32_tumu(vbool32_t vm, vfloat16mf2x5_t vd,
                                          const _Float16 *rs1, vuint32m1_t rs2,
                                          size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32_tumu(vbool32_t vm, vfloat16mf2x6_t vd,
                                          const _Float16 *rs1, vuint32m1_t rs2,
                                          size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32_tumu(vbool32_t vm, vfloat16mf2x7_t vd,
                                          const _Float16 *rs1, vuint32m1_t rs2,
                                          size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32_tumu(vbool32_t vm, vfloat16mf2x8_t vd,
                                          const _Float16 *rs1, vuint32m1_t rs2,
                                          size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                         const _Float16 *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32_tumu(vbool16_t vm, vfloat16m1x3_t vd,
                                         const _Float16 *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                         const _Float16 *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                         const _Float16 *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                         const _Float16 *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                         const _Float16 *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                         const _Float16 *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                         const _Float16 *rs1, vuint32m4_t rs2,
                                         size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei32_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                         const _Float16 *rs1, vuint32m4_t rs2,
                                         size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                         const _Float16 *rs1, vuint32m4_t rs2,
                                         size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32_tumu(vbool4_t vm, vfloat16m4x2_t vd,
                                         const _Float16 *rs1, vuint32m8_t rs2,
                                         size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64_tumu(vbool64_t vm, vfloat16mf4x2_t vd,
                                          const _Float16 *rs1, vuint64m1_t rs2,
                                          size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64_tumu(vbool64_t vm, vfloat16mf4x3_t vd,
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                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64_tumu(vbool64_t vm, vfloat16mf4x4_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64_tumu(vbool64_t vm, vfloat16mf4x5_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64_tumu(vbool64_t vm, vfloat16mf4x6_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei64_tumu(vbool64_t vm, vfloat16mf4x7_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64_tumu(vbool64_t vm, vfloat16mf4x8_t vd,
                                        const _Float16 *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64_tumu(vbool32_t vm, vfloat16mf2x2_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64_tumu(vbool32_t vm, vfloat16mf2x3_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64_tumu(vbool32_t vm, vfloat16mf2x4_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64_tumu(vbool32_t vm, vfloat16mf2x5_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64_tumu(vbool32_t vm, vfloat16mf2x6_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64_tumu(vbool32_t vm, vfloat16mf2x7_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64_tumu(vbool32_t vm, vfloat16mf2x8_t vd,
                                        const _Float16 *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64_tumu(vbool16_t vm, vfloat16m1x2_t vd,
                                       const _Float16 *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64_tumu(vbool16_t vm, vfloat16m1x3_t vd,
                                       const _Float16 *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64_tumu(vbool16_t vm, vfloat16m1x4_t vd,
                                       const _Float16 *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei64_tumu(vbool16_t vm, vfloat16m1x5_t vd,
                                       const _Float16 *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64_tumu(vbool16_t vm, vfloat16m1x6_t vd,
                                       const _Float16 *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei64_tumu(vbool16_t vm, vfloat16m1x7_t vd,
                                       const _Float16 *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64_tumu(vbool16_t vm, vfloat16m1x8_t vd,
                                       const _Float16 *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64_tumu(vbool8_t vm, vfloat16m2x2_t vd,
                                       const _Float16 *rs1, vuint64m8_t rs2,
                                       size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64_tumu(vbool8_t vm, vfloat16m2x3_t vd,
                                       const _Float16 *rs1, vuint64m8_t rs2,
                                       size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64_tumu(vbool8_t vm, vfloat16m2x4_t vd,
                                       const _Float16 *rs1, vuint64m8_t rs2,
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                                        size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8_tumu(vbool64_t vm, vfloat32mf2x2_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8_tumu(vbool64_t vm, vfloat32mf2x3_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8_tumu(vbool64_t vm, vfloat32mf2x4_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8_tumu(vbool64_t vm, vfloat32mf2x5_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei8_tumu(vbool64_t vm, vfloat32mf2x6_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8_tumu(vbool64_t vm, vfloat32mf2x7_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8_tumu(vbool64_t vm, vfloat32mf2x8_t vd,
                                        const float *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8_tumu(vbool32_t vm, vfloat32m1x3_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                       const float *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                       const float *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                       const float *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                       const float *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                       const float *rs1, vuint8m1_t rs2,
                                       size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16_tumu(vbool64_t vm, vfloat32mf2x2_t vd,
                                         const float *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16_tumu(vbool64_t vm, vfloat32mf2x3_t vd,
                                         const float *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei16_tumu(vbool64_t vm, vfloat32mf2x4_t vd,
                                         const float *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16_tumu(vbool64_t vm, vfloat32mf2x5_t vd,
                                         const float *rs1, vuint16mf4_t rs2,
                                         size_t vl);
```

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vfloat32mf2x6_t __riscv_vluxseg6ei16_tumu(vbool64_t vm, vfloat32mf2x6_t vd,
                                          const float *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei16_tumu(vbool64_t vm, vfloat32mf2x7_t vd,
                                          const float *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16_tumu(vbool64_t vm, vfloat32mf2x8_t vd,
                                          const float *rs1, vuint16mf4_t rs2,
                                          size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16_tumu(vbool32_t vm, vfloat32m1x3_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                         const float *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                         const float *rs1, vuint16m1_t rs2,
                                         size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                         const float *rs1, vuint16m1_t rs2,
                                         size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                         const float *rs1, vuint16m1_t rs2,
                                         size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                         const float *rs1, vuint16m2_t rs2,
                                         size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32_tumu(vbool64_t vm, vfloat32mf2x2_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32_tumu(vbool64_t vm, vfloat32mf2x3_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32_tumu(vbool64_t vm, vfloat32mf2x4_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32_tumu(vbool64_t vm, vfloat32mf2x5_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei32_tumu(vbool64_t vm, vfloat32mf2x6_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32_tumu(vbool64_t vm, vfloat32mf2x7_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32_tumu(vbool64_t vm, vfloat32mf2x8_t vd,
                                          const float *rs1, vuint32mf2_t rs2,
                                          size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei32_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                         const float *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32_tumu(vbool32_t vm, vfloat32m1x3_t vd,
```

```
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                        const float *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                        const float *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                        const float *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                        const float *rs1, vuint32m2_t rs2,
                                        size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                        const float *rs1, vuint32m4_t rs2,
                                        size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64_tumu(vbool64_t vm, vfloat32mf2x2_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64_tumu(vbool64_t vm, vfloat32mf2x3_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64_tumu(vbool64_t vm, vfloat32mf2x4_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64_tumu(vbool64_t vm, vfloat32mf2x5_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei64_tumu(vbool64_t vm, vfloat32mf2x6_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64_tumu(vbool64_t vm, vfloat32mf2x7_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei64_tumu(vbool64_t vm, vfloat32mf2x8_t vd,
                                         const float *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64_tumu(vbool32_t vm, vfloat32m1x2_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei64_tumu(vbool32_t vm, vfloat32m1x3_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64_tumu(vbool32_t vm, vfloat32m1x4_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64_tumu(vbool32_t vm, vfloat32m1x5_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64_tumu(vbool32_t vm, vfloat32m1x6_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64_tumu(vbool32_t vm, vfloat32m1x7_t vd,
                                        const float *rs1, vuint64m2_t rs2,
```

```
                                        size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64_tumu(vbool32_t vm, vfloat32m1x8_t vd,
                                        const float *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64_tumu(vbool16_t vm, vfloat32m2x2_t vd,
                                        const float *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64_tumu(vbool16_t vm, vfloat32m2x3_t vd,
                                        const float *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei64_tumu(vbool16_t vm, vfloat32m2x4_t vd,
                                        const float *rs1, vuint64m4_t rs2,
                                        size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei64_tumu(vbool8_t vm, vfloat32m4x2_t vd,
                                        const float *rs1, vuint64m8_t rs2,
                                        size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                       const double *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei8_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                       const double *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                       const double *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                       const double *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                       const double *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                       const double *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8_tumu(vbool64_t vm, vfloat64m1x8_t vd,
                                       const double *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                       const double *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                       const double *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                       const double *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei8_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                       const double *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                        const double *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                        const double *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                        const double *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                        const double *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei16_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                        const double *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                        const double *rs1, vuint16mf4_t rs2,
                                        size_t vl);
```

```
vfloat64m1x8_t __riscv_vluxseg8ei16_tumu(vbool64_t vm, vfloat64m1x8_t vd,
                                         const double *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei16_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                         const double *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                         const double *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                         const double *rs1, vuint16mf2_t rs2,
                                         size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                         const double *rs1, vuint16m1_t rs2,
                                         size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei32_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei32_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32_tumu(vbool64_t vm, vfloat64m1x8_t vd,
                                         const double *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                         const double *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                         const double *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                         const double *rs1, vuint32m1_t rs2,
                                         size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                         const double *rs1, vuint32m2_t rs2,
                                         size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64_tumu(vbool64_t vm, vfloat64m1x2_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64_tumu(vbool64_t vm, vfloat64m1x3_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei64_tumu(vbool64_t vm, vfloat64m1x4_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64_tumu(vbool64_t vm, vfloat64m1x5_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64_tumu(vbool64_t vm, vfloat64m1x6_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64_tumu(vbool64_t vm, vfloat64m1x7_t vd,
                                         const double *rs1, vuint64m1_t rs2,
                                         size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64_tumu(vbool64_t vm, vfloat64m1x8_t vd,
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                                        const double *rs1, vuint64m1_t rs2,
                                        size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64_tumu(vbool32_t vm, vfloat64m2x2_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64_tumu(vbool32_t vm, vfloat64m2x3_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64_tumu(vbool32_t vm, vfloat64m2x4_t vd,
                                        const double *rs1, vuint64m2_t rs2,
                                        size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64_tumu(vbool16_t vm, vfloat64m4x2_t vd,
                                        const double *rs1, vuint64m4_t rs2,
                                        size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                      const int8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                      const int8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                      const int8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                      const int8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                      const int8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                      const int8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                      const int8_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                      const int8_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                      const int8_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                      const int8_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                      const int8_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei8_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                      const int8_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                      const int8_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                      const int8_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
```

```
                                    size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei8_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8_tumu(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vloxseg3ei8_tumu(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8_tumu(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vloxseg5ei8_tumu(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8_tumu(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8_tumu(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m2x2_t __riscv_vloxseg2ei8_tumu(vbool4_t vm, vint8m2x2_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8_tumu(vbool4_t vm, vint8m2x3_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8_tumu(vbool4_t vm, vint8m2x4_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8_tumu(vbool2_t vm, vint8m4x2_t vd,
                                   const int8_t *rs1, vuint8m4_t rs2,
                                   size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei16_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
```

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vint8mf4x3_t __riscv_vloxseg3ei16_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei16_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei16_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei16_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei16_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei16_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei16_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16_tumu(vbool8_t vm, vint8m1x2_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16_tumu(vbool8_t vm, vint8m1x3_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16_tumu(vbool8_t vm, vint8m1x4_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16_tumu(vbool8_t vm, vint8m1x5_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16_tumu(vbool8_t vm, vint8m1x6_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x7_t __riscv_vloxseg7ei16_tumu(vbool8_t vm, vint8m1x7_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16_tumu(vbool8_t vm, vint8m1x8_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16_tumu(vbool4_t vm, vint8m2x2_t vd,
                                      const int8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16_tumu(vbool4_t vm, vint8m2x3_t vd,
                                      const int8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16_tumu(vbool4_t vm, vint8m2x4_t vd,
```

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                                    const int8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16_tumu(vbool2_t vm, vint8m4x2_t vd,
                                    const int8_t *rs1, vuint16m8_t rs2,
                                    size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei32_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei32_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei32_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei32_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei32_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei32_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
```

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                                     size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32_tumu(vbool8_t vm, vint8m1x2_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x3_t __riscv_vloxseg3ei32_tumu(vbool8_t vm, vint8m1x3_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32_tumu(vbool8_t vm, vint8m1x4_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x5_t __riscv_vloxseg5ei32_tumu(vbool8_t vm, vint8m1x5_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x6_t __riscv_vloxseg6ei32_tumu(vbool8_t vm, vint8m1x6_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32_tumu(vbool8_t vm, vint8m1x7_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x8_t __riscv_vloxseg8ei32_tumu(vbool8_t vm, vint8m1x8_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32_tumu(vbool4_t vm, vint8m2x2_t vd,
                                      const int8_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32_tumu(vbool4_t vm, vint8m2x3_t vd,
                                      const int8_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32_tumu(vbool4_t vm, vint8m2x4_t vd,
                                      const int8_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei64_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei64_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei64_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei64_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
```

```
vint8mf4x7_t __riscv_vloxseg7ei64_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei64_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei64_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei64_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei64_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei64_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei64_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei64_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei64_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64_tumu(vbool8_t vm, vint8m1x2_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64_tumu(vbool8_t vm, vint8m1x3_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x4_t __riscv_vloxseg4ei64_tumu(vbool8_t vm, vint8m1x4_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x5_t __riscv_vloxseg5ei64_tumu(vbool8_t vm, vint8m1x5_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x6_t __riscv_vloxseg6ei64_tumu(vbool8_t vm, vint8m1x6_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64_tumu(vbool8_t vm, vint8m1x7_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64_tumu(vbool8_t vm, vint8m1x8_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                       const int16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                       const int16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei8_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                       const int16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                       const int16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                       const int16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                       const int16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8_tumu(vbool64_t vm, vint16mf4x8_t vd,
```

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                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8_tumu(vbool16_t vm, vint16m1x2_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8_tumu(vbool16_t vm, vint16m1x3_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8_tumu(vbool16_t vm, vint16m1x4_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8_tumu(vbool16_t vm, vint16m1x5_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8_tumu(vbool16_t vm, vint16m1x6_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8_tumu(vbool16_t vm, vint16m1x7_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8_tumu(vbool8_t vm, vint16m2x2_t vd,
                                     const int16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint16m2x3_t __riscv_vloxseg3ei8_tumu(vbool8_t vm, vint16m2x3_t vd,
                                     const int16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8_tumu(vbool8_t vm, vint16m2x4_t vd,
                                     const int16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint16m4x2_t __riscv_vloxseg2ei8_tumu(vbool4_t vm, vint16m4x2_t vd,
                                     const int16_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei16_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
```

```
                                        size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                        const int16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                        const int16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                        const int16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei16_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                        const int16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei16_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                        const int16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                        const int16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                        const int16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                        const int16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                        const int16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                        const int16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16_tumu(vbool16_t vm, vint16m1x2_t vd,
                                       const int16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16_tumu(vbool16_t vm, vint16m1x3_t vd,
                                       const int16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16_tumu(vbool16_t vm, vint16m1x4_t vd,
                                       const int16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16_tumu(vbool16_t vm, vint16m1x5_t vd,
                                       const int16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16_tumu(vbool16_t vm, vint16m1x6_t vd,
                                       const int16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16_tumu(vbool16_t vm, vint16m1x7_t vd,
                                       const int16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16_tumu(vbool16_t vm, vint16m1x8_t vd,
                                       const int16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16_tumu(vbool8_t vm, vint16m2x2_t vd,
                                       const int16_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16_tumu(vbool8_t vm, vint16m2x3_t vd,
                                       const int16_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16_tumu(vbool8_t vm, vint16m2x4_t vd,
                                       const int16_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16_tumu(vbool4_t vm, vint16m4x2_t vd,
                                       const int16_t *rs1, vuint16m4_t rs2,
                                       size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
```

```
vint16mf4x3_t __riscv_vloxseg3ei32_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei32_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei32_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32_tumu(vbool16_t vm, vint16m1x2_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32_tumu(vbool16_t vm, vint16m1x3_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32_tumu(vbool16_t vm, vint16m1x4_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32_tumu(vbool16_t vm, vint16m1x5_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32_tumu(vbool16_t vm, vint16m1x6_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x7_t __riscv_vloxseg7ei32_tumu(vbool16_t vm, vint16m1x7_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32_tumu(vbool16_t vm, vint16m1x8_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32_tumu(vbool8_t vm, vint16m2x2_t vd,
                                       const int16_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32_tumu(vbool8_t vm, vint16m2x3_t vd,
                                       const int16_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32_tumu(vbool8_t vm, vint16m2x4_t vd,
```

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                                      const int16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32_tumu(vbool4_t vm, vint16m4x2_t vd,
                                      const int16_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16m1x2_t __riscv_vloxseg2ei64_tumu(vbool16_t vm, vint16m1x2_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64_tumu(vbool16_t vm, vint16m1x3_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x4_t __riscv_vloxseg4ei64_tumu(vbool16_t vm, vint16m1x4_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64_tumu(vbool16_t vm, vint16m1x5_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64_tumu(vbool16_t vm, vint16m1x6_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64_tumu(vbool16_t vm, vint16m1x7_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64_tumu(vbool16_t vm, vint16m1x8_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
```

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                                      size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64_tumu(vbool8_t vm, vint16m2x2_t vd,
                                       const int16_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64_tumu(vbool8_t vm, vint16m2x3_t vd,
                                       const int16_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64_tumu(vbool8_t vm, vint16m2x4_t vd,
                                       const int16_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei8_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8_tumu(vbool64_t vm, vint32mf2x4_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei8_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8_tumu(vbool32_t vm, vint32m1x2_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x3_t __riscv_vloxseg3ei8_tumu(vbool32_t vm, vint32m1x3_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x4_t __riscv_vloxseg4ei8_tumu(vbool32_t vm, vint32m1x4_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8_tumu(vbool32_t vm, vint32m1x5_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x6_t __riscv_vloxseg6ei8_tumu(vbool32_t vm, vint32m1x6_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x7_t __riscv_vloxseg7ei8_tumu(vbool32_t vm, vint32m1x7_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x8_t __riscv_vloxseg8ei8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8_tumu(vbool16_t vm, vint32m2x2_t vd,
                                      const int32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8_tumu(vbool16_t vm, vint32m2x3_t vd,
                                      const int32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint32m2x4_t __riscv_vloxseg4ei8_tumu(vbool16_t vm, vint32m2x4_t vd,
                                      const int32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8_tumu(vbool8_t vm, vint32m4x2_t vd,
                                      const int32_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
```

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vint32mf2x3_t __riscv_vloxseg3ei16_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei16_tumu(vbool64_t vm, vint32mf2x4_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei16_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16_tumu(vbool32_t vm, vint32m1x2_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16_tumu(vbool32_t vm, vint32m1x3_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x4_t __riscv_vloxseg4ei16_tumu(vbool32_t vm, vint32m1x4_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16_tumu(vbool32_t vm, vint32m1x5_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16_tumu(vbool32_t vm, vint32m1x6_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x7_t __riscv_vloxseg7ei16_tumu(vbool32_t vm, vint32m1x7_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16_tumu(vbool32_t vm, vint32m1x8_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16_tumu(vbool16_t vm, vint32m2x2_t vd,
                                       const int32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16_tumu(vbool16_t vm, vint32m2x3_t vd,
                                       const int32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16_tumu(vbool16_t vm, vint32m2x4_t vd,
                                       const int32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16_tumu(vbool8_t vm, vint32m4x2_t vd,
                                       const int32_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                        const int32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei32_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                        const int32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32_tumu(vbool64_t vm, vint32mf2x4_t vd,
                                        const int32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                        const int32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                        const int32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32_tumu(vbool64_t vm, vint32mf2x7_t vd,
```

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                                      const int32_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                      const int32_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32_tumu(vbool32_t vm, vint32m1x2_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x3_t __riscv_vloxseg3ei32_tumu(vbool32_t vm, vint32m1x3_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32_tumu(vbool32_t vm, vint32m1x4_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32_tumu(vbool32_t vm, vint32m1x5_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x6_t __riscv_vloxseg6ei32_tumu(vbool32_t vm, vint32m1x6_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x7_t __riscv_vloxseg7ei32_tumu(vbool32_t vm, vint32m1x7_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32_tumu(vbool32_t vm, vint32m1x8_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32_tumu(vbool16_t vm, vint32m2x2_t vd,
                                     const int32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32_tumu(vbool16_t vm, vint32m2x3_t vd,
                                     const int32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32_tumu(vbool16_t vm, vint32m2x4_t vd,
                                     const int32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32_tumu(vbool8_t vm, vint32m4x2_t vd,
                                     const int32_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei64_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64_tumu(vbool64_t vm, vint32mf2x4_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei64_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei64_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64_tumu(vbool32_t vm, vint32m1x2_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64_tumu(vbool32_t vm, vint32m1x3_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x4_t __riscv_vloxseg4ei64_tumu(vbool32_t vm, vint32m1x4_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
```

```
                                      size_t vl);
vint32m1x5_t __riscv_vloxseg5ei64_tumu(vbool32_t vm, vint32m1x5_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m1x6_t __riscv_vloxseg6ei64_tumu(vbool32_t vm, vint32m1x6_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m1x7_t __riscv_vloxseg7ei64_tumu(vbool32_t vm, vint32m1x7_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m1x8_t __riscv_vloxseg8ei64_tumu(vbool32_t vm, vint32m1x8_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m2x2_t __riscv_vloxseg2ei64_tumu(vbool16_t vm, vint32m2x2_t vd,
                                       const int32_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint32m2x3_t __riscv_vloxseg3ei64_tumu(vbool16_t vm, vint32m2x3_t vd,
                                       const int32_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint32m2x4_t __riscv_vloxseg4ei64_tumu(vbool16_t vm, vint32m2x4_t vd,
                                       const int32_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint32m4x2_t __riscv_vloxseg2ei64_tumu(vbool8_t vm, vint32m4x2_t vd,
                                       const int32_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vint64m1x2_t __riscv_vloxseg2ei8_tumu(vbool64_t vm, vint64m1x2_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8_tumu(vbool64_t vm, vint64m1x3_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8_tumu(vbool64_t vm, vint64m1x4_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x5_t __riscv_vloxseg5ei8_tumu(vbool64_t vm, vint64m1x5_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x6_t __riscv_vloxseg6ei8_tumu(vbool64_t vm, vint64m1x6_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x7_t __riscv_vloxseg7ei8_tumu(vbool64_t vm, vint64m1x7_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x8_t __riscv_vloxseg8ei8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m2x2_t __riscv_vloxseg2ei8_tumu(vbool32_t vm, vint64m2x2_t vd,
                                      const int64_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint64m2x3_t __riscv_vloxseg3ei8_tumu(vbool32_t vm, vint64m2x3_t vd,
                                      const int64_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint64m2x4_t __riscv_vloxseg4ei8_tumu(vbool32_t vm, vint64m2x4_t vd,
                                      const int64_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint64m4x2_t __riscv_vloxseg2ei8_tumu(vbool16_t vm, vint64m4x2_t vd,
                                      const int64_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16_tumu(vbool64_t vm, vint64m1x2_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16_tumu(vbool64_t vm, vint64m1x3_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16_tumu(vbool64_t vm, vint64m1x4_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
```

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vint64m1x5_t __riscv_vloxseg5ei16_tumu(vbool64_t vm, vint64m1x5_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m1x6_t __riscv_vloxseg6ei16_tumu(vbool64_t vm, vint64m1x6_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16_tumu(vbool64_t vm, vint64m1x7_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16_tumu(vbool64_t vm, vint64m1x8_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m2x2_t __riscv_vloxseg2ei16_tumu(vbool32_t vm, vint64m2x2_t vd,
                                       const int64_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint64m2x3_t __riscv_vloxseg3ei16_tumu(vbool32_t vm, vint64m2x3_t vd,
                                       const int64_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint64m2x4_t __riscv_vloxseg4ei16_tumu(vbool32_t vm, vint64m2x4_t vd,
                                       const int64_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16_tumu(vbool16_t vm, vint64m4x2_t vd,
                                       const int64_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32_tumu(vbool64_t vm, vint64m1x2_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32_tumu(vbool64_t vm, vint64m1x3_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32_tumu(vbool64_t vm, vint64m1x4_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x5_t __riscv_vloxseg5ei32_tumu(vbool64_t vm, vint64m1x5_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x6_t __riscv_vloxseg6ei32_tumu(vbool64_t vm, vint64m1x6_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x7_t __riscv_vloxseg7ei32_tumu(vbool64_t vm, vint64m1x7_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32_tumu(vbool64_t vm, vint64m1x8_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32_tumu(vbool32_t vm, vint64m2x2_t vd,
                                       const int64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32_tumu(vbool32_t vm, vint64m2x3_t vd,
                                       const int64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vint64m2x4_t __riscv_vloxseg4ei32_tumu(vbool32_t vm, vint64m2x4_t vd,
                                       const int64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vint64m4x2_t __riscv_vloxseg2ei32_tumu(vbool16_t vm, vint64m4x2_t vd,
                                       const int64_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64_tumu(vbool64_t vm, vint64m1x2_t vd,
                                       const int64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64_tumu(vbool64_t vm, vint64m1x3_t vd,
                                       const int64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64_tumu(vbool64_t vm, vint64m1x4_t vd,
                                       const int64_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64_tumu(vbool64_t vm, vint64m1x5_t vd,
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                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64_tumu(vbool64_t vm, vint64m1x6_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64_tumu(vbool64_t vm, vint64m1x7_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64_tumu(vbool64_t vm, vint64m1x8_t vd,
                                      const int64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64_tumu(vbool32_t vm, vint64m2x2_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m2x3_t __riscv_vloxseg3ei64_tumu(vbool32_t vm, vint64m2x3_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64_tumu(vbool32_t vm, vint64m2x4_t vd,
                                      const int64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64_tumu(vbool16_t vm, vint64m4x2_t vd,
                                      const int64_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei8_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei8_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                     const int8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                     const int8_t *rs1, vuint8mf2_t rs2,
```

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                                     size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei8_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei8_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                      const int8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8_tumu(vbool8_t vm, vint8m1x2_t vd,
                                     const int8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8_tumu(vbool8_t vm, vint8m1x3_t vd,
                                     const int8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint8m1x4_t __riscv_vluxseg4ei8_tumu(vbool8_t vm, vint8m1x4_t vd,
                                     const int8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8_tumu(vbool8_t vm, vint8m1x5_t vd,
                                     const int8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8_tumu(vbool8_t vm, vint8m1x6_t vd,
                                     const int8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8_tumu(vbool8_t vm, vint8m1x7_t vd,
                                     const int8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8_tumu(vbool8_t vm, vint8m1x8_t vd,
                                     const int8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint8m2x2_t __riscv_vluxseg2ei8_tumu(vbool4_t vm, vint8m2x2_t vd,
                                     const int8_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8_tumu(vbool4_t vm, vint8m2x3_t vd,
                                     const int8_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8_tumu(vbool4_t vm, vint8m2x4_t vd,
                                     const int8_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8_tumu(vbool2_t vm, vint8m4x2_t vd,
                                     const int8_t *rs1, vuint8m4_t rs2,
                                     size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                       const int8_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                       const int8_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                       const int8_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                       const int8_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                       const int8_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
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vint8mf8x7_t __riscv_vluxseg7ei16_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                       const int8_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei16_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                       const int8_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                       const int8_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                       const int8_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16_tumu(vbool8_t vm, vint8m1x2_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16_tumu(vbool8_t vm, vint8m1x3_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x4_t __riscv_vluxseg4ei16_tumu(vbool8_t vm, vint8m1x4_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x5_t __riscv_vluxseg5ei16_tumu(vbool8_t vm, vint8m1x5_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16_tumu(vbool8_t vm, vint8m1x6_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16_tumu(vbool8_t vm, vint8m1x7_t vd,
                                      const int8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16_tumu(vbool8_t vm, vint8m1x8_t vd,
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                                    const int8_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16_tumu(vbool4_t vm, vint8m2x2_t vd,
                                    const int8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16_tumu(vbool4_t vm, vint8m2x3_t vd,
                                    const int8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16_tumu(vbool4_t vm, vint8m2x4_t vd,
                                    const int8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16_tumu(vbool2_t vm, vint8m4x2_t vd,
                                    const int8_t *rs1, vuint16m8_t rs2,
                                    size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei32_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei32_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei32_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei32_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei32_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei32_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei32_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei32_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei32_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
```

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                                      size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei32_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                       const int8_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                       const int8_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei32_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                       const int8_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32_tumu(vbool8_t vm, vint8m1x2_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x3_t __riscv_vluxseg3ei32_tumu(vbool8_t vm, vint8m1x3_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32_tumu(vbool8_t vm, vint8m1x4_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32_tumu(vbool8_t vm, vint8m1x5_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32_tumu(vbool8_t vm, vint8m1x6_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x7_t __riscv_vluxseg7ei32_tumu(vbool8_t vm, vint8m1x7_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32_tumu(vbool8_t vm, vint8m1x8_t vd,
                                      const int8_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32_tumu(vbool4_t vm, vint8m2x2_t vd,
                                      const int8_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32_tumu(vbool4_t vm, vint8m2x3_t vd,
                                      const int8_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32_tumu(vbool4_t vm, vint8m2x4_t vd,
                                      const int8_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64_tumu(vbool64_t vm, vint8mf8x2_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64_tumu(vbool64_t vm, vint8mf8x3_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64_tumu(vbool64_t vm, vint8mf8x4_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64_tumu(vbool64_t vm, vint8mf8x5_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64_tumu(vbool64_t vm, vint8mf8x6_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64_tumu(vbool64_t vm, vint8mf8x7_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64_tumu(vbool64_t vm, vint8mf8x8_t vd,
                                       const int8_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64_tumu(vbool32_t vm, vint8mf4x2_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64_tumu(vbool32_t vm, vint8mf4x3_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
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vint8mf4x4_t __riscv_vluxseg4ei64_tumu(vbool32_t vm, vint8mf4x4_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei64_tumu(vbool32_t vm, vint8mf4x5_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64_tumu(vbool32_t vm, vint8mf4x6_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei64_tumu(vbool32_t vm, vint8mf4x7_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei64_tumu(vbool32_t vm, vint8mf4x8_t vd,
                                       const int8_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei64_tumu(vbool16_t vm, vint8mf2x2_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei64_tumu(vbool16_t vm, vint8mf2x3_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei64_tumu(vbool16_t vm, vint8mf2x4_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei64_tumu(vbool16_t vm, vint8mf2x5_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei64_tumu(vbool16_t vm, vint8mf2x6_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei64_tumu(vbool16_t vm, vint8mf2x7_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei64_tumu(vbool16_t vm, vint8mf2x8_t vd,
                                       const int8_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64_tumu(vbool8_t vm, vint8m1x2_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64_tumu(vbool8_t vm, vint8m1x3_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64_tumu(vbool8_t vm, vint8m1x4_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64_tumu(vbool8_t vm, vint8m1x5_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64_tumu(vbool8_t vm, vint8m1x6_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64_tumu(vbool8_t vm, vint8m1x7_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint8m1x8_t __riscv_vluxseg8ei64_tumu(vbool8_t vm, vint8m1x8_t vd,
                                      const int8_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                       const int16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                       const int16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                       const int16_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8_tumu(vbool64_t vm, vint16mf4x5_t vd,
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                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei8_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei8_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                      const int16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                      const int16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8_tumu(vbool16_t vm, vint16m1x2_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8_tumu(vbool16_t vm, vint16m1x3_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8_tumu(vbool16_t vm, vint16m1x4_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8_tumu(vbool16_t vm, vint16m1x5_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8_tumu(vbool16_t vm, vint16m1x6_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x7_t __riscv_vluxseg7ei8_tumu(vbool16_t vm, vint16m1x7_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8_tumu(vbool16_t vm, vint16m1x8_t vd,
                                     const int16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vint16m2x2_t __riscv_vluxseg2ei8_tumu(vbool8_t vm, vint16m2x2_t vd,
                                     const int16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8_tumu(vbool8_t vm, vint16m2x3_t vd,
                                     const int16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8_tumu(vbool8_t vm, vint16m2x4_t vd,
                                     const int16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8_tumu(vbool4_t vm, vint16m4x2_t vd,
                                     const int16_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                       const int16_t *rs1, vuint16mf4_t rs2,
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                                      size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                      const int16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                      const int16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                      const int16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                      const int16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei16_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                      const int16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei16_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                      const int16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16_tumu(vbool16_t vm, vint16m1x2_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16_tumu(vbool16_t vm, vint16m1x3_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16_tumu(vbool16_t vm, vint16m1x4_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16_tumu(vbool16_t vm, vint16m1x5_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16_tumu(vbool16_t vm, vint16m1x6_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16_tumu(vbool16_t vm, vint16m1x7_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16_tumu(vbool16_t vm, vint16m1x8_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16_tumu(vbool8_t vm, vint16m2x2_t vd,
                                     const int16_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16_tumu(vbool8_t vm, vint16m2x3_t vd,
                                     const int16_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
```

```
vint16m2x4_t __riscv_vluxseg4ei16_tumu(vbool8_t vm, vint16m2x4_t vd,
                                       const int16_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vint16m4x2_t __riscv_vluxseg2ei16_tumu(vbool4_t vm, vint16m4x2_t vd,
                                       const int16_t *rs1, vuint16m4_t rs2,
                                       size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                        const int16_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei32_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei32_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                        const int16_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32_tumu(vbool16_t vm, vint16m1x2_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32_tumu(vbool16_t vm, vint16m1x3_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x4_t __riscv_vluxseg4ei32_tumu(vbool16_t vm, vint16m1x4_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32_tumu(vbool16_t vm, vint16m1x5_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32_tumu(vbool16_t vm, vint16m1x6_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32_tumu(vbool16_t vm, vint16m1x7_t vd,
                                       const int16_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32_tumu(vbool16_t vm, vint16m1x8_t vd,
```

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                                      const int16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32_tumu(vbool8_t vm, vint16m2x2_t vd,
                                      const int16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint16m2x3_t __riscv_vluxseg3ei32_tumu(vbool8_t vm, vint16m2x3_t vd,
                                      const int16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32_tumu(vbool8_t vm, vint16m2x4_t vd,
                                      const int16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32_tumu(vbool4_t vm, vint16m4x2_t vd,
                                      const int16_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64_tumu(vbool64_t vm, vint16mf4x2_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64_tumu(vbool64_t vm, vint16mf4x3_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64_tumu(vbool64_t vm, vint16mf4x4_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64_tumu(vbool64_t vm, vint16mf4x5_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64_tumu(vbool64_t vm, vint16mf4x6_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64_tumu(vbool64_t vm, vint16mf4x7_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64_tumu(vbool64_t vm, vint16mf4x8_t vd,
                                       const int16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64_tumu(vbool32_t vm, vint16mf2x2_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei64_tumu(vbool32_t vm, vint16mf2x3_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64_tumu(vbool32_t vm, vint16mf2x4_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64_tumu(vbool32_t vm, vint16mf2x5_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei64_tumu(vbool32_t vm, vint16mf2x6_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64_tumu(vbool32_t vm, vint16mf2x7_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei64_tumu(vbool32_t vm, vint16mf2x8_t vd,
                                       const int16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64_tumu(vbool16_t vm, vint16m1x2_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64_tumu(vbool16_t vm, vint16m1x3_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64_tumu(vbool16_t vm, vint16m1x4_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64_tumu(vbool16_t vm, vint16m1x5_t vd,
                                      const int16_t *rs1, vuint64m4_t rs2,
```

```
                                        size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64_tumu(vbool16_t vm, vint16m1x6_t vd,
                                       const int16_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64_tumu(vbool16_t vm, vint16m1x7_t vd,
                                       const int16_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64_tumu(vbool16_t vm, vint16m1x8_t vd,
                                       const int16_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64_tumu(vbool8_t vm, vint16m2x2_t vd,
                                       const int16_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vint16m2x3_t __riscv_vluxseg3ei64_tumu(vbool8_t vm, vint16m2x3_t vd,
                                       const int16_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64_tumu(vbool8_t vm, vint16m2x4_t vd,
                                       const int16_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8_tumu(vbool64_t vm, vint32mf2x4_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                       const int32_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8_tumu(vbool32_t vm, vint32m1x2_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8_tumu(vbool32_t vm, vint32m1x3_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8_tumu(vbool32_t vm, vint32m1x4_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8_tumu(vbool32_t vm, vint32m1x5_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8_tumu(vbool32_t vm, vint32m1x6_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8_tumu(vbool32_t vm, vint32m1x7_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8_tumu(vbool32_t vm, vint32m1x8_t vd,
                                      const int32_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8_tumu(vbool16_t vm, vint32m2x2_t vd,
                                      const int32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8_tumu(vbool16_t vm, vint32m2x3_t vd,
                                      const int32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
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vint32m2x4_t __riscv_vluxseg4ei8_tumu(vbool16_t vm, vint32m2x4_t vd,
                                      const int32_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vint32m4x2_t __riscv_vluxseg2ei8_tumu(vbool8_t vm, vint32m4x2_t vd,
                                      const int32_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16_tumu(vbool64_t vm, vint32mf2x4_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei16_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei16_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                        const int32_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16_tumu(vbool32_t vm, vint32m1x2_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16_tumu(vbool32_t vm, vint32m1x3_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16_tumu(vbool32_t vm, vint32m1x4_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16_tumu(vbool32_t vm, vint32m1x5_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16_tumu(vbool32_t vm, vint32m1x6_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16_tumu(vbool32_t vm, vint32m1x7_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16_tumu(vbool32_t vm, vint32m1x8_t vd,
                                       const int32_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16_tumu(vbool16_t vm, vint32m2x2_t vd,
                                       const int32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16_tumu(vbool16_t vm, vint32m2x3_t vd,
                                       const int32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint32m2x4_t __riscv_vluxseg4ei16_tumu(vbool16_t vm, vint32m2x4_t vd,
                                       const int32_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16_tumu(vbool8_t vm, vint32m4x2_t vd,
                                       const int32_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                        const int32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                        const int32_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32_tumu(vbool64_t vm, vint32mf2x4_t vd,
```

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                                      const int32_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                      const int32_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei32_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                      const int32_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                      const int32_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                      const int32_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32_tumu(vbool32_t vm, vint32m1x2_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32_tumu(vbool32_t vm, vint32m1x3_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32_tumu(vbool32_t vm, vint32m1x4_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32_tumu(vbool32_t vm, vint32m1x5_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32_tumu(vbool32_t vm, vint32m1x6_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32_tumu(vbool32_t vm, vint32m1x7_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32_tumu(vbool32_t vm, vint32m1x8_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m2x2_t __riscv_vluxseg2ei32_tumu(vbool16_t vm, vint32m2x2_t vd,
                                     const int32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32_tumu(vbool16_t vm, vint32m2x3_t vd,
                                     const int32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32_tumu(vbool16_t vm, vint32m2x4_t vd,
                                     const int32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32_tumu(vbool8_t vm, vint32m4x2_t vd,
                                     const int32_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei64_tumu(vbool64_t vm, vint32mf2x2_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64_tumu(vbool64_t vm, vint32mf2x3_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei64_tumu(vbool64_t vm, vint32mf2x4_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64_tumu(vbool64_t vm, vint32mf2x5_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64_tumu(vbool64_t vm, vint32mf2x6_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64_tumu(vbool64_t vm, vint32mf2x7_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei64_tumu(vbool64_t vm, vint32mf2x8_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
```

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                                      size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64_tumu(vbool32_t vm, vint32m1x2_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64_tumu(vbool32_t vm, vint32m1x3_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64_tumu(vbool32_t vm, vint32m1x4_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64_tumu(vbool32_t vm, vint32m1x5_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m1x6_t __riscv_vluxseg6ei64_tumu(vbool32_t vm, vint32m1x6_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64_tumu(vbool32_t vm, vint32m1x7_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64_tumu(vbool32_t vm, vint32m1x8_t vd,
                                       const int32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64_tumu(vbool16_t vm, vint32m2x2_t vd,
                                       const int32_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64_tumu(vbool16_t vm, vint32m2x3_t vd,
                                       const int32_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64_tumu(vbool16_t vm, vint32m2x4_t vd,
                                       const int32_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vint32m4x2_t __riscv_vluxseg2ei64_tumu(vbool8_t vm, vint32m4x2_t vd,
                                       const int32_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8_tumu(vbool64_t vm, vint64m1x2_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8_tumu(vbool64_t vm, vint64m1x3_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8_tumu(vbool64_t vm, vint64m1x4_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8_tumu(vbool64_t vm, vint64m1x5_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8_tumu(vbool64_t vm, vint64m1x6_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8_tumu(vbool64_t vm, vint64m1x7_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8_tumu(vbool64_t vm, vint64m1x8_t vd,
                                      const int64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8_tumu(vbool32_t vm, vint64m2x2_t vd,
                                      const int64_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8_tumu(vbool32_t vm, vint64m2x3_t vd,
                                      const int64_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8_tumu(vbool32_t vm, vint64m2x4_t vd,
                                      const int64_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vint64m4x2_t __riscv_vluxseg2ei8_tumu(vbool16_t vm, vint64m4x2_t vd,
                                      const int64_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
```

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vint64m1x2_t __riscv_vluxseg2ei16_tumu(vbool64_t vm, vint64m1x2_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m1x3_t __riscv_vluxseg3ei16_tumu(vbool64_t vm, vint64m1x3_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16_tumu(vbool64_t vm, vint64m1x4_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16_tumu(vbool64_t vm, vint64m1x5_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16_tumu(vbool64_t vm, vint64m1x6_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16_tumu(vbool64_t vm, vint64m1x7_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16_tumu(vbool64_t vm, vint64m1x8_t vd,
                                       const int64_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16_tumu(vbool32_t vm, vint64m2x2_t vd,
                                       const int64_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16_tumu(vbool32_t vm, vint64m2x3_t vd,
                                       const int64_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16_tumu(vbool32_t vm, vint64m2x4_t vd,
                                       const int64_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16_tumu(vbool16_t vm, vint64m4x2_t vd,
                                       const int64_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32_tumu(vbool64_t vm, vint64m1x2_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32_tumu(vbool64_t vm, vint64m1x3_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32_tumu(vbool64_t vm, vint64m1x4_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32_tumu(vbool64_t vm, vint64m1x5_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32_tumu(vbool64_t vm, vint64m1x6_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32_tumu(vbool64_t vm, vint64m1x7_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32_tumu(vbool64_t vm, vint64m1x8_t vd,
                                       const int64_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vint64m2x2_t __riscv_vluxseg2ei32_tumu(vbool32_t vm, vint64m2x2_t vd,
                                       const int64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32_tumu(vbool32_t vm, vint64m2x3_t vd,
                                       const int64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32_tumu(vbool32_t vm, vint64m2x4_t vd,
                                       const int64_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32_tumu(vbool16_t vm, vint64m4x2_t vd,
                                       const int64_t *rs1, vuint32m2_t rs2,
                                       size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64_tumu(vbool64_t vm, vint64m1x2_t vd,
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                                        const int64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64_tumu(vbool64_t vm, vint64m1x3_t vd,
                                        const int64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint64m1x4_t __riscv_vluxseg4ei64_tumu(vbool64_t vm, vint64m1x4_t vd,
                                        const int64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64_tumu(vbool64_t vm, vint64m1x5_t vd,
                                        const int64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64_tumu(vbool64_t vm, vint64m1x6_t vd,
                                        const int64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64_tumu(vbool64_t vm, vint64m1x7_t vd,
                                        const int64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64_tumu(vbool64_t vm, vint64m1x8_t vd,
                                        const int64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64_tumu(vbool32_t vm, vint64m2x2_t vd,
                                        const int64_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64_tumu(vbool32_t vm, vint64m2x3_t vd,
                                        const int64_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64_tumu(vbool32_t vm, vint64m2x4_t vd,
                                        const int64_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64_tumu(vbool16_t vm, vint64m4x2_t vd,
                                        const int64_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                        const uint8_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei8_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                        const uint8_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                        const uint8_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                        const uint8_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                        const uint8_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei8_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                        const uint8_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                        const uint8_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei8_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                        const uint8_t *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                        const uint8_t *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                        const uint8_t *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                        const uint8_t *rs1, vuint8mf4_t rs2,
                                        size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                        const uint8_t *rs1, vuint8mf4_t rs2,
```

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                                      size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                      const uint8_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                      const uint8_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                      const uint8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                      const uint8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei8_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                      const uint8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                      const uint8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                      const uint8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                      const uint8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                      const uint8_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                     const uint8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei8_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                     const uint8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                     const uint8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                     const uint8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                     const uint8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                     const uint8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                     const uint8_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                     const uint8_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                     const uint8_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                     const uint8_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                     const uint8_t *rs1, vuint8m4_t rs2,
                                     size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                       const uint8_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                       const uint8_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
```

```
vuint8mf8x4_t __riscv_vloxseg4ei16_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei16_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei16_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei16_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                       const uint8_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                       const uint8_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                       const uint8_t *rs1, vuint16m2_t rs2,
                                       size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16_tumu(vbool8_t vm, vuint8m1x5_t vd,
```

```
                                    const uint8_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                    const uint8_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei16_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                    const uint8_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                    const uint8_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                    const uint8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                    const uint8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                    const uint8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                    const uint8_t *rs1, vuint16m8_t rs2,
                                    size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei32_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei32_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei32_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                     const uint8_t *rs1, vuint32m2_t rs2,
```

```
                                        size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei32_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei32_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei32_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                       const uint8_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                       const uint8_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                       const uint8_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
```

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vuint8mf8x8_t __riscv_vloxseg8ei64_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei64_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei64_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei64_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei64_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8_tumu(vbool64_t vm, vuint16mf4x2_t vd,
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                                      const uint16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8_tumu(vbool64_t vm, vuint16mf4x3_t vd,
                                      const uint16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei8_tumu(vbool64_t vm, vuint16mf4x4_t vd,
                                      const uint16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8_tumu(vbool64_t vm, vuint16mf4x5_t vd,
                                      const uint16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8_tumu(vbool64_t vm, vuint16mf4x6_t vd,
                                      const uint16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8_tumu(vbool64_t vm, vuint16mf4x7_t vd,
                                      const uint16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8_tumu(vbool64_t vm, vuint16mf4x8_t vd,
                                      const uint16_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8_tumu(vbool32_t vm, vuint16mf2x2_t vd,
                                      const uint16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8_tumu(vbool32_t vm, vuint16mf2x3_t vd,
                                      const uint16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8_tumu(vbool32_t vm, vuint16mf2x4_t vd,
                                      const uint16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8_tumu(vbool32_t vm, vuint16mf2x5_t vd,
                                      const uint16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8_tumu(vbool32_t vm, vuint16mf2x6_t vd,
                                      const uint16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8_tumu(vbool32_t vm, vuint16mf2x7_t vd,
                                      const uint16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8_tumu(vbool32_t vm, vuint16mf2x8_t vd,
                                      const uint16_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                     const uint16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                     const uint16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei8_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                     const uint16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                     const uint16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei8_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                     const uint16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                     const uint16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                     const uint16_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                     const uint16_t *rs1, vuint8m1_t rs2,
                                     size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                     const uint16_t *rs1, vuint8m1_t rs2,
```

```
                                      size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                      const uint16_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                      const uint16_t *rs1, vuint8m2_t rs2,
                                      size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16_tumu(vbool64_t vm, vuint16mf4x2_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16_tumu(vbool64_t vm, vuint16mf4x3_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei16_tumu(vbool64_t vm, vuint16mf4x4_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16_tumu(vbool64_t vm, vuint16mf4x5_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16_tumu(vbool64_t vm, vuint16mf4x6_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16_tumu(vbool64_t vm, vuint16mf4x7_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16_tumu(vbool64_t vm, vuint16mf4x8_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16_tumu(vbool32_t vm, vuint16mf2x2_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16_tumu(vbool32_t vm, vuint16mf2x3_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16_tumu(vbool32_t vm, vuint16mf2x4_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16_tumu(vbool32_t vm, vuint16mf2x5_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16_tumu(vbool32_t vm, vuint16mf2x6_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16_tumu(vbool32_t vm, vuint16mf2x7_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16_tumu(vbool32_t vm, vuint16mf2x8_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                       const uint16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei16_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                       const uint16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                       const uint16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                       const uint16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                       const uint16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                       const uint16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
```

```
vuint16m1x8_t __riscv_vloxseg8ei16_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                        const uint16_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei16_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                        const uint16_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                        const uint16_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                        const uint16_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei16_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                        const uint16_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32_tumu(vbool64_t vm, vuint16mf4x2_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei32_tumu(vbool64_t vm, vuint16mf4x3_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32_tumu(vbool64_t vm, vuint16mf4x4_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32_tumu(vbool64_t vm, vuint16mf4x5_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32_tumu(vbool64_t vm, vuint16mf4x6_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32_tumu(vbool64_t vm, vuint16mf4x7_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32_tumu(vbool64_t vm, vuint16mf4x8_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32_tumu(vbool32_t vm, vuint16mf2x2_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32_tumu(vbool32_t vm, vuint16mf2x3_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32_tumu(vbool32_t vm, vuint16mf2x4_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32_tumu(vbool32_t vm, vuint16mf2x5_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32_tumu(vbool32_t vm, vuint16mf2x6_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32_tumu(vbool32_t vm, vuint16mf2x7_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei32_tumu(vbool32_t vm, vuint16mf2x8_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                        const uint16_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                        const uint16_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei32_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                        const uint16_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32_tumu(vbool16_t vm, vuint16m1x5_t vd,
```

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                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei32_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                      const uint16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei32_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                      const uint16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                      const uint16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                      const uint16_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64_tumu(vbool64_t vm, vuint16mf4x2_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64_tumu(vbool64_t vm, vuint16mf4x3_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64_tumu(vbool64_t vm, vuint16mf4x4_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64_tumu(vbool64_t vm, vuint16mf4x5_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64_tumu(vbool64_t vm, vuint16mf4x6_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64_tumu(vbool64_t vm, vuint16mf4x7_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64_tumu(vbool64_t vm, vuint16mf4x8_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64_tumu(vbool32_t vm, vuint16mf2x2_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei64_tumu(vbool32_t vm, vuint16mf2x3_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64_tumu(vbool32_t vm, vuint16mf2x4_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei64_tumu(vbool32_t vm, vuint16mf2x5_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64_tumu(vbool32_t vm, vuint16mf2x6_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64_tumu(vbool32_t vm, vuint16mf2x7_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64_tumu(vbool32_t vm, vuint16mf2x8_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
```

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                                      size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei64_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei64_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                      const uint16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                      const uint16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                      const uint16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8_tumu(vbool64_t vm, vuint32mf2x2_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8_tumu(vbool64_t vm, vuint32mf2x3_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8_tumu(vbool64_t vm, vuint32mf2x4_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8_tumu(vbool64_t vm, vuint32mf2x5_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8_tumu(vbool64_t vm, vuint32mf2x6_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8_tumu(vbool64_t vm, vuint32mf2x7_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8_tumu(vbool64_t vm, vuint32mf2x8_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
```

```
vuint32m1x8_t __riscv_vloxseg8ei8_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                       const uint32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei8_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                       const uint32_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                       const uint32_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei8_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                       const uint32_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                       const uint32_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16_tumu(vbool64_t vm, vuint32mf2x2_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei16_tumu(vbool64_t vm, vuint32mf2x3_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16_tumu(vbool64_t vm, vuint32mf2x4_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei16_tumu(vbool64_t vm, vuint32mf2x5_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16_tumu(vbool64_t vm, vuint32mf2x6_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16_tumu(vbool64_t vm, vuint32mf2x7_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16_tumu(vbool64_t vm, vuint32mf2x8_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei16_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                        const uint32_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                        const uint32_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                        const uint32_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16_tumu(vbool8_t vm, vuint32m4x2_t vd,
```

```
                                      const uint32_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei32_tumu(vbool64_t vm, vuint32mf2x2_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei32_tumu(vbool64_t vm, vuint32mf2x3_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei32_tumu(vbool64_t vm, vuint32mf2x4_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32_tumu(vbool64_t vm, vuint32mf2x5_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32_tumu(vbool64_t vm, vuint32mf2x6_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32_tumu(vbool64_t vm, vuint32mf2x7_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32_tumu(vbool64_t vm, vuint32mf2x8_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei32_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei32_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei32_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei32_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                      const uint32_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64_tumu(vbool64_t vm, vuint32mf2x2_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64_tumu(vbool64_t vm, vuint32mf2x3_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64_tumu(vbool64_t vm, vuint32mf2x4_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64_tumu(vbool64_t vm, vuint32mf2x5_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
```

```
                                        size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64_tumu(vbool64_t vm, vuint32mf2x6_t vd,
                                        const uint32_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64_tumu(vbool64_t vm, vuint32mf2x7_t vd,
                                        const uint32_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64_tumu(vbool64_t vm, vuint32mf2x8_t vd,
                                        const uint32_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                       const uint32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei64_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                       const uint32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                       const uint32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                       const uint32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                       const uint32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                       const uint32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                       const uint32_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                       const uint32_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei64_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                       const uint32_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                       const uint32_t *rs1, vuint64m4_t rs2,
                                       size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                       const uint32_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                      const uint64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                      const uint64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                      const uint64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                      const uint64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei8_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                      const uint64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                      const uint64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                      const uint64_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                      const uint64_t *rs1, vuint8mf4_t rs2,
                                      size_t vl);
```

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vuint64m2x3_t __riscv_vloxseg3ei8_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                       const uint64_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei8_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                       const uint64_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                       const uint64_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei16_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                        const uint64_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                        const uint64_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                        const uint64_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                        const uint64_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei32_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei32_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei32_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                        const uint64_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32_tumu(vbool32_t vm, vuint64m2x3_t vd,
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                                      const uint64_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                      const uint64_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei32_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                      const uint64_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                      const uint64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                      const uint64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                      const uint64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                      const uint64_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei8_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei8_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                     const uint8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                     const uint8_t *rs1, vuint8mf4_t rs2,
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                                      size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                       const uint8_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                       const uint8_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                       const uint8_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                       const uint8_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei8_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                       const uint8_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                       const uint8_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                       const uint8_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                       const uint8_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                       const uint8_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                       const uint8_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                       const uint8_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                       const uint8_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                      const uint8_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                      const uint8_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                      const uint8_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                      const uint8_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                      const uint8_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                      const uint8_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei8_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                      const uint8_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                      const uint8_t *rs1, vuint8m2_t rs2,
                                      size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                      const uint8_t *rs1, vuint8m2_t rs2,
                                      size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                      const uint8_t *rs1, vuint8m2_t rs2,
                                      size_t vl);
```

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vuint8m4x2_t __riscv_vluxseg2ei8_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                      const uint8_t *rs1, vuint8m4_t rs2,
                                      size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei16_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                        const uint8_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                        const uint8_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei16_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei16_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                        const uint8_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16_tumu(vbool8_t vm, vuint8m1x2_t vd,
```

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                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei16_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                      const uint8_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                      const uint8_t *rs1, vuint16m4_t rs2,
                                      size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16_tumu(vbool2_t vm, vuint8m4x2_t vd,
                                      const uint8_t *rs1, vuint16m8_t rs2,
                                      size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei32_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                       const uint8_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei32_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                       const uint8_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                       const uint8_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                       const uint8_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei32_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                       const uint8_t *rs1, vuint32m1_t rs2,
                                       size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei32_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                       const uint8_t *rs1, vuint32m1_t rs2,
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                                        size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei32_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                        const uint8_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei32_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                        const uint8_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei32_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei32_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei32_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                        const uint8_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32_tumu(vbool8_t vm, vuint8m1x6_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                       const uint8_t *rs1, vuint32m4_t rs2,
                                       size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32_tumu(vbool4_t vm, vuint8m2x2_t vd,
                                       const uint8_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32_tumu(vbool4_t vm, vuint8m2x3_t vd,
                                       const uint8_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei32_tumu(vbool4_t vm, vuint8m2x4_t vd,
                                       const uint8_t *rs1, vuint32m8_t rs2,
                                       size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64_tumu(vbool64_t vm, vuint8mf8x2_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64_tumu(vbool64_t vm, vuint8mf8x3_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64_tumu(vbool64_t vm, vuint8mf8x4_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
```

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vuint8mf8x5_t __riscv_vluxseg5ei64_tumu(vbool64_t vm, vuint8mf8x5_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei64_tumu(vbool64_t vm, vuint8mf8x6_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64_tumu(vbool64_t vm, vuint8mf8x7_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64_tumu(vbool64_t vm, vuint8mf8x8_t vd,
                                        const uint8_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64_tumu(vbool32_t vm, vuint8mf4x2_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64_tumu(vbool32_t vm, vuint8mf4x3_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64_tumu(vbool32_t vm, vuint8mf4x4_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64_tumu(vbool32_t vm, vuint8mf4x5_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64_tumu(vbool32_t vm, vuint8mf4x6_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64_tumu(vbool32_t vm, vuint8mf4x7_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64_tumu(vbool32_t vm, vuint8mf4x8_t vd,
                                        const uint8_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64_tumu(vbool16_t vm, vuint8mf2x2_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64_tumu(vbool16_t vm, vuint8mf2x3_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64_tumu(vbool16_t vm, vuint8mf2x4_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64_tumu(vbool16_t vm, vuint8mf2x5_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64_tumu(vbool16_t vm, vuint8mf2x6_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64_tumu(vbool16_t vm, vuint8mf2x7_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64_tumu(vbool16_t vm, vuint8mf2x8_t vd,
                                        const uint8_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei64_tumu(vbool8_t vm, vuint8m1x2_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64_tumu(vbool8_t vm, vuint8m1x3_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64_tumu(vbool8_t vm, vuint8m1x4_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei64_tumu(vbool8_t vm, vuint8m1x5_t vd,
                                       const uint8_t *rs1, vuint64m8_t rs2,
                                       size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64_tumu(vbool8_t vm, vuint8m1x6_t vd,
```

```
                                    const uint8_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64_tumu(vbool8_t vm, vuint8m1x7_t vd,
                                    const uint8_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei64_tumu(vbool8_t vm, vuint8m1x8_t vd,
                                    const uint8_t *rs1, vuint64m8_t rs2,
                                    size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8_tumu(vbool64_t vm, vuint16mf4x2_t vd,
                                     const uint16_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8_tumu(vbool64_t vm, vuint16mf4x3_t vd,
                                     const uint16_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8_tumu(vbool64_t vm, vuint16mf4x4_t vd,
                                     const uint16_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8_tumu(vbool64_t vm, vuint16mf4x5_t vd,
                                     const uint16_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei8_tumu(vbool64_t vm, vuint16mf4x6_t vd,
                                     const uint16_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei8_tumu(vbool64_t vm, vuint16mf4x7_t vd,
                                     const uint16_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8_tumu(vbool64_t vm, vuint16mf4x8_t vd,
                                     const uint16_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8_tumu(vbool32_t vm, vuint16mf2x2_t vd,
                                     const uint16_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8_tumu(vbool32_t vm, vuint16mf2x3_t vd,
                                     const uint16_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8_tumu(vbool32_t vm, vuint16mf2x4_t vd,
                                     const uint16_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8_tumu(vbool32_t vm, vuint16mf2x5_t vd,
                                     const uint16_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei8_tumu(vbool32_t vm, vuint16mf2x6_t vd,
                                     const uint16_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei8_tumu(vbool32_t vm, vuint16mf2x7_t vd,
                                     const uint16_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei8_tumu(vbool32_t vm, vuint16mf2x8_t vd,
                                     const uint16_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei8_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei8_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei8_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei8_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei8_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                    const uint16_t *rs1, vuint8mf2_t rs2,
```

```
                                      size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei8_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                      const uint16_t *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei8_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                      const uint16_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei8_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                      const uint16_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                      const uint16_t *rs1, vuint8m1_t rs2,
                                      size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei8_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                      const uint16_t *rs1, vuint8m2_t rs2,
                                      size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16_tumu(vbool64_t vm, vuint16mf4x2_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16_tumu(vbool64_t vm, vuint16mf4x3_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16_tumu(vbool64_t vm, vuint16mf4x4_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei16_tumu(vbool64_t vm, vuint16mf4x5_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei16_tumu(vbool64_t vm, vuint16mf4x6_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei16_tumu(vbool64_t vm, vuint16mf4x7_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei16_tumu(vbool64_t vm, vuint16mf4x8_t vd,
                                        const uint16_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei16_tumu(vbool32_t vm, vuint16mf2x2_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei16_tumu(vbool32_t vm, vuint16mf2x3_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei16_tumu(vbool32_t vm, vuint16mf2x4_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei16_tumu(vbool32_t vm, vuint16mf2x5_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei16_tumu(vbool32_t vm, vuint16mf2x6_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei16_tumu(vbool32_t vm, vuint16mf2x7_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei16_tumu(vbool32_t vm, vuint16mf2x8_t vd,
                                        const uint16_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                       const uint16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei16_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                       const uint16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                       const uint16_t *rs1, vuint16m1_t rs2,
                                       size_t vl);
```

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vuint16m1x5_t __riscv_vluxseg5ei16_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                        const uint16_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei16_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                        const uint16_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                        const uint16_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                        const uint16_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                        const uint16_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                        const uint16_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei16_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                        const uint16_t *rs1, vuint16m2_t rs2,
                                        size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei16_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                        const uint16_t *rs1, vuint16m4_t rs2,
                                        size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32_tumu(vbool64_t vm, vuint16mf4x2_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32_tumu(vbool64_t vm, vuint16mf4x3_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32_tumu(vbool64_t vm, vuint16mf4x4_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32_tumu(vbool64_t vm, vuint16mf4x5_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32_tumu(vbool64_t vm, vuint16mf4x6_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32_tumu(vbool64_t vm, vuint16mf4x7_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32_tumu(vbool64_t vm, vuint16mf4x8_t vd,
                                         const uint16_t *rs1, vuint32mf2_t rs2,
                                         size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32_tumu(vbool32_t vm, vuint16mf2x2_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32_tumu(vbool32_t vm, vuint16mf2x3_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32_tumu(vbool32_t vm, vuint16mf2x4_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei32_tumu(vbool32_t vm, vuint16mf2x5_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32_tumu(vbool32_t vm, vuint16mf2x6_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32_tumu(vbool32_t vm, vuint16mf2x7_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32_tumu(vbool32_t vm, vuint16mf2x8_t vd,
                                         const uint16_t *rs1, vuint32m1_t rs2,
                                         size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32_tumu(vbool16_t vm, vuint16m1x2_t vd,
```

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                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei32_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                      const uint16_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                      const uint16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                      const uint16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                      const uint16_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32_tumu(vbool4_t vm, vuint16m4x2_t vd,
                                      const uint16_t *rs1, vuint32m8_t rs2,
                                      size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64_tumu(vbool64_t vm, vuint16mf4x2_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64_tumu(vbool64_t vm, vuint16mf4x3_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64_tumu(vbool64_t vm, vuint16mf4x4_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64_tumu(vbool64_t vm, vuint16mf4x5_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64_tumu(vbool64_t vm, vuint16mf4x6_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei64_tumu(vbool64_t vm, vuint16mf4x7_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64_tumu(vbool64_t vm, vuint16mf4x8_t vd,
                                       const uint16_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei64_tumu(vbool32_t vm, vuint16mf2x2_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64_tumu(vbool32_t vm, vuint16mf2x3_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64_tumu(vbool32_t vm, vuint16mf2x4_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64_tumu(vbool32_t vm, vuint16mf2x5_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
                                       size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64_tumu(vbool32_t vm, vuint16mf2x6_t vd,
                                       const uint16_t *rs1, vuint64m2_t rs2,
```

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                                        size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei64_tumu(vbool32_t vm, vuint16mf2x7_t vd,
                                         const uint16_t *rs1, vuint64m2_t rs2,
                                         size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64_tumu(vbool32_t vm, vuint16mf2x8_t vd,
                                         const uint16_t *rs1, vuint64m2_t rs2,
                                         size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei64_tumu(vbool16_t vm, vuint16m1x2_t vd,
                                        const uint16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64_tumu(vbool16_t vm, vuint16m1x3_t vd,
                                        const uint16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei64_tumu(vbool16_t vm, vuint16m1x4_t vd,
                                        const uint16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64_tumu(vbool16_t vm, vuint16m1x5_t vd,
                                        const uint16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64_tumu(vbool16_t vm, vuint16m1x6_t vd,
                                        const uint16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64_tumu(vbool16_t vm, vuint16m1x7_t vd,
                                        const uint16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64_tumu(vbool16_t vm, vuint16m1x8_t vd,
                                        const uint16_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64_tumu(vbool8_t vm, vuint16m2x2_t vd,
                                        const uint16_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64_tumu(vbool8_t vm, vuint16m2x3_t vd,
                                        const uint16_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64_tumu(vbool8_t vm, vuint16m2x4_t vd,
                                        const uint16_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8_tumu(vbool64_t vm, vuint32mf2x2_t vd,
                                        const uint32_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8_tumu(vbool64_t vm, vuint32mf2x3_t vd,
                                        const uint32_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8_tumu(vbool64_t vm, vuint32mf2x4_t vd,
                                        const uint32_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8_tumu(vbool64_t vm, vuint32mf2x5_t vd,
                                        const uint32_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8_tumu(vbool64_t vm, vuint32mf2x6_t vd,
                                        const uint32_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8_tumu(vbool64_t vm, vuint32mf2x7_t vd,
                                        const uint32_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8_tumu(vbool64_t vm, vuint32mf2x8_t vd,
                                        const uint32_t *rs1, vuint8mf8_t rs2,
                                        size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                       const uint32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                       const uint32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                       const uint32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
```

```
vuint32m1x5_t __riscv_vluxseg5ei8_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                       const uint32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei8_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                       const uint32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                       const uint32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                       const uint32_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                       const uint32_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                       const uint32_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                       const uint32_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                       const uint32_t *rs1, vuint8m1_t rs2,
                                       size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16_tumu(vbool64_t vm, vuint32mf2x2_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16_tumu(vbool64_t vm, vuint32mf2x3_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16_tumu(vbool64_t vm, vuint32mf2x4_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16_tumu(vbool64_t vm, vuint32mf2x5_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16_tumu(vbool64_t vm, vuint32mf2x6_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16_tumu(vbool64_t vm, vuint32mf2x7_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16_tumu(vbool64_t vm, vuint32mf2x8_t vd,
                                         const uint32_t *rs1, vuint16mf4_t rs2,
                                         size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei16_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei16_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                        const uint32_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16_tumu(vbool16_t vm, vuint32m2x2_t vd,
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                                      const uint32_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                      const uint32_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei16_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                      const uint32_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei16_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                      const uint32_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32_tumu(vbool64_t vm, vuint32mf2x2_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32_tumu(vbool64_t vm, vuint32mf2x3_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32_tumu(vbool64_t vm, vuint32mf2x4_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32_tumu(vbool64_t vm, vuint32mf2x5_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32_tumu(vbool64_t vm, vuint32mf2x6_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32_tumu(vbool64_t vm, vuint32mf2x7_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32_tumu(vbool64_t vm, vuint32mf2x8_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei32_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei32_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                      const uint32_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64_tumu(vbool64_t vm, vuint32mf2x2_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
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                                        size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei64_tumu(vbool64_t vm, vuint32mf2x3_t vd,
                                         const uint32_t *rs1, vuint64m1_t rs2,
                                         size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64_tumu(vbool64_t vm, vuint32mf2x4_t vd,
                                         const uint32_t *rs1, vuint64m1_t rs2,
                                         size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64_tumu(vbool64_t vm, vuint32mf2x5_t vd,
                                         const uint32_t *rs1, vuint64m1_t rs2,
                                         size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64_tumu(vbool64_t vm, vuint32mf2x6_t vd,
                                         const uint32_t *rs1, vuint64m1_t rs2,
                                         size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei64_tumu(vbool64_t vm, vuint32mf2x7_t vd,
                                         const uint32_t *rs1, vuint64m1_t rs2,
                                         size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64_tumu(vbool64_t vm, vuint32mf2x8_t vd,
                                         const uint32_t *rs1, vuint64m1_t rs2,
                                         size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64_tumu(vbool32_t vm, vuint32m1x2_t vd,
                                        const uint32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64_tumu(vbool32_t vm, vuint32m1x3_t vd,
                                        const uint32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64_tumu(vbool32_t vm, vuint32m1x4_t vd,
                                        const uint32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei64_tumu(vbool32_t vm, vuint32m1x5_t vd,
                                        const uint32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64_tumu(vbool32_t vm, vuint32m1x6_t vd,
                                        const uint32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei64_tumu(vbool32_t vm, vuint32m1x7_t vd,
                                        const uint32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei64_tumu(vbool32_t vm, vuint32m1x8_t vd,
                                        const uint32_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64_tumu(vbool16_t vm, vuint32m2x2_t vd,
                                        const uint32_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64_tumu(vbool16_t vm, vuint32m2x3_t vd,
                                        const uint32_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei64_tumu(vbool16_t vm, vuint32m2x4_t vd,
                                        const uint32_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64_tumu(vbool8_t vm, vuint32m4x2_t vd,
                                        const uint32_t *rs1, vuint64m8_t rs2,
                                        size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                       const uint64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                       const uint64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                       const uint64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                       const uint64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                       const uint64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
```

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vuint64m1x7_t __riscv_vluxseg7ei8_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                       const uint64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei8_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                       const uint64_t *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                       const uint64_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                       const uint64_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei8_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                       const uint64_t *rs1, vuint8mf4_t rs2,
                                       size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                       const uint64_t *rs1, vuint8mf2_t rs2,
                                       size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei16_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                        const uint64_t *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                        const uint64_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                        const uint64_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                        const uint64_t *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                        const uint64_t *rs1, vuint16m1_t rs2,
                                        size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei32_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32_tumu(vbool64_t vm, vuint64m1x7_t vd,
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                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                        const uint64_t *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei32_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                        const uint64_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                        const uint64_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                        const uint64_t *rs1, vuint32m1_t rs2,
                                        size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei32_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                        const uint64_t *rs1, vuint32m2_t rs2,
                                        size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64_tumu(vbool64_t vm, vuint64m1x2_t vd,
                                        const uint64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64_tumu(vbool64_t vm, vuint64m1x3_t vd,
                                        const uint64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64_tumu(vbool64_t vm, vuint64m1x4_t vd,
                                        const uint64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64_tumu(vbool64_t vm, vuint64m1x5_t vd,
                                        const uint64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64_tumu(vbool64_t vm, vuint64m1x6_t vd,
                                        const uint64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64_tumu(vbool64_t vm, vuint64m1x7_t vd,
                                        const uint64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64_tumu(vbool64_t vm, vuint64m1x8_t vd,
                                        const uint64_t *rs1, vuint64m1_t rs2,
                                        size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei64_tumu(vbool32_t vm, vuint64m2x2_t vd,
                                        const uint64_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64_tumu(vbool32_t vm, vuint64m2x3_t vd,
                                        const uint64_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64_tumu(vbool32_t vm, vuint64m2x4_t vd,
                                        const uint64_t *rs1, vuint64m2_t rs2,
                                        size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei64_tumu(vbool16_t vm, vuint64m4x2_t vd,
                                        const uint64_t *rs1, vuint64m4_t rs2,
                                        size_t vl);
// masked functions
vfloat16mf4x2_t __riscv_vloxseg2ei8_mu(vbool64_t vm, vfloat16mf4x2_t vd,
                                       const _Float16 *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei8_mu(vbool64_t vm, vfloat16mf4x3_t vd,
                                       const _Float16 *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei8_mu(vbool64_t vm, vfloat16mf4x4_t vd,
                                       const _Float16 *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei8_mu(vbool64_t vm, vfloat16mf4x5_t vd,
                                       const _Float16 *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei8_mu(vbool64_t vm, vfloat16mf4x6_t vd,
                                       const _Float16 *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei8_mu(vbool64_t vm, vfloat16mf4x7_t vd,
```

```
                                    const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei8_mu(vbool64_t vm, vfloat16mf4x8_t vd,
                                    const _Float16 *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei8_mu(vbool32_t vm, vfloat16mf2x2_t vd,
                                    const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei8_mu(vbool32_t vm, vfloat16mf2x3_t vd,
                                    const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei8_mu(vbool32_t vm, vfloat16mf2x4_t vd,
                                    const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei8_mu(vbool32_t vm, vfloat16mf2x5_t vd,
                                    const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei8_mu(vbool32_t vm, vfloat16mf2x6_t vd,
                                    const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei8_mu(vbool32_t vm, vfloat16mf2x7_t vd,
                                    const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei8_mu(vbool32_t vm, vfloat16mf2x8_t vd,
                                    const _Float16 *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei8_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                   const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei8_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                   const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei8_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                   const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei8_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                   const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei8_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                   const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei8_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                   const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei8_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                   const _Float16 *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei8_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                   const _Float16 *rs1, vuint8m1_t rs2,
                                   size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei8_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                   const _Float16 *rs1, vuint8m1_t rs2,
                                   size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei8_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                   const _Float16 *rs1, vuint8m1_t rs2,
                                   size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei8_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                   const _Float16 *rs1, vuint8m2_t rs2,
                                   size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei16_mu(vbool64_t vm, vfloat16mf4x2_t vd,
                                     const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei16_mu(vbool64_t vm, vfloat16mf4x3_t vd,
                                     const _Float16 *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei16_mu(vbool64_t vm, vfloat16mf4x4_t vd,
                                     const _Float16 *rs1, vuint16mf4_t rs2,
```

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                                      size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei16_mu(vbool64_t vm, vfloat16mf4x5_t vd,
                                        const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei16_mu(vbool64_t vm, vfloat16mf4x6_t vd,
                                        const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei16_mu(vbool64_t vm, vfloat16mf4x7_t vd,
                                        const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei16_mu(vbool64_t vm, vfloat16mf4x8_t vd,
                                        const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei16_mu(vbool32_t vm, vfloat16mf2x2_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei16_mu(vbool32_t vm, vfloat16mf2x3_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei16_mu(vbool32_t vm, vfloat16mf2x4_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei16_mu(vbool32_t vm, vfloat16mf2x5_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei16_mu(vbool32_t vm, vfloat16mf2x6_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei16_mu(vbool32_t vm, vfloat16mf2x7_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei16_mu(vbool32_t vm, vfloat16mf2x8_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei16_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei16_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei16_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei16_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei16_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei16_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei16_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei16_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                       const _Float16 *rs1, vuint16m2_t rs2,
                                       size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei16_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                       const _Float16 *rs1, vuint16m2_t rs2,
                                       size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei16_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                       const _Float16 *rs1, vuint16m2_t rs2,
                                       size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei16_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                       const _Float16 *rs1, vuint16m4_t rs2,
                                       size_t vl);
```

```
vfloat16mf4x2_t __riscv_vloxseg2ei32_mu(vbool64_t vm, vfloat16mf4x2_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei32_mu(vbool64_t vm, vfloat16mf4x3_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei32_mu(vbool64_t vm, vfloat16mf4x4_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei32_mu(vbool64_t vm, vfloat16mf4x5_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei32_mu(vbool64_t vm, vfloat16mf4x6_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei32_mu(vbool64_t vm, vfloat16mf4x7_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei32_mu(vbool64_t vm, vfloat16mf4x8_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei32_mu(vbool32_t vm, vfloat16mf2x2_t vd,
                                        const _Float16 *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei32_mu(vbool32_t vm, vfloat16mf2x3_t vd,
                                        const _Float16 *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei32_mu(vbool32_t vm, vfloat16mf2x4_t vd,
                                        const _Float16 *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei32_mu(vbool32_t vm, vfloat16mf2x5_t vd,
                                        const _Float16 *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei32_mu(vbool32_t vm, vfloat16mf2x6_t vd,
                                        const _Float16 *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei32_mu(vbool32_t vm, vfloat16mf2x7_t vd,
                                        const _Float16 *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei32_mu(vbool32_t vm, vfloat16mf2x8_t vd,
                                        const _Float16 *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei32_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei32_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei32_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei32_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei32_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei32_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei32_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                       const _Float16 *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei32_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                       const _Float16 *rs1, vuint32m4_t rs2,
                                       size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei32_mu(vbool8_t vm, vfloat16m2x3_t vd,
```

```
                                    const _Float16 *rs1, vuint32m4_t rs2,
                                    size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei32_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                    const _Float16 *rs1, vuint32m4_t rs2,
                                    size_t vl);
vfloat16m4x2_t __riscv_vloxseg2ei32_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                    const _Float16 *rs1, vuint32m8_t rs2,
                                    size_t vl);
vfloat16mf4x2_t __riscv_vloxseg2ei64_mu(vbool64_t vm, vfloat16mf4x2_t vd,
                                     const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x3_t __riscv_vloxseg3ei64_mu(vbool64_t vm, vfloat16mf4x3_t vd,
                                     const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x4_t __riscv_vloxseg4ei64_mu(vbool64_t vm, vfloat16mf4x4_t vd,
                                     const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x5_t __riscv_vloxseg5ei64_mu(vbool64_t vm, vfloat16mf4x5_t vd,
                                     const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x6_t __riscv_vloxseg6ei64_mu(vbool64_t vm, vfloat16mf4x6_t vd,
                                     const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x7_t __riscv_vloxseg7ei64_mu(vbool64_t vm, vfloat16mf4x7_t vd,
                                     const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf4x8_t __riscv_vloxseg8ei64_mu(vbool64_t vm, vfloat16mf4x8_t vd,
                                     const _Float16 *rs1, vuint64m1_t rs2,
                                     size_t vl);
vfloat16mf2x2_t __riscv_vloxseg2ei64_mu(vbool32_t vm, vfloat16mf2x2_t vd,
                                     const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x3_t __riscv_vloxseg3ei64_mu(vbool32_t vm, vfloat16mf2x3_t vd,
                                     const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x4_t __riscv_vloxseg4ei64_mu(vbool32_t vm, vfloat16mf2x4_t vd,
                                     const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x5_t __riscv_vloxseg5ei64_mu(vbool32_t vm, vfloat16mf2x5_t vd,
                                     const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x6_t __riscv_vloxseg6ei64_mu(vbool32_t vm, vfloat16mf2x6_t vd,
                                     const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x7_t __riscv_vloxseg7ei64_mu(vbool32_t vm, vfloat16mf2x7_t vd,
                                     const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16mf2x8_t __riscv_vloxseg8ei64_mu(vbool32_t vm, vfloat16mf2x8_t vd,
                                     const _Float16 *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat16m1x2_t __riscv_vloxseg2ei64_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                    const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x3_t __riscv_vloxseg3ei64_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                    const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x4_t __riscv_vloxseg4ei64_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                    const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x5_t __riscv_vloxseg5ei64_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                    const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x6_t __riscv_vloxseg6ei64_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                    const _Float16 *rs1, vuint64m4_t rs2,
                                    size_t vl);
vfloat16m1x7_t __riscv_vloxseg7ei64_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                    const _Float16 *rs1, vuint64m4_t rs2,
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                                      size_t vl);
vfloat16m1x8_t __riscv_vloxseg8ei64_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                       const _Float16 *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat16m2x2_t __riscv_vloxseg2ei64_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                       const _Float16 *rs1, vuint64m8_t rs2,
                                       size_t vl);
vfloat16m2x3_t __riscv_vloxseg3ei64_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                       const _Float16 *rs1, vuint64m8_t rs2,
                                       size_t vl);
vfloat16m2x4_t __riscv_vloxseg4ei64_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                       const _Float16 *rs1, vuint64m8_t rs2,
                                       size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei8_mu(vbool64_t vm, vfloat32mf2x2_t vd,
                                       const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei8_mu(vbool64_t vm, vfloat32mf2x3_t vd,
                                       const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei8_mu(vbool64_t vm, vfloat32mf2x4_t vd,
                                       const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei8_mu(vbool64_t vm, vfloat32mf2x5_t vd,
                                       const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei8_mu(vbool64_t vm, vfloat32mf2x6_t vd,
                                       const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei8_mu(vbool64_t vm, vfloat32mf2x7_t vd,
                                       const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei8_mu(vbool64_t vm, vfloat32mf2x8_t vd,
                                       const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei8_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei8_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei8_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei8_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei8_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei8_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei8_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei8_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                      const float *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei8_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                      const float *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei8_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                      const float *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei8_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                      const float *rs1, vuint8m1_t rs2,
                                      size_t vl);
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vfloat32mf2x2_t __riscv_vloxseg2ei16_mu(vbool64_t vm, vfloat32mf2x2_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei16_mu(vbool64_t vm, vfloat32mf2x3_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei16_mu(vbool64_t vm, vfloat32mf2x4_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei16_mu(vbool64_t vm, vfloat32mf2x5_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei16_mu(vbool64_t vm, vfloat32mf2x6_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei16_mu(vbool64_t vm, vfloat32mf2x7_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei16_mu(vbool64_t vm, vfloat32mf2x8_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei16_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                       const float *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei16_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                       const float *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei16_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                       const float *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei16_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                       const float *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei16_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                       const float *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei16_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                       const float *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei16_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                       const float *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei16_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                       const float *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei16_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                       const float *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei16_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                       const float *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei16_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                       const float *rs1, vuint16m2_t rs2,
                                       size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei32_mu(vbool64_t vm, vfloat32mf2x2_t vd,
                                        const float *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei32_mu(vbool64_t vm, vfloat32mf2x3_t vd,
                                        const float *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei32_mu(vbool64_t vm, vfloat32mf2x4_t vd,
                                        const float *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei32_mu(vbool64_t vm, vfloat32mf2x5_t vd,
                                        const float *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei32_mu(vbool64_t vm, vfloat32mf2x6_t vd,
```

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                                      const float *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei32_mu(vbool64_t vm, vfloat32mf2x7_t vd,
                                      const float *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei32_mu(vbool64_t vm, vfloat32mf2x8_t vd,
                                      const float *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei32_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                     const float *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei32_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                     const float *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei32_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                     const float *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei32_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                     const float *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei32_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                     const float *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei32_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                     const float *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei32_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                     const float *rs1, vuint32m1_t rs2,
                                     size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei32_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                     const float *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei32_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                     const float *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei32_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                     const float *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei32_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                     const float *rs1, vuint32m4_t rs2,
                                     size_t vl);
vfloat32mf2x2_t __riscv_vloxseg2ei64_mu(vbool64_t vm, vfloat32mf2x2_t vd,
                                      const float *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat32mf2x3_t __riscv_vloxseg3ei64_mu(vbool64_t vm, vfloat32mf2x3_t vd,
                                      const float *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat32mf2x4_t __riscv_vloxseg4ei64_mu(vbool64_t vm, vfloat32mf2x4_t vd,
                                      const float *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat32mf2x5_t __riscv_vloxseg5ei64_mu(vbool64_t vm, vfloat32mf2x5_t vd,
                                      const float *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat32mf2x6_t __riscv_vloxseg6ei64_mu(vbool64_t vm, vfloat32mf2x6_t vd,
                                      const float *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat32mf2x7_t __riscv_vloxseg7ei64_mu(vbool64_t vm, vfloat32mf2x7_t vd,
                                      const float *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat32mf2x8_t __riscv_vloxseg8ei64_mu(vbool64_t vm, vfloat32mf2x8_t vd,
                                      const float *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat32m1x2_t __riscv_vloxseg2ei64_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                     const float *rs1, vuint64m2_t rs2,
                                     size_t vl);
vfloat32m1x3_t __riscv_vloxseg3ei64_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                     const float *rs1, vuint64m2_t rs2,
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```
                                      size_t vl);
vfloat32m1x4_t __riscv_vloxseg4ei64_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m1x5_t __riscv_vloxseg5ei64_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m1x6_t __riscv_vloxseg6ei64_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m1x7_t __riscv_vloxseg7ei64_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m1x8_t __riscv_vloxseg8ei64_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                       const float *rs1, vuint64m2_t rs2,
                                       size_t vl);
vfloat32m2x2_t __riscv_vloxseg2ei64_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                       const float *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat32m2x3_t __riscv_vloxseg3ei64_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                       const float *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat32m2x4_t __riscv_vloxseg4ei64_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                       const float *rs1, vuint64m4_t rs2,
                                       size_t vl);
vfloat32m4x2_t __riscv_vloxseg2ei64_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                       const float *rs1, vuint64m8_t rs2,
                                       size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei8_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei8_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei8_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei8_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei8_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei8_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei8_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei8_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                      const double *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei8_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                      const double *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei8_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                      const double *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei8_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                      const double *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei16_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei16_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
```

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vfloat64m1x4_t __riscv_vloxseg4ei16_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei16_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei16_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei16_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei16_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei16_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                       const double *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei16_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                       const double *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei16_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                       const double *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei16_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                       const double *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei32_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei32_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei32_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei32_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei32_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei32_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei32_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                       const double *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei32_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                       const double *rs1, vuint32m1_t rs2,
                                       size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei32_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                       const double *rs1, vuint32m1_t rs2,
                                       size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei32_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                       const double *rs1, vuint32m1_t rs2,
                                       size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei32_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                       const double *rs1, vuint32m2_t rs2,
                                       size_t vl);
vfloat64m1x2_t __riscv_vloxseg2ei64_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                       const double *rs1, vuint64m1_t rs2,
                                       size_t vl);
vfloat64m1x3_t __riscv_vloxseg3ei64_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                       const double *rs1, vuint64m1_t rs2,
                                       size_t vl);
vfloat64m1x4_t __riscv_vloxseg4ei64_mu(vbool64_t vm, vfloat64m1x4_t vd,
```

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                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m1x5_t __riscv_vloxseg5ei64_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m1x6_t __riscv_vloxseg6ei64_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m1x7_t __riscv_vloxseg7ei64_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m1x8_t __riscv_vloxseg8ei64_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m2x2_t __riscv_vloxseg2ei64_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                      const double *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat64m2x3_t __riscv_vloxseg3ei64_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                      const double *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat64m2x4_t __riscv_vloxseg4ei64_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                      const double *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat64m4x2_t __riscv_vloxseg2ei64_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                      const double *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei8_mu(vbool64_t vm, vfloat16mf4x2_t vd,
                                      const _Float16 *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei8_mu(vbool64_t vm, vfloat16mf4x3_t vd,
                                      const _Float16 *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei8_mu(vbool64_t vm, vfloat16mf4x4_t vd,
                                      const _Float16 *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei8_mu(vbool64_t vm, vfloat16mf4x5_t vd,
                                      const _Float16 *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei8_mu(vbool64_t vm, vfloat16mf4x6_t vd,
                                      const _Float16 *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei8_mu(vbool64_t vm, vfloat16mf4x7_t vd,
                                      const _Float16 *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei8_mu(vbool64_t vm, vfloat16mf4x8_t vd,
                                      const _Float16 *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei8_mu(vbool32_t vm, vfloat16mf2x2_t vd,
                                      const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei8_mu(vbool32_t vm, vfloat16mf2x3_t vd,
                                      const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei8_mu(vbool32_t vm, vfloat16mf2x4_t vd,
                                      const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei8_mu(vbool32_t vm, vfloat16mf2x5_t vd,
                                      const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei8_mu(vbool32_t vm, vfloat16mf2x6_t vd,
                                      const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei8_mu(vbool32_t vm, vfloat16mf2x7_t vd,
                                      const _Float16 *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei8_mu(vbool32_t vm, vfloat16mf2x8_t vd,
                                      const _Float16 *rs1, vuint8mf4_t rs2,
```

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                                      size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei8_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                      const _Float16 *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei8_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                      const _Float16 *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei8_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                      const _Float16 *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei8_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                      const _Float16 *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei8_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                      const _Float16 *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei8_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                      const _Float16 *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei8_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                      const _Float16 *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei8_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                      const _Float16 *rs1, vuint8m1_t rs2,
                                      size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei8_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                      const _Float16 *rs1, vuint8m1_t rs2,
                                      size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei8_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                      const _Float16 *rs1, vuint8m1_t rs2,
                                      size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei8_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                      const _Float16 *rs1, vuint8m2_t rs2,
                                      size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei16_mu(vbool64_t vm, vfloat16mf4x2_t vd,
                                        const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei16_mu(vbool64_t vm, vfloat16mf4x3_t vd,
                                        const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei16_mu(vbool64_t vm, vfloat16mf4x4_t vd,
                                        const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei16_mu(vbool64_t vm, vfloat16mf4x5_t vd,
                                        const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei16_mu(vbool64_t vm, vfloat16mf4x6_t vd,
                                        const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei16_mu(vbool64_t vm, vfloat16mf4x7_t vd,
                                        const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei16_mu(vbool64_t vm, vfloat16mf4x8_t vd,
                                        const _Float16 *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei16_mu(vbool32_t vm, vfloat16mf2x2_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei16_mu(vbool32_t vm, vfloat16mf2x3_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei16_mu(vbool32_t vm, vfloat16mf2x4_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei16_mu(vbool32_t vm, vfloat16mf2x5_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
```

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vfloat16mf2x6_t __riscv_vluxseg6ei16_mu(vbool32_t vm, vfloat16mf2x6_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei16_mu(vbool32_t vm, vfloat16mf2x7_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei16_mu(vbool32_t vm, vfloat16mf2x8_t vd,
                                        const _Float16 *rs1, vuint16mf2_t rs2,
                                        size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei16_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei16_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei16_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei16_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei16_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei16_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei16_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                       const _Float16 *rs1, vuint16m1_t rs2,
                                       size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei16_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                       const _Float16 *rs1, vuint16m2_t rs2,
                                       size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei16_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                       const _Float16 *rs1, vuint16m2_t rs2,
                                       size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei16_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                       const _Float16 *rs1, vuint16m2_t rs2,
                                       size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei16_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                       const _Float16 *rs1, vuint16m4_t rs2,
                                       size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei32_mu(vbool64_t vm, vfloat16mf4x2_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei32_mu(vbool64_t vm, vfloat16mf4x3_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei32_mu(vbool64_t vm, vfloat16mf4x4_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei32_mu(vbool64_t vm, vfloat16mf4x5_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei32_mu(vbool64_t vm, vfloat16mf4x6_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei32_mu(vbool64_t vm, vfloat16mf4x7_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei32_mu(vbool64_t vm, vfloat16mf4x8_t vd,
                                        const _Float16 *rs1, vuint32mf2_t rs2,
                                        size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei32_mu(vbool32_t vm, vfloat16mf2x2_t vd,
                                        const _Float16 *rs1, vuint32m1_t rs2,
                                        size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei32_mu(vbool32_t vm, vfloat16mf2x3_t vd,
```

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                                      const _Float16 *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei32_mu(vbool32_t vm, vfloat16mf2x4_t vd,
                                      const _Float16 *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei32_mu(vbool32_t vm, vfloat16mf2x5_t vd,
                                      const _Float16 *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei32_mu(vbool32_t vm, vfloat16mf2x6_t vd,
                                      const _Float16 *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei32_mu(vbool32_t vm, vfloat16mf2x7_t vd,
                                      const _Float16 *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei32_mu(vbool32_t vm, vfloat16mf2x8_t vd,
                                      const _Float16 *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei32_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                     const _Float16 *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei32_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                     const _Float16 *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei32_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                     const _Float16 *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei32_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                     const _Float16 *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei32_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                     const _Float16 *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei32_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                     const _Float16 *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei32_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                     const _Float16 *rs1, vuint32m2_t rs2,
                                     size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei32_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                     const _Float16 *rs1, vuint32m4_t rs2,
                                     size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei32_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                     const _Float16 *rs1, vuint32m4_t rs2,
                                     size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei32_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                     const _Float16 *rs1, vuint32m4_t rs2,
                                     size_t vl);
vfloat16m4x2_t __riscv_vluxseg2ei32_mu(vbool4_t vm, vfloat16m4x2_t vd,
                                     const _Float16 *rs1, vuint32m8_t rs2,
                                     size_t vl);
vfloat16mf4x2_t __riscv_vluxseg2ei64_mu(vbool64_t vm, vfloat16mf4x2_t vd,
                                      const _Float16 *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat16mf4x3_t __riscv_vluxseg3ei64_mu(vbool64_t vm, vfloat16mf4x3_t vd,
                                      const _Float16 *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat16mf4x4_t __riscv_vluxseg4ei64_mu(vbool64_t vm, vfloat16mf4x4_t vd,
                                      const _Float16 *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat16mf4x5_t __riscv_vluxseg5ei64_mu(vbool64_t vm, vfloat16mf4x5_t vd,
                                      const _Float16 *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat16mf4x6_t __riscv_vluxseg6ei64_mu(vbool64_t vm, vfloat16mf4x6_t vd,
                                      const _Float16 *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat16mf4x7_t __riscv_vluxseg7ei64_mu(vbool64_t vm, vfloat16mf4x7_t vd,
                                      const _Float16 *rs1, vuint64m1_t rs2,
```

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                                      size_t vl);
vfloat16mf4x8_t __riscv_vluxseg8ei64_mu(vbool64_t vm, vfloat16mf4x8_t vd,
                                      const _Float16 *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat16mf2x2_t __riscv_vluxseg2ei64_mu(vbool32_t vm, vfloat16mf2x2_t vd,
                                      const _Float16 *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat16mf2x3_t __riscv_vluxseg3ei64_mu(vbool32_t vm, vfloat16mf2x3_t vd,
                                      const _Float16 *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat16mf2x4_t __riscv_vluxseg4ei64_mu(vbool32_t vm, vfloat16mf2x4_t vd,
                                      const _Float16 *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat16mf2x5_t __riscv_vluxseg5ei64_mu(vbool32_t vm, vfloat16mf2x5_t vd,
                                      const _Float16 *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat16mf2x6_t __riscv_vluxseg6ei64_mu(vbool32_t vm, vfloat16mf2x6_t vd,
                                      const _Float16 *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat16mf2x7_t __riscv_vluxseg7ei64_mu(vbool32_t vm, vfloat16mf2x7_t vd,
                                      const _Float16 *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat16mf2x8_t __riscv_vluxseg8ei64_mu(vbool32_t vm, vfloat16mf2x8_t vd,
                                      const _Float16 *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat16m1x2_t __riscv_vluxseg2ei64_mu(vbool16_t vm, vfloat16m1x2_t vd,
                                     const _Float16 *rs1, vuint64m4_t rs2,
                                     size_t vl);
vfloat16m1x3_t __riscv_vluxseg3ei64_mu(vbool16_t vm, vfloat16m1x3_t vd,
                                     const _Float16 *rs1, vuint64m4_t rs2,
                                     size_t vl);
vfloat16m1x4_t __riscv_vluxseg4ei64_mu(vbool16_t vm, vfloat16m1x4_t vd,
                                     const _Float16 *rs1, vuint64m4_t rs2,
                                     size_t vl);
vfloat16m1x5_t __riscv_vluxseg5ei64_mu(vbool16_t vm, vfloat16m1x5_t vd,
                                     const _Float16 *rs1, vuint64m4_t rs2,
                                     size_t vl);
vfloat16m1x6_t __riscv_vluxseg6ei64_mu(vbool16_t vm, vfloat16m1x6_t vd,
                                     const _Float16 *rs1, vuint64m4_t rs2,
                                     size_t vl);
vfloat16m1x7_t __riscv_vluxseg7ei64_mu(vbool16_t vm, vfloat16m1x7_t vd,
                                     const _Float16 *rs1, vuint64m4_t rs2,
                                     size_t vl);
vfloat16m1x8_t __riscv_vluxseg8ei64_mu(vbool16_t vm, vfloat16m1x8_t vd,
                                     const _Float16 *rs1, vuint64m4_t rs2,
                                     size_t vl);
vfloat16m2x2_t __riscv_vluxseg2ei64_mu(vbool8_t vm, vfloat16m2x2_t vd,
                                     const _Float16 *rs1, vuint64m8_t rs2,
                                     size_t vl);
vfloat16m2x3_t __riscv_vluxseg3ei64_mu(vbool8_t vm, vfloat16m2x3_t vd,
                                     const _Float16 *rs1, vuint64m8_t rs2,
                                     size_t vl);
vfloat16m2x4_t __riscv_vluxseg4ei64_mu(vbool8_t vm, vfloat16m2x4_t vd,
                                     const _Float16 *rs1, vuint64m8_t rs2,
                                     size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei8_mu(vbool64_t vm, vfloat32mf2x2_t vd,
                                     const float *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei8_mu(vbool64_t vm, vfloat32mf2x3_t vd,
                                     const float *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei8_mu(vbool64_t vm, vfloat32mf2x4_t vd,
                                     const float *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei8_mu(vbool64_t vm, vfloat32mf2x5_t vd,
                                     const float *rs1, vuint8mf8_t rs2,
                                     size_t vl);
```

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vfloat32mf2x6_t __riscv_vluxseg6ei8_mu(vbool64_t vm, vfloat32mf2x6_t vd,
                                       const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei8_mu(vbool64_t vm, vfloat32mf2x7_t vd,
                                       const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei8_mu(vbool64_t vm, vfloat32mf2x8_t vd,
                                       const float *rs1, vuint8mf8_t rs2,
                                       size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei8_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei8_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei8_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei8_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei8_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei8_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei8_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                      const float *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei8_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                      const float *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei8_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                      const float *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei8_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                      const float *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei8_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                      const float *rs1, vuint8m1_t rs2,
                                      size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei16_mu(vbool64_t vm, vfloat32mf2x2_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei16_mu(vbool64_t vm, vfloat32mf2x3_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei16_mu(vbool64_t vm, vfloat32mf2x4_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei16_mu(vbool64_t vm, vfloat32mf2x5_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei16_mu(vbool64_t vm, vfloat32mf2x6_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei16_mu(vbool64_t vm, vfloat32mf2x7_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei16_mu(vbool64_t vm, vfloat32mf2x8_t vd,
                                        const float *rs1, vuint16mf4_t rs2,
                                        size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei16_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                       const float *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei16_mu(vbool32_t vm, vfloat32m1x3_t vd,
```

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                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei16_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei16_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei16_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei16_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei16_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                      const float *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei16_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                      const float *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei16_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                      const float *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei16_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                      const float *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei16_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                      const float *rs1, vuint16m2_t rs2,
                                      size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei32_mu(vbool64_t vm, vfloat32mf2x2_t vd,
                                       const float *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei32_mu(vbool64_t vm, vfloat32mf2x3_t vd,
                                       const float *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei32_mu(vbool64_t vm, vfloat32mf2x4_t vd,
                                       const float *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei32_mu(vbool64_t vm, vfloat32mf2x5_t vd,
                                       const float *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei32_mu(vbool64_t vm, vfloat32mf2x6_t vd,
                                       const float *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei32_mu(vbool64_t vm, vfloat32mf2x7_t vd,
                                       const float *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei32_mu(vbool64_t vm, vfloat32mf2x8_t vd,
                                       const float *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei32_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                      const float *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei32_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                      const float *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei32_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                      const float *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei32_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                      const float *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei32_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                      const float *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei32_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                      const float *rs1, vuint32m1_t rs2,
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                                      size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei32_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                      const float *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei32_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                      const float *rs1, vuint32m2_t rs2,
                                      size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei32_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                      const float *rs1, vuint32m2_t rs2,
                                      size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei32_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                      const float *rs1, vuint32m2_t rs2,
                                      size_t vl);
vfloat32m4x2_t __riscv_vluxseg2ei32_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                      const float *rs1, vuint32m4_t rs2,
                                      size_t vl);
vfloat32mf2x2_t __riscv_vluxseg2ei64_mu(vbool64_t vm, vfloat32mf2x2_t vd,
                                       const float *rs1, vuint64m1_t rs2,
                                       size_t vl);
vfloat32mf2x3_t __riscv_vluxseg3ei64_mu(vbool64_t vm, vfloat32mf2x3_t vd,
                                       const float *rs1, vuint64m1_t rs2,
                                       size_t vl);
vfloat32mf2x4_t __riscv_vluxseg4ei64_mu(vbool64_t vm, vfloat32mf2x4_t vd,
                                       const float *rs1, vuint64m1_t rs2,
                                       size_t vl);
vfloat32mf2x5_t __riscv_vluxseg5ei64_mu(vbool64_t vm, vfloat32mf2x5_t vd,
                                       const float *rs1, vuint64m1_t rs2,
                                       size_t vl);
vfloat32mf2x6_t __riscv_vluxseg6ei64_mu(vbool64_t vm, vfloat32mf2x6_t vd,
                                       const float *rs1, vuint64m1_t rs2,
                                       size_t vl);
vfloat32mf2x7_t __riscv_vluxseg7ei64_mu(vbool64_t vm, vfloat32mf2x7_t vd,
                                       const float *rs1, vuint64m1_t rs2,
                                       size_t vl);
vfloat32mf2x8_t __riscv_vluxseg8ei64_mu(vbool64_t vm, vfloat32mf2x8_t vd,
                                       const float *rs1, vuint64m1_t rs2,
                                       size_t vl);
vfloat32m1x2_t __riscv_vluxseg2ei64_mu(vbool32_t vm, vfloat32m1x2_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m1x3_t __riscv_vluxseg3ei64_mu(vbool32_t vm, vfloat32m1x3_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m1x4_t __riscv_vluxseg4ei64_mu(vbool32_t vm, vfloat32m1x4_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m1x5_t __riscv_vluxseg5ei64_mu(vbool32_t vm, vfloat32m1x5_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m1x6_t __riscv_vluxseg6ei64_mu(vbool32_t vm, vfloat32m1x6_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m1x7_t __riscv_vluxseg7ei64_mu(vbool32_t vm, vfloat32m1x7_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m1x8_t __riscv_vluxseg8ei64_mu(vbool32_t vm, vfloat32m1x8_t vd,
                                      const float *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat32m2x2_t __riscv_vluxseg2ei64_mu(vbool16_t vm, vfloat32m2x2_t vd,
                                      const float *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat32m2x3_t __riscv_vluxseg3ei64_mu(vbool16_t vm, vfloat32m2x3_t vd,
                                      const float *rs1, vuint64m4_t rs2,
                                      size_t vl);
vfloat32m2x4_t __riscv_vluxseg4ei64_mu(vbool16_t vm, vfloat32m2x4_t vd,
                                      const float *rs1, vuint64m4_t rs2,
                                      size_t vl);
```

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vfloat32m4x2_t __riscv_vluxseg2ei64_mu(vbool8_t vm, vfloat32m4x2_t vd,
                                       const float *rs1, vuint64m8_t rs2,
                                       size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei8_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei8_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei8_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei8_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei8_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei8_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei8_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                      const double *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei8_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                      const double *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei8_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                      const double *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei8_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                      const double *rs1, vuint8mf4_t rs2,
                                      size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei8_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                      const double *rs1, vuint8mf2_t rs2,
                                      size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei16_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei16_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei16_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei16_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei16_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei16_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei16_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                       const double *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei16_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                       const double *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei16_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                       const double *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei16_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                       const double *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei16_mu(vbool16_t vm, vfloat64m4x2_t vd,
```

```
                                      const double *rs1, vuint16m1_t rs2,
                                      size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei32_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                      const double *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei32_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                      const double *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei32_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                      const double *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei32_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                      const double *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei32_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                      const double *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei32_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                      const double *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei32_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                      const double *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei32_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                      const double *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei32_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                      const double *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei32_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                      const double *rs1, vuint32m1_t rs2,
                                      size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei32_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                      const double *rs1, vuint32m2_t rs2,
                                      size_t vl);
vfloat64m1x2_t __riscv_vluxseg2ei64_mu(vbool64_t vm, vfloat64m1x2_t vd,
                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m1x3_t __riscv_vluxseg3ei64_mu(vbool64_t vm, vfloat64m1x3_t vd,
                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m1x4_t __riscv_vluxseg4ei64_mu(vbool64_t vm, vfloat64m1x4_t vd,
                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m1x5_t __riscv_vluxseg5ei64_mu(vbool64_t vm, vfloat64m1x5_t vd,
                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m1x6_t __riscv_vluxseg6ei64_mu(vbool64_t vm, vfloat64m1x6_t vd,
                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m1x7_t __riscv_vluxseg7ei64_mu(vbool64_t vm, vfloat64m1x7_t vd,
                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m1x8_t __riscv_vluxseg8ei64_mu(vbool64_t vm, vfloat64m1x8_t vd,
                                      const double *rs1, vuint64m1_t rs2,
                                      size_t vl);
vfloat64m2x2_t __riscv_vluxseg2ei64_mu(vbool32_t vm, vfloat64m2x2_t vd,
                                      const double *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat64m2x3_t __riscv_vluxseg3ei64_mu(vbool32_t vm, vfloat64m2x3_t vd,
                                      const double *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat64m2x4_t __riscv_vluxseg4ei64_mu(vbool32_t vm, vfloat64m2x4_t vd,
                                      const double *rs1, vuint64m2_t rs2,
                                      size_t vl);
vfloat64m4x2_t __riscv_vluxseg2ei64_mu(vbool16_t vm, vfloat64m4x2_t vd,
                                      const double *rs1, vuint64m4_t rs2,
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                                      size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei8_mu(vbool64_t vm, vint8mf8x2_t vd,
                                    const int8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei8_mu(vbool64_t vm, vint8mf8x3_t vd,
                                    const int8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei8_mu(vbool64_t vm, vint8mf8x4_t vd,
                                    const int8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei8_mu(vbool64_t vm, vint8mf8x5_t vd,
                                    const int8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei8_mu(vbool64_t vm, vint8mf8x6_t vd,
                                    const int8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei8_mu(vbool64_t vm, vint8mf8x7_t vd,
                                    const int8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                    const int8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei8_mu(vbool32_t vm, vint8mf4x2_t vd,
                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei8_mu(vbool32_t vm, vint8mf4x3_t vd,
                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei8_mu(vbool32_t vm, vint8mf4x4_t vd,
                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei8_mu(vbool32_t vm, vint8mf4x5_t vd,
                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei8_mu(vbool32_t vm, vint8mf4x6_t vd,
                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei8_mu(vbool32_t vm, vint8mf4x7_t vd,
                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                    const int8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei8_mu(vbool16_t vm, vint8mf2x2_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei8_mu(vbool16_t vm, vint8mf2x3_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei8_mu(vbool16_t vm, vint8mf2x4_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei8_mu(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei8_mu(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei8_mu(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vloxseg2ei8_mu(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
```

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vint8m1x3_t __riscv_vloxseg3ei8_mu(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vloxseg4ei8_mu(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vloxseg5ei8_mu(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x6_t __riscv_vloxseg6ei8_mu(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x7_t __riscv_vloxseg7ei8_mu(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x8_t __riscv_vloxseg8ei8_mu(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m2x2_t __riscv_vloxseg2ei8_mu(vbool4_t vm, vint8m2x2_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m2x3_t __riscv_vloxseg3ei8_mu(vbool4_t vm, vint8m2x3_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m2x4_t __riscv_vloxseg4ei8_mu(vbool4_t vm, vint8m2x4_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m4x2_t __riscv_vloxseg2ei8_mu(vbool2_t vm, vint8m4x2_t vd,
                                   const int8_t *rs1, vuint8m4_t rs2,
                                   size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei16_mu(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei16_mu(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei16_mu(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei16_mu(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei16_mu(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei16_mu(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei16_mu(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei16_mu(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei16_mu(vbool32_t vm, vint8mf4x3_t vd,
                                     const int8_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei16_mu(vbool32_t vm, vint8mf4x4_t vd,
                                     const int8_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei16_mu(vbool32_t vm, vint8mf4x5_t vd,
                                     const int8_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei16_mu(vbool32_t vm, vint8mf4x6_t vd,
                                     const int8_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei16_mu(vbool32_t vm, vint8mf4x7_t vd,
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                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei16_mu(vbool32_t vm, vint8mf4x8_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei16_mu(vbool16_t vm, vint8mf2x2_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei16_mu(vbool16_t vm, vint8mf2x3_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei16_mu(vbool16_t vm, vint8mf2x4_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei16_mu(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei16_mu(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei16_mu(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei16_mu(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vloxseg2ei16_mu(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vloxseg3ei16_mu(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vloxseg4ei16_mu(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vloxseg5ei16_mu(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x6_t __riscv_vloxseg6ei16_mu(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x7_t __riscv_vloxseg7ei16_mu(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x8_t __riscv_vloxseg8ei16_mu(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m2x2_t __riscv_vloxseg2ei16_mu(vbool4_t vm, vint8m2x2_t vd,
                                   const int8_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vint8m2x3_t __riscv_vloxseg3ei16_mu(vbool4_t vm, vint8m2x3_t vd,
                                   const int8_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vint8m2x4_t __riscv_vloxseg4ei16_mu(vbool4_t vm, vint8m2x4_t vd,
                                   const int8_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vint8m4x2_t __riscv_vloxseg2ei16_mu(vbool2_t vm, vint8m4x2_t vd,
                                   const int8_t *rs1, vuint16m8_t rs2,
                                   size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei32_mu(vbool64_t vm, vint8mf8x2_t vd,
                                    const int8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei32_mu(vbool64_t vm, vint8mf8x3_t vd,
                                    const int8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei32_mu(vbool64_t vm, vint8mf8x4_t vd,
                                    const int8_t *rs1, vuint32mf2_t rs2,
```

```
                                    size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei32_mu(vbool64_t vm, vint8mf8x5_t vd,
                                    const int8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei32_mu(vbool64_t vm, vint8mf8x6_t vd,
                                    const int8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei32_mu(vbool64_t vm, vint8mf8x7_t vd,
                                    const int8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei32_mu(vbool64_t vm, vint8mf8x8_t vd,
                                    const int8_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei32_mu(vbool32_t vm, vint8mf4x2_t vd,
                                    const int8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei32_mu(vbool32_t vm, vint8mf4x3_t vd,
                                    const int8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei32_mu(vbool32_t vm, vint8mf4x4_t vd,
                                    const int8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei32_mu(vbool32_t vm, vint8mf4x5_t vd,
                                    const int8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei32_mu(vbool32_t vm, vint8mf4x6_t vd,
                                    const int8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei32_mu(vbool32_t vm, vint8mf4x7_t vd,
                                    const int8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei32_mu(vbool32_t vm, vint8mf4x8_t vd,
                                    const int8_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei32_mu(vbool16_t vm, vint8mf2x2_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei32_mu(vbool16_t vm, vint8mf2x3_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei32_mu(vbool16_t vm, vint8mf2x4_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei32_mu(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei32_mu(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei32_mu(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei32_mu(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vloxseg2ei32_mu(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vloxseg3ei32_mu(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vloxseg4ei32_mu(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vloxseg5ei32_mu(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
```

```
vint8m1x6_t __riscv_vloxseg6ei32_mu(vbool8_t vm, vint8m1x6_t vd,
                                    const int8_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint8m1x7_t __riscv_vloxseg7ei32_mu(vbool8_t vm, vint8m1x7_t vd,
                                    const int8_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint8m1x8_t __riscv_vloxseg8ei32_mu(vbool8_t vm, vint8m1x8_t vd,
                                    const int8_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint8m2x2_t __riscv_vloxseg2ei32_mu(vbool4_t vm, vint8m2x2_t vd,
                                    const int8_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint8m2x3_t __riscv_vloxseg3ei32_mu(vbool4_t vm, vint8m2x3_t vd,
                                    const int8_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint8m2x4_t __riscv_vloxseg4ei32_mu(vbool4_t vm, vint8m2x4_t vd,
                                    const int8_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint8mf8x2_t __riscv_vloxseg2ei64_mu(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vloxseg3ei64_mu(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vloxseg4ei64_mu(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vloxseg5ei64_mu(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x6_t __riscv_vloxseg6ei64_mu(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x7_t __riscv_vloxseg7ei64_mu(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x8_t __riscv_vloxseg8ei64_mu(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf4x2_t __riscv_vloxseg2ei64_mu(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x3_t __riscv_vloxseg3ei64_mu(vbool32_t vm, vint8mf4x3_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x4_t __riscv_vloxseg4ei64_mu(vbool32_t vm, vint8mf4x4_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x5_t __riscv_vloxseg5ei64_mu(vbool32_t vm, vint8mf4x5_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x6_t __riscv_vloxseg6ei64_mu(vbool32_t vm, vint8mf4x6_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x7_t __riscv_vloxseg7ei64_mu(vbool32_t vm, vint8mf4x7_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x8_t __riscv_vloxseg8ei64_mu(vbool32_t vm, vint8mf4x8_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf2x2_t __riscv_vloxseg2ei64_mu(vbool16_t vm, vint8mf2x2_t vd,
                                     const int8_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint8mf2x3_t __riscv_vloxseg3ei64_mu(vbool16_t vm, vint8mf2x3_t vd,
                                     const int8_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint8mf2x4_t __riscv_vloxseg4ei64_mu(vbool16_t vm, vint8mf2x4_t vd,
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                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vloxseg5ei64_mu(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vloxseg6ei64_mu(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vloxseg7ei64_mu(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vloxseg8ei64_mu(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vloxseg2ei64_mu(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vloxseg3ei64_mu(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vloxseg4ei64_mu(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vloxseg5ei64_mu(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x6_t __riscv_vloxseg6ei64_mu(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x7_t __riscv_vloxseg7ei64_mu(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x8_t __riscv_vloxseg8ei64_mu(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei8_mu(vbool64_t vm, vint16mf4x2_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei8_mu(vbool64_t vm, vint16mf4x3_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei8_mu(vbool64_t vm, vint16mf4x4_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei8_mu(vbool64_t vm, vint16mf4x5_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei8_mu(vbool64_t vm, vint16mf4x6_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei8_mu(vbool64_t vm, vint16mf4x7_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei8_mu(vbool32_t vm, vint16mf2x2_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei8_mu(vbool32_t vm, vint16mf2x3_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei8_mu(vbool32_t vm, vint16mf2x4_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei8_mu(vbool32_t vm, vint16mf2x5_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
```

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                                    size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei8_mu(vbool32_t vm, vint16mf2x6_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei8_mu(vbool32_t vm, vint16mf2x7_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16m1x2_t __riscv_vloxseg2ei8_mu(vbool16_t vm, vint16m1x2_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x3_t __riscv_vloxseg3ei8_mu(vbool16_t vm, vint16m1x3_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x4_t __riscv_vloxseg4ei8_mu(vbool16_t vm, vint16m1x4_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x5_t __riscv_vloxseg5ei8_mu(vbool16_t vm, vint16m1x5_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x6_t __riscv_vloxseg6ei8_mu(vbool16_t vm, vint16m1x6_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x7_t __riscv_vloxseg7ei8_mu(vbool16_t vm, vint16m1x7_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x8_t __riscv_vloxseg8ei8_mu(vbool16_t vm, vint16m1x8_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m2x2_t __riscv_vloxseg2ei8_mu(vbool8_t vm, vint16m2x2_t vd,
                                   const int16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint16m2x3_t __riscv_vloxseg3ei8_mu(vbool8_t vm, vint16m2x3_t vd,
                                   const int16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint16m2x4_t __riscv_vloxseg4ei8_mu(vbool8_t vm, vint16m2x4_t vd,
                                   const int16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint16m4x2_t __riscv_vloxseg2ei8_mu(vbool4_t vm, vint16m4x2_t vd,
                                   const int16_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei16_mu(vbool64_t vm, vint16mf4x2_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei16_mu(vbool64_t vm, vint16mf4x3_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei16_mu(vbool64_t vm, vint16mf4x4_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei16_mu(vbool64_t vm, vint16mf4x5_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei16_mu(vbool64_t vm, vint16mf4x6_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei16_mu(vbool64_t vm, vint16mf4x7_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei16_mu(vbool64_t vm, vint16mf4x8_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei16_mu(vbool32_t vm, vint16mf2x2_t vd,
                                     const int16_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
```

```
vint16mf2x3_t __riscv_vloxseg3ei16_mu(vbool32_t vm, vint16mf2x3_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei16_mu(vbool32_t vm, vint16mf2x4_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei16_mu(vbool32_t vm, vint16mf2x5_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei16_mu(vbool32_t vm, vint16mf2x6_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei16_mu(vbool32_t vm, vint16mf2x7_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei16_mu(vbool32_t vm, vint16mf2x8_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16m1x2_t __riscv_vloxseg2ei16_mu(vbool16_t vm, vint16m1x2_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x3_t __riscv_vloxseg3ei16_mu(vbool16_t vm, vint16m1x3_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x4_t __riscv_vloxseg4ei16_mu(vbool16_t vm, vint16m1x4_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x5_t __riscv_vloxseg5ei16_mu(vbool16_t vm, vint16m1x5_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x6_t __riscv_vloxseg6ei16_mu(vbool16_t vm, vint16m1x6_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x7_t __riscv_vloxseg7ei16_mu(vbool16_t vm, vint16m1x7_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x8_t __riscv_vloxseg8ei16_mu(vbool16_t vm, vint16m1x8_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m2x2_t __riscv_vloxseg2ei16_mu(vbool8_t vm, vint16m2x2_t vd,
                                     const int16_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint16m2x3_t __riscv_vloxseg3ei16_mu(vbool8_t vm, vint16m2x3_t vd,
                                     const int16_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint16m2x4_t __riscv_vloxseg4ei16_mu(vbool8_t vm, vint16m2x4_t vd,
                                     const int16_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint16m4x2_t __riscv_vloxseg2ei16_mu(vbool4_t vm, vint16m4x2_t vd,
                                     const int16_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei32_mu(vbool64_t vm, vint16mf4x2_t vd,
                                      const int16_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei32_mu(vbool64_t vm, vint16mf4x3_t vd,
                                      const int16_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei32_mu(vbool64_t vm, vint16mf4x4_t vd,
                                      const int16_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei32_mu(vbool64_t vm, vint16mf4x5_t vd,
                                      const int16_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei32_mu(vbool64_t vm, vint16mf4x6_t vd,
                                      const int16_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei32_mu(vbool64_t vm, vint16mf4x7_t vd,
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```
                                    const int16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei32_mu(vbool64_t vm, vint16mf4x8_t vd,
                                    const int16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei32_mu(vbool32_t vm, vint16mf2x2_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei32_mu(vbool32_t vm, vint16mf2x3_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei32_mu(vbool32_t vm, vint16mf2x4_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei32_mu(vbool32_t vm, vint16mf2x5_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei32_mu(vbool32_t vm, vint16mf2x6_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei32_mu(vbool32_t vm, vint16mf2x7_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei32_mu(vbool32_t vm, vint16mf2x8_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16m1x2_t __riscv_vloxseg2ei32_mu(vbool16_t vm, vint16m1x2_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x3_t __riscv_vloxseg3ei32_mu(vbool16_t vm, vint16m1x3_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x4_t __riscv_vloxseg4ei32_mu(vbool16_t vm, vint16m1x4_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x5_t __riscv_vloxseg5ei32_mu(vbool16_t vm, vint16m1x5_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x6_t __riscv_vloxseg6ei32_mu(vbool16_t vm, vint16m1x6_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x7_t __riscv_vloxseg7ei32_mu(vbool16_t vm, vint16m1x7_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x8_t __riscv_vloxseg8ei32_mu(vbool16_t vm, vint16m1x8_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m2x2_t __riscv_vloxseg2ei32_mu(vbool8_t vm, vint16m2x2_t vd,
                                   const int16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint16m2x3_t __riscv_vloxseg3ei32_mu(vbool8_t vm, vint16m2x3_t vd,
                                   const int16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint16m2x4_t __riscv_vloxseg4ei32_mu(vbool8_t vm, vint16m2x4_t vd,
                                   const int16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint16m4x2_t __riscv_vloxseg2ei32_mu(vbool4_t vm, vint16m4x2_t vd,
                                   const int16_t *rs1, vuint32m8_t rs2,
                                   size_t vl);
vint16mf4x2_t __riscv_vloxseg2ei64_mu(vbool64_t vm, vint16mf4x2_t vd,
                                    const int16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint16mf4x3_t __riscv_vloxseg3ei64_mu(vbool64_t vm, vint16mf4x3_t vd,
                                    const int16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint16mf4x4_t __riscv_vloxseg4ei64_mu(vbool64_t vm, vint16mf4x4_t vd,
                                    const int16_t *rs1, vuint64m1_t rs2,
```

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                                    size_t vl);
vint16mf4x5_t __riscv_vloxseg5ei64_mu(vbool64_t vm, vint16mf4x5_t vd,
                                    const int16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint16mf4x6_t __riscv_vloxseg6ei64_mu(vbool64_t vm, vint16mf4x6_t vd,
                                    const int16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint16mf4x7_t __riscv_vloxseg7ei64_mu(vbool64_t vm, vint16mf4x7_t vd,
                                    const int16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint16mf4x8_t __riscv_vloxseg8ei64_mu(vbool64_t vm, vint16mf4x8_t vd,
                                    const int16_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint16mf2x2_t __riscv_vloxseg2ei64_mu(vbool32_t vm, vint16mf2x2_t vd,
                                    const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x3_t __riscv_vloxseg3ei64_mu(vbool32_t vm, vint16mf2x3_t vd,
                                    const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x4_t __riscv_vloxseg4ei64_mu(vbool32_t vm, vint16mf2x4_t vd,
                                    const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x5_t __riscv_vloxseg5ei64_mu(vbool32_t vm, vint16mf2x5_t vd,
                                    const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x6_t __riscv_vloxseg6ei64_mu(vbool32_t vm, vint16mf2x6_t vd,
                                    const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x7_t __riscv_vloxseg7ei64_mu(vbool32_t vm, vint16mf2x7_t vd,
                                    const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16mf2x8_t __riscv_vloxseg8ei64_mu(vbool32_t vm, vint16mf2x8_t vd,
                                    const int16_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint16m1x2_t __riscv_vloxseg2ei64_mu(vbool16_t vm, vint16m1x2_t vd,
                                   const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x3_t __riscv_vloxseg3ei64_mu(vbool16_t vm, vint16m1x3_t vd,
                                   const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x4_t __riscv_vloxseg4ei64_mu(vbool16_t vm, vint16m1x4_t vd,
                                   const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x5_t __riscv_vloxseg5ei64_mu(vbool16_t vm, vint16m1x5_t vd,
                                   const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x6_t __riscv_vloxseg6ei64_mu(vbool16_t vm, vint16m1x6_t vd,
                                   const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x7_t __riscv_vloxseg7ei64_mu(vbool16_t vm, vint16m1x7_t vd,
                                   const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m1x8_t __riscv_vloxseg8ei64_mu(vbool16_t vm, vint16m1x8_t vd,
                                   const int16_t *rs1, vuint64m4_t rs2,
                                   size_t vl);
vint16m2x2_t __riscv_vloxseg2ei64_mu(vbool8_t vm, vint16m2x2_t vd,
                                   const int16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint16m2x3_t __riscv_vloxseg3ei64_mu(vbool8_t vm, vint16m2x3_t vd,
                                   const int16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint16m2x4_t __riscv_vloxseg4ei64_mu(vbool8_t vm, vint16m2x4_t vd,
                                   const int16_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei8_mu(vbool64_t vm, vint32mf2x2_t vd,
                                   const int32_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
```

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vint32mf2x3_t __riscv_vloxseg3ei8_mu(vbool64_t vm, vint32mf2x3_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei8_mu(vbool64_t vm, vint32mf2x4_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei8_mu(vbool64_t vm, vint32mf2x5_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei8_mu(vbool64_t vm, vint32mf2x6_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei8_mu(vbool64_t vm, vint32mf2x7_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32m1x2_t __riscv_vloxseg2ei8_mu(vbool32_t vm, vint32m1x2_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x3_t __riscv_vloxseg3ei8_mu(vbool32_t vm, vint32m1x3_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x4_t __riscv_vloxseg4ei8_mu(vbool32_t vm, vint32m1x4_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x5_t __riscv_vloxseg5ei8_mu(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x6_t __riscv_vloxseg6ei8_mu(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x7_t __riscv_vloxseg7ei8_mu(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x8_t __riscv_vloxseg8ei8_mu(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m2x2_t __riscv_vloxseg2ei8_mu(vbool16_t vm, vint32m2x2_t vd,
                                    const int32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint32m2x3_t __riscv_vloxseg3ei8_mu(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint32m2x4_t __riscv_vloxseg4ei8_mu(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint32m4x2_t __riscv_vloxseg2ei8_mu(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei16_mu(vbool64_t vm, vint32mf2x2_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei16_mu(vbool64_t vm, vint32mf2x3_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei16_mu(vbool64_t vm, vint32mf2x4_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei16_mu(vbool64_t vm, vint32mf2x5_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei16_mu(vbool64_t vm, vint32mf2x6_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei16_mu(vbool64_t vm, vint32mf2x7_t vd,
```

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                                    const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei16_mu(vbool64_t vm, vint32mf2x8_t vd,
                                    const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32m1x2_t __riscv_vloxseg2ei16_mu(vbool32_t vm, vint32m1x2_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x3_t __riscv_vloxseg3ei16_mu(vbool32_t vm, vint32m1x3_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x4_t __riscv_vloxseg4ei16_mu(vbool32_t vm, vint32m1x4_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x5_t __riscv_vloxseg5ei16_mu(vbool32_t vm, vint32m1x5_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x6_t __riscv_vloxseg6ei16_mu(vbool32_t vm, vint32m1x6_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x7_t __riscv_vloxseg7ei16_mu(vbool32_t vm, vint32m1x7_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x8_t __riscv_vloxseg8ei16_mu(vbool32_t vm, vint32m1x8_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m2x2_t __riscv_vloxseg2ei16_mu(vbool16_t vm, vint32m2x2_t vd,
                                   const int32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vint32m2x3_t __riscv_vloxseg3ei16_mu(vbool16_t vm, vint32m2x3_t vd,
                                   const int32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vint32m2x4_t __riscv_vloxseg4ei16_mu(vbool16_t vm, vint32m2x4_t vd,
                                   const int32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vint32m4x2_t __riscv_vloxseg2ei16_mu(vbool8_t vm, vint32m4x2_t vd,
                                   const int32_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei32_mu(vbool64_t vm, vint32mf2x2_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei32_mu(vbool64_t vm, vint32mf2x3_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei32_mu(vbool64_t vm, vint32mf2x4_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei32_mu(vbool64_t vm, vint32mf2x5_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei32_mu(vbool64_t vm, vint32mf2x6_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei32_mu(vbool64_t vm, vint32mf2x7_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei32_mu(vbool64_t vm, vint32mf2x8_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32m1x2_t __riscv_vloxseg2ei32_mu(vbool32_t vm, vint32m1x2_t vd,
                                   const int32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint32m1x3_t __riscv_vloxseg3ei32_mu(vbool32_t vm, vint32m1x3_t vd,
                                   const int32_t *rs1, vuint32m1_t rs2,
                                   size_t vl);
vint32m1x4_t __riscv_vloxseg4ei32_mu(vbool32_t vm, vint32m1x4_t vd,
                                   const int32_t *rs1, vuint32m1_t rs2,
```

```
                                    size_t vl);
vint32m1x5_t __riscv_vloxseg5ei32_mu(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint32m1x6_t __riscv_vloxseg6ei32_mu(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint32m1x7_t __riscv_vloxseg7ei32_mu(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint32m1x8_t __riscv_vloxseg8ei32_mu(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint32m2x2_t __riscv_vloxseg2ei32_mu(vbool16_t vm, vint32m2x2_t vd,
                                    const int32_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint32m2x3_t __riscv_vloxseg3ei32_mu(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint32m2x4_t __riscv_vloxseg4ei32_mu(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint32m4x2_t __riscv_vloxseg2ei32_mu(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint32mf2x2_t __riscv_vloxseg2ei64_mu(vbool64_t vm, vint32mf2x2_t vd,
                                     const int32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint32mf2x3_t __riscv_vloxseg3ei64_mu(vbool64_t vm, vint32mf2x3_t vd,
                                     const int32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint32mf2x4_t __riscv_vloxseg4ei64_mu(vbool64_t vm, vint32mf2x4_t vd,
                                     const int32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint32mf2x5_t __riscv_vloxseg5ei64_mu(vbool64_t vm, vint32mf2x5_t vd,
                                     const int32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint32mf2x6_t __riscv_vloxseg6ei64_mu(vbool64_t vm, vint32mf2x6_t vd,
                                     const int32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint32mf2x7_t __riscv_vloxseg7ei64_mu(vbool64_t vm, vint32mf2x7_t vd,
                                     const int32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint32mf2x8_t __riscv_vloxseg8ei64_mu(vbool64_t vm, vint32mf2x8_t vd,
                                     const int32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint32m1x2_t __riscv_vloxseg2ei64_mu(vbool32_t vm, vint32m1x2_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x3_t __riscv_vloxseg3ei64_mu(vbool32_t vm, vint32m1x3_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x4_t __riscv_vloxseg4ei64_mu(vbool32_t vm, vint32m1x4_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x5_t __riscv_vloxseg5ei64_mu(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x6_t __riscv_vloxseg6ei64_mu(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x7_t __riscv_vloxseg7ei64_mu(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint32m1x8_t __riscv_vloxseg8ei64_mu(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
```

```
vint32m2x2_t __riscv_vloxseg2ei64_mu(vbool16_t vm, vint32m2x2_t vd,
                                     const int32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint32m2x3_t __riscv_vloxseg3ei64_mu(vbool16_t vm, vint32m2x3_t vd,
                                     const int32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint32m2x4_t __riscv_vloxseg4ei64_mu(vbool16_t vm, vint32m2x4_t vd,
                                     const int32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint32m4x2_t __riscv_vloxseg2ei64_mu(vbool8_t vm, vint32m4x2_t vd,
                                     const int32_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint64m1x2_t __riscv_vloxseg2ei8_mu(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vloxseg3ei8_mu(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vloxseg4ei8_mu(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vloxseg5ei8_mu(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vloxseg6ei8_mu(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vloxseg7ei8_mu(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vloxseg8ei8_mu(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vloxseg2ei8_mu(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vloxseg3ei8_mu(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vloxseg4ei8_mu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vloxseg2ei8_mu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vloxseg2ei16_mu(vbool64_t vm, vint64m1x2_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x3_t __riscv_vloxseg3ei16_mu(vbool64_t vm, vint64m1x3_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x4_t __riscv_vloxseg4ei16_mu(vbool64_t vm, vint64m1x4_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x5_t __riscv_vloxseg5ei16_mu(vbool64_t vm, vint64m1x5_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x6_t __riscv_vloxseg6ei16_mu(vbool64_t vm, vint64m1x6_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x7_t __riscv_vloxseg7ei16_mu(vbool64_t vm, vint64m1x7_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x8_t __riscv_vloxseg8ei16_mu(vbool64_t vm, vint64m1x8_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m2x2_t __riscv_vloxseg2ei16_mu(vbool32_t vm, vint64m2x2_t vd,
```

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                                    const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vloxseg3ei16_mu(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vloxseg4ei16_mu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vloxseg2ei16_mu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vloxseg2ei32_mu(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vloxseg3ei32_mu(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vloxseg4ei32_mu(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vloxseg5ei32_mu(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vloxseg6ei32_mu(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vloxseg7ei32_mu(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vloxseg8ei32_mu(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vloxseg2ei32_mu(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vloxseg3ei32_mu(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vloxseg4ei32_mu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vloxseg2ei32_mu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vloxseg2ei64_mu(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vloxseg3ei64_mu(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vloxseg4ei64_mu(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vloxseg5ei64_mu(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vloxseg6ei64_mu(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vloxseg7ei64_mu(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vloxseg8ei64_mu(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vloxseg2ei64_mu(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, vuint64m2_t rs2,
```

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                                    size_t vl);
vint64m2x3_t __riscv_vloxseg3ei64_mu(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vloxseg4ei64_mu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vloxseg2ei64_mu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei8_mu(vbool64_t vm, vint8mf8x2_t vd,
                                   const int8_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei8_mu(vbool64_t vm, vint8mf8x3_t vd,
                                   const int8_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei8_mu(vbool64_t vm, vint8mf8x4_t vd,
                                   const int8_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei8_mu(vbool64_t vm, vint8mf8x5_t vd,
                                   const int8_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei8_mu(vbool64_t vm, vint8mf8x6_t vd,
                                   const int8_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei8_mu(vbool64_t vm, vint8mf8x7_t vd,
                                   const int8_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei8_mu(vbool64_t vm, vint8mf8x8_t vd,
                                   const int8_t *rs1, vuint8mf8_t rs2,
                                   size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei8_mu(vbool32_t vm, vint8mf4x2_t vd,
                                   const int8_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei8_mu(vbool32_t vm, vint8mf4x3_t vd,
                                   const int8_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei8_mu(vbool32_t vm, vint8mf4x4_t vd,
                                   const int8_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei8_mu(vbool32_t vm, vint8mf4x5_t vd,
                                   const int8_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei8_mu(vbool32_t vm, vint8mf4x6_t vd,
                                   const int8_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei8_mu(vbool32_t vm, vint8mf4x7_t vd,
                                   const int8_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei8_mu(vbool32_t vm, vint8mf4x8_t vd,
                                   const int8_t *rs1, vuint8mf4_t rs2,
                                   size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei8_mu(vbool16_t vm, vint8mf2x2_t vd,
                                   const int8_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei8_mu(vbool16_t vm, vint8mf2x3_t vd,
                                   const int8_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei8_mu(vbool16_t vm, vint8mf2x4_t vd,
                                   const int8_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei8_mu(vbool16_t vm, vint8mf2x5_t vd,
                                   const int8_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei8_mu(vbool16_t vm, vint8mf2x6_t vd,
                                   const int8_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
```

```
vint8mf2x7_t __riscv_vluxseg7ei8_mu(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei8_mu(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vluxseg2ei8_mu(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vluxseg3ei8_mu(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vluxseg4ei8_mu(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vluxseg5ei8_mu(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x6_t __riscv_vluxseg6ei8_mu(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x7_t __riscv_vluxseg7ei8_mu(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m1x8_t __riscv_vluxseg8ei8_mu(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint8m2x2_t __riscv_vluxseg2ei8_mu(vbool4_t vm, vint8m2x2_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m2x3_t __riscv_vluxseg3ei8_mu(vbool4_t vm, vint8m2x3_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m2x4_t __riscv_vluxseg4ei8_mu(vbool4_t vm, vint8m2x4_t vd,
                                   const int8_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint8m4x2_t __riscv_vluxseg2ei8_mu(vbool2_t vm, vint8m4x2_t vd,
                                   const int8_t *rs1, vuint8m4_t rs2,
                                   size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei16_mu(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei16_mu(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei16_mu(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei16_mu(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei16_mu(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei16_mu(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei16_mu(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei16_mu(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei16_mu(vbool32_t vm, vint8mf4x3_t vd,
                                     const int8_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei16_mu(vbool32_t vm, vint8mf4x4_t vd,
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                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei16_mu(vbool32_t vm, vint8mf4x5_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei16_mu(vbool32_t vm, vint8mf4x6_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei16_mu(vbool32_t vm, vint8mf4x7_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei16_mu(vbool32_t vm, vint8mf4x8_t vd,
                                    const int8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei16_mu(vbool16_t vm, vint8mf2x2_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei16_mu(vbool16_t vm, vint8mf2x3_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei16_mu(vbool16_t vm, vint8mf2x4_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei16_mu(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei16_mu(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei16_mu(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei16_mu(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vluxseg2ei16_mu(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vluxseg3ei16_mu(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vluxseg4ei16_mu(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vluxseg5ei16_mu(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x6_t __riscv_vluxseg6ei16_mu(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x7_t __riscv_vluxseg7ei16_mu(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m1x8_t __riscv_vluxseg8ei16_mu(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint8m2x2_t __riscv_vluxseg2ei16_mu(vbool4_t vm, vint8m2x2_t vd,
                                   const int8_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vint8m2x3_t __riscv_vluxseg3ei16_mu(vbool4_t vm, vint8m2x3_t vd,
                                   const int8_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vint8m2x4_t __riscv_vluxseg4ei16_mu(vbool4_t vm, vint8m2x4_t vd,
                                   const int8_t *rs1, vuint16m4_t rs2,
                                   size_t vl);
vint8m4x2_t __riscv_vluxseg2ei16_mu(vbool2_t vm, vint8m4x2_t vd,
                                   const int8_t *rs1, vuint16m8_t rs2,
```

```
                                    size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei32_mu(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei32_mu(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei32_mu(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei32_mu(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei32_mu(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei32_mu(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei32_mu(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei32_mu(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei32_mu(vbool32_t vm, vint8mf4x3_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei32_mu(vbool32_t vm, vint8mf4x4_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei32_mu(vbool32_t vm, vint8mf4x5_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei32_mu(vbool32_t vm, vint8mf4x6_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei32_mu(vbool32_t vm, vint8mf4x7_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei32_mu(vbool32_t vm, vint8mf4x8_t vd,
                                     const int8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei32_mu(vbool16_t vm, vint8mf2x2_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei32_mu(vbool16_t vm, vint8mf2x3_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei32_mu(vbool16_t vm, vint8mf2x4_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei32_mu(vbool16_t vm, vint8mf2x5_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei32_mu(vbool16_t vm, vint8mf2x6_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei32_mu(vbool16_t vm, vint8mf2x7_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei32_mu(vbool16_t vm, vint8mf2x8_t vd,
                                     const int8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint8m1x2_t __riscv_vluxseg2ei32_mu(vbool8_t vm, vint8m1x2_t vd,
                                    const int8_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
```

```
vint8m1x3_t __riscv_vluxseg3ei32_mu(vbool8_t vm, vint8m1x3_t vd,
                                    const int8_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint8m1x4_t __riscv_vluxseg4ei32_mu(vbool8_t vm, vint8m1x4_t vd,
                                    const int8_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint8m1x5_t __riscv_vluxseg5ei32_mu(vbool8_t vm, vint8m1x5_t vd,
                                    const int8_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint8m1x6_t __riscv_vluxseg6ei32_mu(vbool8_t vm, vint8m1x6_t vd,
                                    const int8_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint8m1x7_t __riscv_vluxseg7ei32_mu(vbool8_t vm, vint8m1x7_t vd,
                                    const int8_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint8m1x8_t __riscv_vluxseg8ei32_mu(vbool8_t vm, vint8m1x8_t vd,
                                    const int8_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vint8m2x2_t __riscv_vluxseg2ei32_mu(vbool4_t vm, vint8m2x2_t vd,
                                    const int8_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint8m2x3_t __riscv_vluxseg3ei32_mu(vbool4_t vm, vint8m2x3_t vd,
                                    const int8_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint8m2x4_t __riscv_vluxseg4ei32_mu(vbool4_t vm, vint8m2x4_t vd,
                                    const int8_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vint8mf8x2_t __riscv_vluxseg2ei64_mu(vbool64_t vm, vint8mf8x2_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x3_t __riscv_vluxseg3ei64_mu(vbool64_t vm, vint8mf8x3_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x4_t __riscv_vluxseg4ei64_mu(vbool64_t vm, vint8mf8x4_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x5_t __riscv_vluxseg5ei64_mu(vbool64_t vm, vint8mf8x5_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x6_t __riscv_vluxseg6ei64_mu(vbool64_t vm, vint8mf8x6_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x7_t __riscv_vluxseg7ei64_mu(vbool64_t vm, vint8mf8x7_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf8x8_t __riscv_vluxseg8ei64_mu(vbool64_t vm, vint8mf8x8_t vd,
                                     const int8_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vint8mf4x2_t __riscv_vluxseg2ei64_mu(vbool32_t vm, vint8mf4x2_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x3_t __riscv_vluxseg3ei64_mu(vbool32_t vm, vint8mf4x3_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x4_t __riscv_vluxseg4ei64_mu(vbool32_t vm, vint8mf4x4_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x5_t __riscv_vluxseg5ei64_mu(vbool32_t vm, vint8mf4x5_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x6_t __riscv_vluxseg6ei64_mu(vbool32_t vm, vint8mf4x6_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x7_t __riscv_vluxseg7ei64_mu(vbool32_t vm, vint8mf4x7_t vd,
                                     const int8_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint8mf4x8_t __riscv_vluxseg8ei64_mu(vbool32_t vm, vint8mf4x8_t vd,
```

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                                    const int8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint8mf2x2_t __riscv_vluxseg2ei64_mu(vbool16_t vm, vint8mf2x2_t vd,
                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x3_t __riscv_vluxseg3ei64_mu(vbool16_t vm, vint8mf2x3_t vd,
                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x4_t __riscv_vluxseg4ei64_mu(vbool16_t vm, vint8mf2x4_t vd,
                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x5_t __riscv_vluxseg5ei64_mu(vbool16_t vm, vint8mf2x5_t vd,
                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x6_t __riscv_vluxseg6ei64_mu(vbool16_t vm, vint8mf2x6_t vd,
                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x7_t __riscv_vluxseg7ei64_mu(vbool16_t vm, vint8mf2x7_t vd,
                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8mf2x8_t __riscv_vluxseg8ei64_mu(vbool16_t vm, vint8mf2x8_t vd,
                                    const int8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vint8m1x2_t __riscv_vluxseg2ei64_mu(vbool8_t vm, vint8m1x2_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x3_t __riscv_vluxseg3ei64_mu(vbool8_t vm, vint8m1x3_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x4_t __riscv_vluxseg4ei64_mu(vbool8_t vm, vint8m1x4_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x5_t __riscv_vluxseg5ei64_mu(vbool8_t vm, vint8m1x5_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x6_t __riscv_vluxseg6ei64_mu(vbool8_t vm, vint8m1x6_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x7_t __riscv_vluxseg7ei64_mu(vbool8_t vm, vint8m1x7_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint8m1x8_t __riscv_vluxseg8ei64_mu(vbool8_t vm, vint8m1x8_t vd,
                                   const int8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei8_mu(vbool64_t vm, vint16mf4x2_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei8_mu(vbool64_t vm, vint16mf4x3_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei8_mu(vbool64_t vm, vint16mf4x4_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei8_mu(vbool64_t vm, vint16mf4x5_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei8_mu(vbool64_t vm, vint16mf4x6_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei8_mu(vbool64_t vm, vint16mf4x7_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei8_mu(vbool64_t vm, vint16mf4x8_t vd,
                                    const int16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei8_mu(vbool32_t vm, vint16mf2x2_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
```

```
                                    size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei8_mu(vbool32_t vm, vint16mf2x3_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei8_mu(vbool32_t vm, vint16mf2x4_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei8_mu(vbool32_t vm, vint16mf2x5_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei8_mu(vbool32_t vm, vint16mf2x6_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei8_mu(vbool32_t vm, vint16mf2x7_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei8_mu(vbool32_t vm, vint16mf2x8_t vd,
                                    const int16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint16m1x2_t __riscv_vluxseg2ei8_mu(vbool16_t vm, vint16m1x2_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x3_t __riscv_vluxseg3ei8_mu(vbool16_t vm, vint16m1x3_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x4_t __riscv_vluxseg4ei8_mu(vbool16_t vm, vint16m1x4_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x5_t __riscv_vluxseg5ei8_mu(vbool16_t vm, vint16m1x5_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x6_t __riscv_vluxseg6ei8_mu(vbool16_t vm, vint16m1x6_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x7_t __riscv_vluxseg7ei8_mu(vbool16_t vm, vint16m1x7_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m1x8_t __riscv_vluxseg8ei8_mu(vbool16_t vm, vint16m1x8_t vd,
                                   const int16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vint16m2x2_t __riscv_vluxseg2ei8_mu(vbool8_t vm, vint16m2x2_t vd,
                                   const int16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint16m2x3_t __riscv_vluxseg3ei8_mu(vbool8_t vm, vint16m2x3_t vd,
                                   const int16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint16m2x4_t __riscv_vluxseg4ei8_mu(vbool8_t vm, vint16m2x4_t vd,
                                   const int16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vint16m4x2_t __riscv_vluxseg2ei8_mu(vbool4_t vm, vint16m4x2_t vd,
                                   const int16_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei16_mu(vbool64_t vm, vint16mf4x2_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei16_mu(vbool64_t vm, vint16mf4x3_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei16_mu(vbool64_t vm, vint16mf4x4_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei16_mu(vbool64_t vm, vint16mf4x5_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei16_mu(vbool64_t vm, vint16mf4x6_t vd,
                                     const int16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
```

```
vint16mf4x7_t __riscv_vluxseg7ei16_mu(vbool64_t vm, vint16mf4x7_t vd,
                                      const int16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei16_mu(vbool64_t vm, vint16mf4x8_t vd,
                                      const int16_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei16_mu(vbool32_t vm, vint16mf2x2_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei16_mu(vbool32_t vm, vint16mf2x3_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei16_mu(vbool32_t vm, vint16mf2x4_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei16_mu(vbool32_t vm, vint16mf2x5_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei16_mu(vbool32_t vm, vint16mf2x6_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei16_mu(vbool32_t vm, vint16mf2x7_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei16_mu(vbool32_t vm, vint16mf2x8_t vd,
                                      const int16_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vint16m1x2_t __riscv_vluxseg2ei16_mu(vbool16_t vm, vint16m1x2_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x3_t __riscv_vluxseg3ei16_mu(vbool16_t vm, vint16m1x3_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x4_t __riscv_vluxseg4ei16_mu(vbool16_t vm, vint16m1x4_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x5_t __riscv_vluxseg5ei16_mu(vbool16_t vm, vint16m1x5_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x6_t __riscv_vluxseg6ei16_mu(vbool16_t vm, vint16m1x6_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x7_t __riscv_vluxseg7ei16_mu(vbool16_t vm, vint16m1x7_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m1x8_t __riscv_vluxseg8ei16_mu(vbool16_t vm, vint16m1x8_t vd,
                                     const int16_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vint16m2x2_t __riscv_vluxseg2ei16_mu(vbool8_t vm, vint16m2x2_t vd,
                                     const int16_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint16m2x3_t __riscv_vluxseg3ei16_mu(vbool8_t vm, vint16m2x3_t vd,
                                     const int16_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint16m2x4_t __riscv_vluxseg4ei16_mu(vbool8_t vm, vint16m2x4_t vd,
                                     const int16_t *rs1, vuint16m2_t rs2,
                                     size_t vl);
vint16m4x2_t __riscv_vluxseg2ei16_mu(vbool4_t vm, vint16m4x2_t vd,
                                     const int16_t *rs1, vuint16m4_t rs2,
                                     size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei32_mu(vbool64_t vm, vint16mf4x2_t vd,
                                      const int16_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei32_mu(vbool64_t vm, vint16mf4x3_t vd,
                                      const int16_t *rs1, vuint32mf2_t rs2,
                                      size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei32_mu(vbool64_t vm, vint16mf4x4_t vd,
```

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                                    const int16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei32_mu(vbool64_t vm, vint16mf4x5_t vd,
                                    const int16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei32_mu(vbool64_t vm, vint16mf4x6_t vd,
                                    const int16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei32_mu(vbool64_t vm, vint16mf4x7_t vd,
                                    const int16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei32_mu(vbool64_t vm, vint16mf4x8_t vd,
                                    const int16_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei32_mu(vbool32_t vm, vint16mf2x2_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei32_mu(vbool32_t vm, vint16mf2x3_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei32_mu(vbool32_t vm, vint16mf2x4_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei32_mu(vbool32_t vm, vint16mf2x5_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei32_mu(vbool32_t vm, vint16mf2x6_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei32_mu(vbool32_t vm, vint16mf2x7_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei32_mu(vbool32_t vm, vint16mf2x8_t vd,
                                    const int16_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint16m1x2_t __riscv_vluxseg2ei32_mu(vbool16_t vm, vint16m1x2_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x3_t __riscv_vluxseg3ei32_mu(vbool16_t vm, vint16m1x3_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x4_t __riscv_vluxseg4ei32_mu(vbool16_t vm, vint16m1x4_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x5_t __riscv_vluxseg5ei32_mu(vbool16_t vm, vint16m1x5_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x6_t __riscv_vluxseg6ei32_mu(vbool16_t vm, vint16m1x6_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x7_t __riscv_vluxseg7ei32_mu(vbool16_t vm, vint16m1x7_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m1x8_t __riscv_vluxseg8ei32_mu(vbool16_t vm, vint16m1x8_t vd,
                                   const int16_t *rs1, vuint32m2_t rs2,
                                   size_t vl);
vint16m2x2_t __riscv_vluxseg2ei32_mu(vbool8_t vm, vint16m2x2_t vd,
                                   const int16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint16m2x3_t __riscv_vluxseg3ei32_mu(vbool8_t vm, vint16m2x3_t vd,
                                   const int16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint16m2x4_t __riscv_vluxseg4ei32_mu(vbool8_t vm, vint16m2x4_t vd,
                                   const int16_t *rs1, vuint32m4_t rs2,
                                   size_t vl);
vint16m4x2_t __riscv_vluxseg2ei32_mu(vbool4_t vm, vint16m4x2_t vd,
                                   const int16_t *rs1, vuint32m8_t rs2,
```

```
                                    size_t vl);
vint16mf4x2_t __riscv_vluxseg2ei64_mu(vbool64_t vm, vint16mf4x2_t vd,
                                      const int16_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint16mf4x3_t __riscv_vluxseg3ei64_mu(vbool64_t vm, vint16mf4x3_t vd,
                                      const int16_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint16mf4x4_t __riscv_vluxseg4ei64_mu(vbool64_t vm, vint16mf4x4_t vd,
                                      const int16_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint16mf4x5_t __riscv_vluxseg5ei64_mu(vbool64_t vm, vint16mf4x5_t vd,
                                      const int16_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint16mf4x6_t __riscv_vluxseg6ei64_mu(vbool64_t vm, vint16mf4x6_t vd,
                                      const int16_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint16mf4x7_t __riscv_vluxseg7ei64_mu(vbool64_t vm, vint16mf4x7_t vd,
                                      const int16_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint16mf4x8_t __riscv_vluxseg8ei64_mu(vbool64_t vm, vint16mf4x8_t vd,
                                      const int16_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint16mf2x2_t __riscv_vluxseg2ei64_mu(vbool32_t vm, vint16mf2x2_t vd,
                                      const int16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint16mf2x3_t __riscv_vluxseg3ei64_mu(vbool32_t vm, vint16mf2x3_t vd,
                                      const int16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint16mf2x4_t __riscv_vluxseg4ei64_mu(vbool32_t vm, vint16mf2x4_t vd,
                                      const int16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint16mf2x5_t __riscv_vluxseg5ei64_mu(vbool32_t vm, vint16mf2x5_t vd,
                                      const int16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint16mf2x6_t __riscv_vluxseg6ei64_mu(vbool32_t vm, vint16mf2x6_t vd,
                                      const int16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint16mf2x7_t __riscv_vluxseg7ei64_mu(vbool32_t vm, vint16mf2x7_t vd,
                                      const int16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint16mf2x8_t __riscv_vluxseg8ei64_mu(vbool32_t vm, vint16mf2x8_t vd,
                                      const int16_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vint16m1x2_t __riscv_vluxseg2ei64_mu(vbool16_t vm, vint16m1x2_t vd,
                                     const int16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint16m1x3_t __riscv_vluxseg3ei64_mu(vbool16_t vm, vint16m1x3_t vd,
                                     const int16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint16m1x4_t __riscv_vluxseg4ei64_mu(vbool16_t vm, vint16m1x4_t vd,
                                     const int16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint16m1x5_t __riscv_vluxseg5ei64_mu(vbool16_t vm, vint16m1x5_t vd,
                                     const int16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint16m1x6_t __riscv_vluxseg6ei64_mu(vbool16_t vm, vint16m1x6_t vd,
                                     const int16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint16m1x7_t __riscv_vluxseg7ei64_mu(vbool16_t vm, vint16m1x7_t vd,
                                     const int16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint16m1x8_t __riscv_vluxseg8ei64_mu(vbool16_t vm, vint16m1x8_t vd,
                                     const int16_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint16m2x2_t __riscv_vluxseg2ei64_mu(vbool8_t vm, vint16m2x2_t vd,
                                     const int16_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
```

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vint16m2x3_t __riscv_vluxseg3ei64_mu(vbool8_t vm, vint16m2x3_t vd,
                                     const int16_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint16m2x4_t __riscv_vluxseg4ei64_mu(vbool8_t vm, vint16m2x4_t vd,
                                     const int16_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei8_mu(vbool64_t vm, vint32mf2x2_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei8_mu(vbool64_t vm, vint32mf2x3_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei8_mu(vbool64_t vm, vint32mf2x4_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei8_mu(vbool64_t vm, vint32mf2x5_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei8_mu(vbool64_t vm, vint32mf2x6_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei8_mu(vbool64_t vm, vint32mf2x7_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei8_mu(vbool64_t vm, vint32mf2x8_t vd,
                                     const int32_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vint32m1x2_t __riscv_vluxseg2ei8_mu(vbool32_t vm, vint32m1x2_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x3_t __riscv_vluxseg3ei8_mu(vbool32_t vm, vint32m1x3_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x4_t __riscv_vluxseg4ei8_mu(vbool32_t vm, vint32m1x4_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x5_t __riscv_vluxseg5ei8_mu(vbool32_t vm, vint32m1x5_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x6_t __riscv_vluxseg6ei8_mu(vbool32_t vm, vint32m1x6_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x7_t __riscv_vluxseg7ei8_mu(vbool32_t vm, vint32m1x7_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m1x8_t __riscv_vluxseg8ei8_mu(vbool32_t vm, vint32m1x8_t vd,
                                    const int32_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint32m2x2_t __riscv_vluxseg2ei8_mu(vbool16_t vm, vint32m2x2_t vd,
                                    const int32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint32m2x3_t __riscv_vluxseg3ei8_mu(vbool16_t vm, vint32m2x3_t vd,
                                    const int32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint32m2x4_t __riscv_vluxseg4ei8_mu(vbool16_t vm, vint32m2x4_t vd,
                                    const int32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint32m4x2_t __riscv_vluxseg2ei8_mu(vbool8_t vm, vint32m4x2_t vd,
                                    const int32_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei16_mu(vbool64_t vm, vint32mf2x2_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei16_mu(vbool64_t vm, vint32mf2x3_t vd,
                                      const int32_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei16_mu(vbool64_t vm, vint32mf2x4_t vd,
```

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                                    const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei16_mu(vbool64_t vm, vint32mf2x5_t vd,
                                    const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei16_mu(vbool64_t vm, vint32mf2x6_t vd,
                                    const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei16_mu(vbool64_t vm, vint32mf2x7_t vd,
                                    const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei16_mu(vbool64_t vm, vint32mf2x8_t vd,
                                    const int32_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint32m1x2_t __riscv_vluxseg2ei16_mu(vbool32_t vm, vint32m1x2_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x3_t __riscv_vluxseg3ei16_mu(vbool32_t vm, vint32m1x3_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x4_t __riscv_vluxseg4ei16_mu(vbool32_t vm, vint32m1x4_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x5_t __riscv_vluxseg5ei16_mu(vbool32_t vm, vint32m1x5_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x6_t __riscv_vluxseg6ei16_mu(vbool32_t vm, vint32m1x6_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x7_t __riscv_vluxseg7ei16_mu(vbool32_t vm, vint32m1x7_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m1x8_t __riscv_vluxseg8ei16_mu(vbool32_t vm, vint32m1x8_t vd,
                                   const int32_t *rs1, vuint16mf2_t rs2,
                                   size_t vl);
vint32m2x2_t __riscv_vluxseg2ei16_mu(vbool16_t vm, vint32m2x2_t vd,
                                   const int32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vint32m2x3_t __riscv_vluxseg3ei16_mu(vbool16_t vm, vint32m2x3_t vd,
                                   const int32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vint32m2x4_t __riscv_vluxseg4ei16_mu(vbool16_t vm, vint32m2x4_t vd,
                                   const int32_t *rs1, vuint16m1_t rs2,
                                   size_t vl);
vint32m4x2_t __riscv_vluxseg2ei16_mu(vbool8_t vm, vint32m4x2_t vd,
                                   const int32_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei32_mu(vbool64_t vm, vint32mf2x2_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei32_mu(vbool64_t vm, vint32mf2x3_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei32_mu(vbool64_t vm, vint32mf2x4_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei32_mu(vbool64_t vm, vint32mf2x5_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei32_mu(vbool64_t vm, vint32mf2x6_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei32_mu(vbool64_t vm, vint32mf2x7_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei32_mu(vbool64_t vm, vint32mf2x8_t vd,
                                    const int32_t *rs1, vuint32mf2_t rs2,
```

```
                                     size_t vl);
vint32m1x2_t __riscv_vluxseg2ei32_mu(vbool32_t vm, vint32m1x2_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x3_t __riscv_vluxseg3ei32_mu(vbool32_t vm, vint32m1x3_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x4_t __riscv_vluxseg4ei32_mu(vbool32_t vm, vint32m1x4_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x5_t __riscv_vluxseg5ei32_mu(vbool32_t vm, vint32m1x5_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x6_t __riscv_vluxseg6ei32_mu(vbool32_t vm, vint32m1x6_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x7_t __riscv_vluxseg7ei32_mu(vbool32_t vm, vint32m1x7_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m1x8_t __riscv_vluxseg8ei32_mu(vbool32_t vm, vint32m1x8_t vd,
                                     const int32_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vint32m2x2_t __riscv_vluxseg2ei32_mu(vbool16_t vm, vint32m2x2_t vd,
                                     const int32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint32m2x3_t __riscv_vluxseg3ei32_mu(vbool16_t vm, vint32m2x3_t vd,
                                     const int32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint32m2x4_t __riscv_vluxseg4ei32_mu(vbool16_t vm, vint32m2x4_t vd,
                                     const int32_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vint32m4x2_t __riscv_vluxseg2ei32_mu(vbool8_t vm, vint32m4x2_t vd,
                                     const int32_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vint32mf2x2_t __riscv_vluxseg2ei64_mu(vbool64_t vm, vint32mf2x2_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x3_t __riscv_vluxseg3ei64_mu(vbool64_t vm, vint32mf2x3_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x4_t __riscv_vluxseg4ei64_mu(vbool64_t vm, vint32mf2x4_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x5_t __riscv_vluxseg5ei64_mu(vbool64_t vm, vint32mf2x5_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x6_t __riscv_vluxseg6ei64_mu(vbool64_t vm, vint32mf2x6_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x7_t __riscv_vluxseg7ei64_mu(vbool64_t vm, vint32mf2x7_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32mf2x8_t __riscv_vluxseg8ei64_mu(vbool64_t vm, vint32mf2x8_t vd,
                                      const int32_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vint32m1x2_t __riscv_vluxseg2ei64_mu(vbool32_t vm, vint32m1x2_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x3_t __riscv_vluxseg3ei64_mu(vbool32_t vm, vint32m1x3_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x4_t __riscv_vluxseg4ei64_mu(vbool32_t vm, vint32m1x4_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x5_t __riscv_vluxseg5ei64_mu(vbool32_t vm, vint32m1x5_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
```

```
vint32m1x6_t __riscv_vluxseg6ei64_mu(vbool32_t vm, vint32m1x6_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x7_t __riscv_vluxseg7ei64_mu(vbool32_t vm, vint32m1x7_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m1x8_t __riscv_vluxseg8ei64_mu(vbool32_t vm, vint32m1x8_t vd,
                                     const int32_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vint32m2x2_t __riscv_vluxseg2ei64_mu(vbool16_t vm, vint32m2x2_t vd,
                                     const int32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint32m2x3_t __riscv_vluxseg3ei64_mu(vbool16_t vm, vint32m2x3_t vd,
                                     const int32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint32m2x4_t __riscv_vluxseg4ei64_mu(vbool16_t vm, vint32m2x4_t vd,
                                     const int32_t *rs1, vuint64m4_t rs2,
                                     size_t vl);
vint32m4x2_t __riscv_vluxseg2ei64_mu(vbool8_t vm, vint32m4x2_t vd,
                                     const int32_t *rs1, vuint64m8_t rs2,
                                     size_t vl);
vint64m1x2_t __riscv_vluxseg2ei8_mu(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vluxseg3ei8_mu(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vluxseg4ei8_mu(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vluxseg5ei8_mu(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vluxseg6ei8_mu(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vluxseg7ei8_mu(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vluxseg8ei8_mu(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vluxseg2ei8_mu(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vluxseg3ei8_mu(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vluxseg4ei8_mu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vluxseg2ei8_mu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vluxseg2ei16_mu(vbool64_t vm, vint64m1x2_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x3_t __riscv_vluxseg3ei16_mu(vbool64_t vm, vint64m1x3_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x4_t __riscv_vluxseg4ei16_mu(vbool64_t vm, vint64m1x4_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x5_t __riscv_vluxseg5ei16_mu(vbool64_t vm, vint64m1x5_t vd,
                                     const int64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vint64m1x6_t __riscv_vluxseg6ei16_mu(vbool64_t vm, vint64m1x6_t vd,
```

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                                    const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vluxseg7ei16_mu(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vluxseg8ei16_mu(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vluxseg2ei16_mu(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vluxseg3ei16_mu(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vluxseg4ei16_mu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vluxseg2ei16_mu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vluxseg2ei32_mu(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vluxseg3ei32_mu(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vluxseg4ei32_mu(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vluxseg5ei32_mu(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vluxseg6ei32_mu(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x7_t __riscv_vluxseg7ei32_mu(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vluxseg8ei32_mu(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vluxseg2ei32_mu(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vluxseg3ei32_mu(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vluxseg4ei32_mu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vluxseg2ei32_mu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vint64m1x2_t __riscv_vluxseg2ei64_mu(vbool64_t vm, vint64m1x2_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x3_t __riscv_vluxseg3ei64_mu(vbool64_t vm, vint64m1x3_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x4_t __riscv_vluxseg4ei64_mu(vbool64_t vm, vint64m1x4_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x5_t __riscv_vluxseg5ei64_mu(vbool64_t vm, vint64m1x5_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x6_t __riscv_vluxseg6ei64_mu(vbool64_t vm, vint64m1x6_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
```

```
                                    size_t vl);
vint64m1x7_t __riscv_vluxseg7ei64_mu(vbool64_t vm, vint64m1x7_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m1x8_t __riscv_vluxseg8ei64_mu(vbool64_t vm, vint64m1x8_t vd,
                                    const int64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vint64m2x2_t __riscv_vluxseg2ei64_mu(vbool32_t vm, vint64m2x2_t vd,
                                    const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m2x3_t __riscv_vluxseg3ei64_mu(vbool32_t vm, vint64m2x3_t vd,
                                    const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m2x4_t __riscv_vluxseg4ei64_mu(vbool32_t vm, vint64m2x4_t vd,
                                    const int64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vint64m4x2_t __riscv_vluxseg2ei64_mu(vbool16_t vm, vint64m4x2_t vd,
                                    const int64_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei8_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                    const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei8_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                    const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei8_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                    const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei8_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                    const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei8_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                    const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei8_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                    const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                    const uint8_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei8_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei8_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei8_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei8_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei8_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei8_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei8_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei8_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
```

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vuint8mf2x4_t __riscv_vloxseg4ei8_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei8_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei8_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei8_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei8_mu(vbool8_t vm, vuint8m1x2_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei8_mu(vbool8_t vm, vuint8m1x3_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei8_mu(vbool8_t vm, vuint8m1x4_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei8_mu(vbool8_t vm, vuint8m1x5_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei8_mu(vbool8_t vm, vuint8m1x6_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei8_mu(vbool8_t vm, vuint8m1x7_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei8_mu(vbool4_t vm, vuint8m2x2_t vd,
                                    const uint8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei8_mu(vbool4_t vm, vuint8m2x3_t vd,
                                    const uint8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei8_mu(vbool4_t vm, vuint8m2x4_t vd,
                                    const uint8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei8_mu(vbool2_t vm, vuint8m4x2_t vd,
                                    const uint8_t *rs1, vuint8m4_t rs2,
                                    size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei16_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei16_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei16_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei16_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei16_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei16_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei16_mu(vbool64_t vm, vuint8mf8x8_t vd,
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                                    const uint8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei16_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei16_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei16_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei16_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei16_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei16_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei16_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei16_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei16_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei16_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei16_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei16_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei16_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei16_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei16_mu(vbool8_t vm, vuint8m1x2_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei16_mu(vbool8_t vm, vuint8m1x3_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei16_mu(vbool8_t vm, vuint8m1x4_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei16_mu(vbool8_t vm, vuint8m1x5_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei16_mu(vbool8_t vm, vuint8m1x6_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei16_mu(vbool8_t vm, vuint8m1x7_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei16_mu(vbool8_t vm, vuint8m1x8_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei16_mu(vbool4_t vm, vuint8m2x2_t vd,
                                   const uint8_t *rs1, vuint16m4_t rs2,
```

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                                    size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei16_mu(vbool4_t vm, vuint8m2x3_t vd,
                                    const uint8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei16_mu(vbool4_t vm, vuint8m2x4_t vd,
                                    const uint8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vuint8m4x2_t __riscv_vloxseg2ei16_mu(vbool2_t vm, vuint8m4x2_t vd,
                                    const uint8_t *rs1, vuint16m8_t rs2,
                                    size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei32_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei32_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei32_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei32_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei32_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei32_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei32_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei32_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei32_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei32_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei32_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei32_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei32_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei32_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei32_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                     const uint8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei32_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                     const uint8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei32_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                     const uint8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei32_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                     const uint8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei32_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                     const uint8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
```

```
vuint8mf2x7_t __riscv_vloxseg7ei32_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei32_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei32_mu(vbool8_t vm, vuint8m1x2_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei32_mu(vbool8_t vm, vuint8m1x3_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei32_mu(vbool8_t vm, vuint8m1x4_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei32_mu(vbool8_t vm, vuint8m1x5_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei32_mu(vbool8_t vm, vuint8m1x6_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei32_mu(vbool8_t vm, vuint8m1x7_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei32_mu(vbool8_t vm, vuint8m1x8_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m2x2_t __riscv_vloxseg2ei32_mu(vbool4_t vm, vuint8m2x2_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint8m2x3_t __riscv_vloxseg3ei32_mu(vbool4_t vm, vuint8m2x3_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint8m2x4_t __riscv_vloxseg4ei32_mu(vbool4_t vm, vuint8m2x4_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint8mf8x2_t __riscv_vloxseg2ei64_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x3_t __riscv_vloxseg3ei64_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x4_t __riscv_vloxseg4ei64_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x5_t __riscv_vloxseg5ei64_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x6_t __riscv_vloxseg6ei64_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x7_t __riscv_vloxseg7ei64_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x8_t __riscv_vloxseg8ei64_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf4x2_t __riscv_vloxseg2ei64_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                      const uint8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint8mf4x3_t __riscv_vloxseg3ei64_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                      const uint8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint8mf4x4_t __riscv_vloxseg4ei64_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                      const uint8_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint8mf4x5_t __riscv_vloxseg5ei64_mu(vbool32_t vm, vuint8mf4x5_t vd,
```

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                                    const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vloxseg6ei64_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                    const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x7_t __riscv_vloxseg7ei64_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                    const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vloxseg8ei64_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vloxseg2ei64_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vloxseg3ei64_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vloxseg4ei64_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vloxseg5ei64_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vloxseg6ei64_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vloxseg7ei64_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x8_t __riscv_vloxseg8ei64_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8m1x2_t __riscv_vloxseg2ei64_mu(vbool8_t vm, vuint8m1x2_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x3_t __riscv_vloxseg3ei64_mu(vbool8_t vm, vuint8m1x3_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x4_t __riscv_vloxseg4ei64_mu(vbool8_t vm, vuint8m1x4_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x5_t __riscv_vloxseg5ei64_mu(vbool8_t vm, vuint8m1x5_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x6_t __riscv_vloxseg6ei64_mu(vbool8_t vm, vuint8m1x6_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x7_t __riscv_vloxseg7ei64_mu(vbool8_t vm, vuint8m1x7_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x8_t __riscv_vloxseg8ei64_mu(vbool8_t vm, vuint8m1x8_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei8_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei8_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei8_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei8_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei8_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
```

```
                                    size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei8_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei8_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei8_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei8_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei8_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei8_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei8_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei8_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei8_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei8_mu(vbool16_t vm, vuint16m1x2_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei8_mu(vbool16_t vm, vuint16m1x3_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei8_mu(vbool16_t vm, vuint16m1x4_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei8_mu(vbool16_t vm, vuint16m1x5_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei8_mu(vbool16_t vm, vuint16m1x6_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei8_mu(vbool16_t vm, vuint16m1x7_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei8_mu(vbool8_t vm, vuint16m2x2_t vd,
                                   const uint16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei8_mu(vbool8_t vm, vuint16m2x3_t vd,
                                   const uint16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei8_mu(vbool8_t vm, vuint16m2x4_t vd,
                                   const uint16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei8_mu(vbool4_t vm, vuint16m4x2_t vd,
                                   const uint16_t *rs1, vuint8m2_t rs2,
                                   size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei16_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                     const uint16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei16_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                     const uint16_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
```

```
vuint16mf4x4_t __riscv_vloxseg4ei16_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei16_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei16_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei16_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei16_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei16_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei16_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei16_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei16_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei16_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei16_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei16_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei16_mu(vbool16_t vm, vuint16m1x2_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei16_mu(vbool16_t vm, vuint16m1x3_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei16_mu(vbool16_t vm, vuint16m1x4_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei16_mu(vbool16_t vm, vuint16m1x5_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei16_mu(vbool16_t vm, vuint16m1x6_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei16_mu(vbool16_t vm, vuint16m1x7_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei16_mu(vbool16_t vm, vuint16m1x8_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei16_mu(vbool8_t vm, vuint16m2x2_t vd,
                                      const uint16_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei16_mu(vbool8_t vm, vuint16m2x3_t vd,
                                      const uint16_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei16_mu(vbool8_t vm, vuint16m2x4_t vd,
                                      const uint16_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei16_mu(vbool4_t vm, vuint16m4x2_t vd,
```

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                                    const uint16_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei32_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei32_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei32_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei32_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei32_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei32_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei32_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei32_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei32_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei32_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei32_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei32_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei32_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei32_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei32_mu(vbool16_t vm, vuint16m1x2_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei32_mu(vbool16_t vm, vuint16m1x3_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei32_mu(vbool16_t vm, vuint16m1x4_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei32_mu(vbool16_t vm, vuint16m1x5_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei32_mu(vbool16_t vm, vuint16m1x6_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m1x7_t __riscv_vloxseg7ei32_mu(vbool16_t vm, vuint16m1x7_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei32_mu(vbool16_t vm, vuint16m1x8_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei32_mu(vbool8_t vm, vuint16m2x2_t vd,
                                    const uint16_t *rs1, vuint32m4_t rs2,
```

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                                    size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei32_mu(vbool8_t vm, vuint16m2x3_t vd,
                                    const uint16_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei32_mu(vbool8_t vm, vuint16m2x4_t vd,
                                    const uint16_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vuint16m4x2_t __riscv_vloxseg2ei32_mu(vbool4_t vm, vuint16m4x2_t vd,
                                    const uint16_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vuint16mf4x2_t __riscv_vloxseg2ei64_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x3_t __riscv_vloxseg3ei64_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x4_t __riscv_vloxseg4ei64_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x5_t __riscv_vloxseg5ei64_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x6_t __riscv_vloxseg6ei64_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x7_t __riscv_vloxseg7ei64_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x8_t __riscv_vloxseg8ei64_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf2x2_t __riscv_vloxseg2ei64_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x3_t __riscv_vloxseg3ei64_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x4_t __riscv_vloxseg4ei64_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x5_t __riscv_vloxseg5ei64_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x6_t __riscv_vloxseg6ei64_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x7_t __riscv_vloxseg7ei64_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x8_t __riscv_vloxseg8ei64_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16m1x2_t __riscv_vloxseg2ei64_mu(vbool16_t vm, vuint16m1x2_t vd,
                                    const uint16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint16m1x3_t __riscv_vloxseg3ei64_mu(vbool16_t vm, vuint16m1x3_t vd,
                                    const uint16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint16m1x4_t __riscv_vloxseg4ei64_mu(vbool16_t vm, vuint16m1x4_t vd,
                                    const uint16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint16m1x5_t __riscv_vloxseg5ei64_mu(vbool16_t vm, vuint16m1x5_t vd,
                                    const uint16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint16m1x6_t __riscv_vloxseg6ei64_mu(vbool16_t vm, vuint16m1x6_t vd,
                                    const uint16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
```

```
vuint16m1x7_t __riscv_vloxseg7ei64_mu(vbool16_t vm, vuint16m1x7_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m1x8_t __riscv_vloxseg8ei64_mu(vbool16_t vm, vuint16m1x8_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m2x2_t __riscv_vloxseg2ei64_mu(vbool8_t vm, vuint16m2x2_t vd,
                                      const uint16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint16m2x3_t __riscv_vloxseg3ei64_mu(vbool8_t vm, vuint16m2x3_t vd,
                                      const uint16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint16m2x4_t __riscv_vloxseg4ei64_mu(vbool8_t vm, vuint16m2x4_t vd,
                                      const uint16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei8_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei8_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei8_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei8_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei8_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei8_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei8_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei8_mu(vbool32_t vm, vuint32m1x2_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei8_mu(vbool32_t vm, vuint32m1x3_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei8_mu(vbool32_t vm, vuint32m1x4_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei8_mu(vbool32_t vm, vuint32m1x5_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei8_mu(vbool32_t vm, vuint32m1x6_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei8_mu(vbool32_t vm, vuint32m1x7_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei8_mu(vbool16_t vm, vuint32m2x2_t vd,
                                     const uint32_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei8_mu(vbool16_t vm, vuint32m2x3_t vd,
                                     const uint32_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei8_mu(vbool16_t vm, vuint32m2x4_t vd,
                                     const uint32_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei8_mu(vbool8_t vm, vuint32m4x2_t vd,
```

```
                                    const uint32_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei16_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                       const uint32_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei16_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                       const uint32_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei16_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                       const uint32_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei16_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                       const uint32_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei16_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                       const uint32_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei16_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                       const uint32_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei16_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                       const uint32_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei16_mu(vbool32_t vm, vuint32m1x2_t vd,
                                      const uint32_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei16_mu(vbool32_t vm, vuint32m1x3_t vd,
                                      const uint32_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei16_mu(vbool32_t vm, vuint32m1x4_t vd,
                                      const uint32_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei16_mu(vbool32_t vm, vuint32m1x5_t vd,
                                      const uint32_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei16_mu(vbool32_t vm, vuint32m1x6_t vd,
                                      const uint32_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei16_mu(vbool32_t vm, vuint32m1x7_t vd,
                                      const uint32_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei16_mu(vbool32_t vm, vuint32m1x8_t vd,
                                      const uint32_t *rs1, vuint16mf2_t rs2,
                                      size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei16_mu(vbool16_t vm, vuint32m2x2_t vd,
                                      const uint32_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei16_mu(vbool16_t vm, vuint32m2x3_t vd,
                                      const uint32_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei16_mu(vbool16_t vm, vuint32m2x4_t vd,
                                      const uint32_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei16_mu(vbool8_t vm, vuint32m4x2_t vd,
                                      const uint32_t *rs1, vuint16m2_t rs2,
                                      size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei32_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei32_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei32_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei32_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
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                                     size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei32_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei32_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei32_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                       const uint32_t *rs1, vuint32mf2_t rs2,
                                       size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei32_mu(vbool32_t vm, vuint32m1x2_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x3_t __riscv_vloxseg3ei32_mu(vbool32_t vm, vuint32m1x3_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei32_mu(vbool32_t vm, vuint32m1x4_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei32_mu(vbool32_t vm, vuint32m1x5_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei32_mu(vbool32_t vm, vuint32m1x6_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei32_mu(vbool32_t vm, vuint32m1x7_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei32_mu(vbool32_t vm, vuint32m1x8_t vd,
                                      const uint32_t *rs1, vuint32m1_t rs2,
                                      size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei32_mu(vbool16_t vm, vuint32m2x2_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei32_mu(vbool16_t vm, vuint32m2x3_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei32_mu(vbool16_t vm, vuint32m2x4_t vd,
                                      const uint32_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei32_mu(vbool8_t vm, vuint32m4x2_t vd,
                                      const uint32_t *rs1, vuint32m4_t rs2,
                                      size_t vl);
vuint32mf2x2_t __riscv_vloxseg2ei64_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x3_t __riscv_vloxseg3ei64_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x4_t __riscv_vloxseg4ei64_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x5_t __riscv_vloxseg5ei64_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x6_t __riscv_vloxseg6ei64_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x7_t __riscv_vloxseg7ei64_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x8_t __riscv_vloxseg8ei64_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32m1x2_t __riscv_vloxseg2ei64_mu(vbool32_t vm, vuint32m1x2_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
```

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vuint32m1x3_t __riscv_vloxseg3ei64_mu(vbool32_t vm, vuint32m1x3_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x4_t __riscv_vloxseg4ei64_mu(vbool32_t vm, vuint32m1x4_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x5_t __riscv_vloxseg5ei64_mu(vbool32_t vm, vuint32m1x5_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x6_t __riscv_vloxseg6ei64_mu(vbool32_t vm, vuint32m1x6_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x7_t __riscv_vloxseg7ei64_mu(vbool32_t vm, vuint32m1x7_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x8_t __riscv_vloxseg8ei64_mu(vbool32_t vm, vuint32m1x8_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m2x2_t __riscv_vloxseg2ei64_mu(vbool16_t vm, vuint32m2x2_t vd,
                                      const uint32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint32m2x3_t __riscv_vloxseg3ei64_mu(vbool16_t vm, vuint32m2x3_t vd,
                                      const uint32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint32m2x4_t __riscv_vloxseg4ei64_mu(vbool16_t vm, vuint32m2x4_t vd,
                                      const uint32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint32m4x2_t __riscv_vloxseg2ei64_mu(vbool8_t vm, vuint32m4x2_t vd,
                                      const uint32_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei8_mu(vbool64_t vm, vuint64m1x2_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei8_mu(vbool64_t vm, vuint64m1x3_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei8_mu(vbool64_t vm, vuint64m1x4_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei8_mu(vbool64_t vm, vuint64m1x5_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei8_mu(vbool64_t vm, vuint64m1x6_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei8_mu(vbool64_t vm, vuint64m1x7_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei8_mu(vbool32_t vm, vuint64m2x2_t vd,
                                     const uint64_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei8_mu(vbool32_t vm, vuint64m2x3_t vd,
                                     const uint64_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei8_mu(vbool32_t vm, vuint64m2x4_t vd,
                                     const uint64_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei8_mu(vbool16_t vm, vuint64m4x2_t vd,
                                     const uint64_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei16_mu(vbool64_t vm, vuint64m1x2_t vd,
                                      const uint64_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei16_mu(vbool64_t vm, vuint64m1x3_t vd,
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                                    const uint64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei16_mu(vbool64_t vm, vuint64m1x4_t vd,
                                    const uint64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei16_mu(vbool64_t vm, vuint64m1x5_t vd,
                                    const uint64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei16_mu(vbool64_t vm, vuint64m1x6_t vd,
                                    const uint64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei16_mu(vbool64_t vm, vuint64m1x7_t vd,
                                    const uint64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei16_mu(vbool64_t vm, vuint64m1x8_t vd,
                                    const uint64_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei16_mu(vbool32_t vm, vuint64m2x2_t vd,
                                    const uint64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei16_mu(vbool32_t vm, vuint64m2x3_t vd,
                                    const uint64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei16_mu(vbool32_t vm, vuint64m2x4_t vd,
                                    const uint64_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei16_mu(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei32_mu(vbool64_t vm, vuint64m1x2_t vd,
                                    const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei32_mu(vbool64_t vm, vuint64m1x3_t vd,
                                    const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei32_mu(vbool64_t vm, vuint64m1x4_t vd,
                                    const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei32_mu(vbool64_t vm, vuint64m1x5_t vd,
                                    const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei32_mu(vbool64_t vm, vuint64m1x6_t vd,
                                    const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei32_mu(vbool64_t vm, vuint64m1x7_t vd,
                                    const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei32_mu(vbool64_t vm, vuint64m1x8_t vd,
                                    const uint64_t *rs1, vuint32mf2_t rs2,
                                    size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei32_mu(vbool32_t vm, vuint64m2x2_t vd,
                                    const uint64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei32_mu(vbool32_t vm, vuint64m2x3_t vd,
                                    const uint64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei32_mu(vbool32_t vm, vuint64m2x4_t vd,
                                    const uint64_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei32_mu(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vloxseg2ei64_mu(vbool64_t vm, vuint64m1x2_t vd,
                                    const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x3_t __riscv_vloxseg3ei64_mu(vbool64_t vm, vuint64m1x3_t vd,
                                    const uint64_t *rs1, vuint64m1_t rs2,
```

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                                    size_t vl);
vuint64m1x4_t __riscv_vloxseg4ei64_mu(vbool64_t vm, vuint64m1x4_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m1x5_t __riscv_vloxseg5ei64_mu(vbool64_t vm, vuint64m1x5_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m1x6_t __riscv_vloxseg6ei64_mu(vbool64_t vm, vuint64m1x6_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m1x7_t __riscv_vloxseg7ei64_mu(vbool64_t vm, vuint64m1x7_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m1x8_t __riscv_vloxseg8ei64_mu(vbool64_t vm, vuint64m1x8_t vd,
                                      const uint64_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint64m2x2_t __riscv_vloxseg2ei64_mu(vbool32_t vm, vuint64m2x2_t vd,
                                      const uint64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint64m2x3_t __riscv_vloxseg3ei64_mu(vbool32_t vm, vuint64m2x3_t vd,
                                      const uint64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint64m2x4_t __riscv_vloxseg4ei64_mu(vbool32_t vm, vuint64m2x4_t vd,
                                      const uint64_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint64m4x2_t __riscv_vloxseg2ei64_mu(vbool16_t vm, vuint64m4x2_t vd,
                                      const uint64_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei8_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei8_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei8_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei8_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei8_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei8_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei8_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                     const uint8_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei8_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                     const uint8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei8_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                     const uint8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei8_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                     const uint8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei8_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                     const uint8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei8_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                     const uint8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei8_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                     const uint8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
```

```
vuint8mf4x8_t __riscv_vluxseg8ei8_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                     const uint8_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei8_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei8_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei8_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei8_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei8_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei8_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei8_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                     const uint8_t *rs1, vuint8mf2_t rs2,
                                     size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei8_mu(vbool8_t vm, vuint8m1x2_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei8_mu(vbool8_t vm, vuint8m1x3_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei8_mu(vbool8_t vm, vuint8m1x4_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei8_mu(vbool8_t vm, vuint8m1x5_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei8_mu(vbool8_t vm, vuint8m1x6_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei8_mu(vbool8_t vm, vuint8m1x7_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei8_mu(vbool8_t vm, vuint8m1x8_t vd,
                                    const uint8_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei8_mu(vbool4_t vm, vuint8m2x2_t vd,
                                    const uint8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei8_mu(vbool4_t vm, vuint8m2x3_t vd,
                                    const uint8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei8_mu(vbool4_t vm, vuint8m2x4_t vd,
                                    const uint8_t *rs1, vuint8m2_t rs2,
                                    size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei8_mu(vbool2_t vm, vuint8m4x2_t vd,
                                    const uint8_t *rs1, vuint8m4_t rs2,
                                    size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei16_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei16_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei16_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                      const uint8_t *rs1, vuint16mf4_t rs2,
                                      size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei16_mu(vbool64_t vm, vuint8mf8x5_t vd,
```

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                                    const uint8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei16_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                    const uint8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei16_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                    const uint8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei16_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                    const uint8_t *rs1, vuint16mf4_t rs2,
                                    size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei16_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei16_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei16_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei16_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei16_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei16_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei16_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei16_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei16_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei16_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei16_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei16_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei16_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei16_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                    const uint8_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei16_mu(vbool8_t vm, vuint8m1x2_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei16_mu(vbool8_t vm, vuint8m1x3_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei16_mu(vbool8_t vm, vuint8m1x4_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei16_mu(vbool8_t vm, vuint8m1x5_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
                                   size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei16_mu(vbool8_t vm, vuint8m1x6_t vd,
                                   const uint8_t *rs1, vuint16m2_t rs2,
```

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                                    size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei16_mu(vbool8_t vm, vuint8m1x7_t vd,
                                    const uint8_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei16_mu(vbool8_t vm, vuint8m1x8_t vd,
                                    const uint8_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei16_mu(vbool4_t vm, vuint8m2x2_t vd,
                                    const uint8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei16_mu(vbool4_t vm, vuint8m2x3_t vd,
                                    const uint8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei16_mu(vbool4_t vm, vuint8m2x4_t vd,
                                    const uint8_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vuint8m4x2_t __riscv_vluxseg2ei16_mu(vbool2_t vm, vuint8m4x2_t vd,
                                    const uint8_t *rs1, vuint16m8_t rs2,
                                    size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei32_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei32_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei32_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei32_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei32_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei32_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei32_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                     const uint8_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei32_mu(vbool32_t vm, vuint8mf4x2_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei32_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei32_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei32_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei32_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei32_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei32_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                     const uint8_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei32_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                     const uint8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei32_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                     const uint8_t *rs1, vuint32m2_t rs2,
                                     size_t vl);
```

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vuint8mf2x4_t __riscv_vluxseg4ei32_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei32_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei32_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei32_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei32_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                      const uint8_t *rs1, vuint32m2_t rs2,
                                      size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei32_mu(vbool8_t vm, vuint8m1x2_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei32_mu(vbool8_t vm, vuint8m1x3_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei32_mu(vbool8_t vm, vuint8m1x4_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei32_mu(vbool8_t vm, vuint8m1x5_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei32_mu(vbool8_t vm, vuint8m1x6_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei32_mu(vbool8_t vm, vuint8m1x7_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei32_mu(vbool8_t vm, vuint8m1x8_t vd,
                                     const uint8_t *rs1, vuint32m4_t rs2,
                                     size_t vl);
vuint8m2x2_t __riscv_vluxseg2ei32_mu(vbool4_t vm, vuint8m2x2_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint8m2x3_t __riscv_vluxseg3ei32_mu(vbool4_t vm, vuint8m2x3_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint8m2x4_t __riscv_vluxseg4ei32_mu(vbool4_t vm, vuint8m2x4_t vd,
                                     const uint8_t *rs1, vuint32m8_t rs2,
                                     size_t vl);
vuint8mf8x2_t __riscv_vluxseg2ei64_mu(vbool64_t vm, vuint8mf8x2_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x3_t __riscv_vluxseg3ei64_mu(vbool64_t vm, vuint8mf8x3_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x4_t __riscv_vluxseg4ei64_mu(vbool64_t vm, vuint8mf8x4_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x5_t __riscv_vluxseg5ei64_mu(vbool64_t vm, vuint8mf8x5_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x6_t __riscv_vluxseg6ei64_mu(vbool64_t vm, vuint8mf8x6_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x7_t __riscv_vluxseg7ei64_mu(vbool64_t vm, vuint8mf8x7_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf8x8_t __riscv_vluxseg8ei64_mu(vbool64_t vm, vuint8mf8x8_t vd,
                                      const uint8_t *rs1, vuint64m1_t rs2,
                                      size_t vl);
vuint8mf4x2_t __riscv_vluxseg2ei64_mu(vbool32_t vm, vuint8mf4x2_t vd,
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                                    const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x3_t __riscv_vluxseg3ei64_mu(vbool32_t vm, vuint8mf4x3_t vd,
                                    const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x4_t __riscv_vluxseg4ei64_mu(vbool32_t vm, vuint8mf4x4_t vd,
                                    const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x5_t __riscv_vluxseg5ei64_mu(vbool32_t vm, vuint8mf4x5_t vd,
                                    const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x6_t __riscv_vluxseg6ei64_mu(vbool32_t vm, vuint8mf4x6_t vd,
                                    const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x7_t __riscv_vluxseg7ei64_mu(vbool32_t vm, vuint8mf4x7_t vd,
                                    const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf4x8_t __riscv_vluxseg8ei64_mu(vbool32_t vm, vuint8mf4x8_t vd,
                                    const uint8_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint8mf2x2_t __riscv_vluxseg2ei64_mu(vbool16_t vm, vuint8mf2x2_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x3_t __riscv_vluxseg3ei64_mu(vbool16_t vm, vuint8mf2x3_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x4_t __riscv_vluxseg4ei64_mu(vbool16_t vm, vuint8mf2x4_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x5_t __riscv_vluxseg5ei64_mu(vbool16_t vm, vuint8mf2x5_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x6_t __riscv_vluxseg6ei64_mu(vbool16_t vm, vuint8mf2x6_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x7_t __riscv_vluxseg7ei64_mu(vbool16_t vm, vuint8mf2x7_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8mf2x8_t __riscv_vluxseg8ei64_mu(vbool16_t vm, vuint8mf2x8_t vd,
                                    const uint8_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint8m1x2_t __riscv_vluxseg2ei64_mu(vbool8_t vm, vuint8m1x2_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x3_t __riscv_vluxseg3ei64_mu(vbool8_t vm, vuint8m1x3_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x4_t __riscv_vluxseg4ei64_mu(vbool8_t vm, vuint8m1x4_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x5_t __riscv_vluxseg5ei64_mu(vbool8_t vm, vuint8m1x5_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x6_t __riscv_vluxseg6ei64_mu(vbool8_t vm, vuint8m1x6_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x7_t __riscv_vluxseg7ei64_mu(vbool8_t vm, vuint8m1x7_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint8m1x8_t __riscv_vluxseg8ei64_mu(vbool8_t vm, vuint8m1x8_t vd,
                                   const uint8_t *rs1, vuint64m8_t rs2,
                                   size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei8_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei8_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
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                                    size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei8_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei8_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei8_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei8_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei8_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                    const uint16_t *rs1, vuint8mf8_t rs2,
                                    size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei8_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei8_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei8_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei8_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei8_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei8_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei8_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                    const uint16_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei8_mu(vbool16_t vm, vuint16m1x2_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei8_mu(vbool16_t vm, vuint16m1x3_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei8_mu(vbool16_t vm, vuint16m1x4_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei8_mu(vbool16_t vm, vuint16m1x5_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei8_mu(vbool16_t vm, vuint16m1x6_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei8_mu(vbool16_t vm, vuint16m1x7_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei8_mu(vbool16_t vm, vuint16m1x8_t vd,
                                   const uint16_t *rs1, vuint8mf2_t rs2,
                                   size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei8_mu(vbool8_t vm, vuint16m2x2_t vd,
                                   const uint16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei8_mu(vbool8_t vm, vuint16m2x3_t vd,
                                   const uint16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei8_mu(vbool8_t vm, vuint16m2x4_t vd,
                                   const uint16_t *rs1, vuint8m1_t rs2,
                                   size_t vl);
```

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vuint16m4x2_t __riscv_vluxseg2ei8_mu(vbool4_t vm, vuint16m4x2_t vd,
                                     const uint16_t *rs1, vuint8m2_t rs2,
                                     size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei16_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei16_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei16_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei16_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei16_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei16_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei16_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                       const uint16_t *rs1, vuint16mf4_t rs2,
                                       size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei16_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei16_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei16_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei16_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei16_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei16_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei16_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                       const uint16_t *rs1, vuint16mf2_t rs2,
                                       size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei16_mu(vbool16_t vm, vuint16m1x2_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei16_mu(vbool16_t vm, vuint16m1x3_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei16_mu(vbool16_t vm, vuint16m1x4_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei16_mu(vbool16_t vm, vuint16m1x5_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei16_mu(vbool16_t vm, vuint16m1x6_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei16_mu(vbool16_t vm, vuint16m1x7_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei16_mu(vbool16_t vm, vuint16m1x8_t vd,
                                      const uint16_t *rs1, vuint16m1_t rs2,
                                      size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei16_mu(vbool8_t vm, vuint16m2x2_t vd,
```

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                                    const uint16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei16_mu(vbool8_t vm, vuint16m2x3_t vd,
                                    const uint16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei16_mu(vbool8_t vm, vuint16m2x4_t vd,
                                    const uint16_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei16_mu(vbool4_t vm, vuint16m4x2_t vd,
                                    const uint16_t *rs1, vuint16m4_t rs2,
                                    size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei32_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei32_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei32_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei32_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei32_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei32_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei32_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                     const uint16_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei32_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei32_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei32_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei32_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei32_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei32_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei32_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                     const uint16_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei32_mu(vbool16_t vm, vuint16m1x2_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei32_mu(vbool16_t vm, vuint16m1x3_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m1x4_t __riscv_vluxseg4ei32_mu(vbool16_t vm, vuint16m1x4_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei32_mu(vbool16_t vm, vuint16m1x5_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei32_mu(vbool16_t vm, vuint16m1x6_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
```

```
                                    size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei32_mu(vbool16_t vm, vuint16m1x7_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei32_mu(vbool16_t vm, vuint16m1x8_t vd,
                                    const uint16_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei32_mu(vbool8_t vm, vuint16m2x2_t vd,
                                    const uint16_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei32_mu(vbool8_t vm, vuint16m2x3_t vd,
                                    const uint16_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei32_mu(vbool8_t vm, vuint16m2x4_t vd,
                                    const uint16_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vuint16m4x2_t __riscv_vluxseg2ei32_mu(vbool4_t vm, vuint16m4x2_t vd,
                                    const uint16_t *rs1, vuint32m8_t rs2,
                                    size_t vl);
vuint16mf4x2_t __riscv_vluxseg2ei64_mu(vbool64_t vm, vuint16mf4x2_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x3_t __riscv_vluxseg3ei64_mu(vbool64_t vm, vuint16mf4x3_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x4_t __riscv_vluxseg4ei64_mu(vbool64_t vm, vuint16mf4x4_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x5_t __riscv_vluxseg5ei64_mu(vbool64_t vm, vuint16mf4x5_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x6_t __riscv_vluxseg6ei64_mu(vbool64_t vm, vuint16mf4x6_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x7_t __riscv_vluxseg7ei64_mu(vbool64_t vm, vuint16mf4x7_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf4x8_t __riscv_vluxseg8ei64_mu(vbool64_t vm, vuint16mf4x8_t vd,
                                     const uint16_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint16mf2x2_t __riscv_vluxseg2ei64_mu(vbool32_t vm, vuint16mf2x2_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x3_t __riscv_vluxseg3ei64_mu(vbool32_t vm, vuint16mf2x3_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x4_t __riscv_vluxseg4ei64_mu(vbool32_t vm, vuint16mf2x4_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x5_t __riscv_vluxseg5ei64_mu(vbool32_t vm, vuint16mf2x5_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x6_t __riscv_vluxseg6ei64_mu(vbool32_t vm, vuint16mf2x6_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x7_t __riscv_vluxseg7ei64_mu(vbool32_t vm, vuint16mf2x7_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16mf2x8_t __riscv_vluxseg8ei64_mu(vbool32_t vm, vuint16mf2x8_t vd,
                                     const uint16_t *rs1, vuint64m2_t rs2,
                                     size_t vl);
vuint16m1x2_t __riscv_vluxseg2ei64_mu(vbool16_t vm, vuint16m1x2_t vd,
                                    const uint16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
vuint16m1x3_t __riscv_vluxseg3ei64_mu(vbool16_t vm, vuint16m1x3_t vd,
                                    const uint16_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
```

```
vuint16m1x4_t __riscv_vluxseg4ei64_mu(vbool16_t vm, vuint16m1x4_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m1x5_t __riscv_vluxseg5ei64_mu(vbool16_t vm, vuint16m1x5_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m1x6_t __riscv_vluxseg6ei64_mu(vbool16_t vm, vuint16m1x6_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m1x7_t __riscv_vluxseg7ei64_mu(vbool16_t vm, vuint16m1x7_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m1x8_t __riscv_vluxseg8ei64_mu(vbool16_t vm, vuint16m1x8_t vd,
                                      const uint16_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint16m2x2_t __riscv_vluxseg2ei64_mu(vbool8_t vm, vuint16m2x2_t vd,
                                      const uint16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint16m2x3_t __riscv_vluxseg3ei64_mu(vbool8_t vm, vuint16m2x3_t vd,
                                      const uint16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint16m2x4_t __riscv_vluxseg4ei64_mu(vbool8_t vm, vuint16m2x4_t vd,
                                      const uint16_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei8_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei8_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei8_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei8_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei8_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei8_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei8_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                      const uint32_t *rs1, vuint8mf8_t rs2,
                                      size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei8_mu(vbool32_t vm, vuint32m1x2_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei8_mu(vbool32_t vm, vuint32m1x3_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei8_mu(vbool32_t vm, vuint32m1x4_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei8_mu(vbool32_t vm, vuint32m1x5_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei8_mu(vbool32_t vm, vuint32m1x6_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei8_mu(vbool32_t vm, vuint32m1x7_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei8_mu(vbool32_t vm, vuint32m1x8_t vd,
                                     const uint32_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei8_mu(vbool16_t vm, vuint32m2x2_t vd,
```

```
                                    const uint32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei8_mu(vbool16_t vm, vuint32m2x3_t vd,
                                    const uint32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei8_mu(vbool16_t vm, vuint32m2x4_t vd,
                                    const uint32_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei8_mu(vbool8_t vm, vuint32m4x2_t vd,
                                    const uint32_t *rs1, vuint8m1_t rs2,
                                    size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei16_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                     const uint32_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei16_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                     const uint32_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei16_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                     const uint32_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei16_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                     const uint32_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei16_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                     const uint32_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei16_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                     const uint32_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei16_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                     const uint32_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei16_mu(vbool32_t vm, vuint32m1x2_t vd,
                                    const uint32_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei16_mu(vbool32_t vm, vuint32m1x3_t vd,
                                    const uint32_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei16_mu(vbool32_t vm, vuint32m1x4_t vd,
                                    const uint32_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei16_mu(vbool32_t vm, vuint32m1x5_t vd,
                                    const uint32_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei16_mu(vbool32_t vm, vuint32m1x6_t vd,
                                    const uint32_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei16_mu(vbool32_t vm, vuint32m1x7_t vd,
                                    const uint32_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei16_mu(vbool32_t vm, vuint32m1x8_t vd,
                                    const uint32_t *rs1, vuint16mf2_t rs2,
                                    size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei16_mu(vbool16_t vm, vuint32m2x2_t vd,
                                    const uint32_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei16_mu(vbool16_t vm, vuint32m2x3_t vd,
                                    const uint32_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei16_mu(vbool16_t vm, vuint32m2x4_t vd,
                                    const uint32_t *rs1, vuint16m1_t rs2,
                                    size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei16_mu(vbool8_t vm, vuint32m4x2_t vd,
                                    const uint32_t *rs1, vuint16m2_t rs2,
                                    size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei32_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                     const uint32_t *rs1, vuint32mf2_t rs2,
```

```
                                     size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei32_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                     const uint32_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei32_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                     const uint32_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei32_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                     const uint32_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei32_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                     const uint32_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint32mf2x7_t __riscv_vluxseg7ei32_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                     const uint32_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei32_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                     const uint32_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei32_mu(vbool32_t vm, vuint32m1x2_t vd,
                                    const uint32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei32_mu(vbool32_t vm, vuint32m1x3_t vd,
                                    const uint32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei32_mu(vbool32_t vm, vuint32m1x4_t vd,
                                    const uint32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei32_mu(vbool32_t vm, vuint32m1x5_t vd,
                                    const uint32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei32_mu(vbool32_t vm, vuint32m1x6_t vd,
                                    const uint32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei32_mu(vbool32_t vm, vuint32m1x7_t vd,
                                    const uint32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei32_mu(vbool32_t vm, vuint32m1x8_t vd,
                                    const uint32_t *rs1, vuint32m1_t rs2,
                                    size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei32_mu(vbool16_t vm, vuint32m2x2_t vd,
                                    const uint32_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei32_mu(vbool16_t vm, vuint32m2x3_t vd,
                                    const uint32_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei32_mu(vbool16_t vm, vuint32m2x4_t vd,
                                    const uint32_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei32_mu(vbool8_t vm, vuint32m4x2_t vd,
                                    const uint32_t *rs1, vuint32m4_t rs2,
                                    size_t vl);
vuint32mf2x2_t __riscv_vluxseg2ei64_mu(vbool64_t vm, vuint32mf2x2_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x3_t __riscv_vluxseg3ei64_mu(vbool64_t vm, vuint32mf2x3_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x4_t __riscv_vluxseg4ei64_mu(vbool64_t vm, vuint32mf2x4_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x5_t __riscv_vluxseg5ei64_mu(vbool64_t vm, vuint32mf2x5_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
vuint32mf2x6_t __riscv_vluxseg6ei64_mu(vbool64_t vm, vuint32mf2x6_t vd,
                                     const uint32_t *rs1, vuint64m1_t rs2,
                                     size_t vl);
```

```
vuint32mf2x7_t __riscv_vluxseg7ei64_mu(vbool64_t vm, vuint32mf2x7_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32mf2x8_t __riscv_vluxseg8ei64_mu(vbool64_t vm, vuint32mf2x8_t vd,
                                       const uint32_t *rs1, vuint64m1_t rs2,
                                       size_t vl);
vuint32m1x2_t __riscv_vluxseg2ei64_mu(vbool32_t vm, vuint32m1x2_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x3_t __riscv_vluxseg3ei64_mu(vbool32_t vm, vuint32m1x3_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x4_t __riscv_vluxseg4ei64_mu(vbool32_t vm, vuint32m1x4_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x5_t __riscv_vluxseg5ei64_mu(vbool32_t vm, vuint32m1x5_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x6_t __riscv_vluxseg6ei64_mu(vbool32_t vm, vuint32m1x6_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x7_t __riscv_vluxseg7ei64_mu(vbool32_t vm, vuint32m1x7_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m1x8_t __riscv_vluxseg8ei64_mu(vbool32_t vm, vuint32m1x8_t vd,
                                      const uint32_t *rs1, vuint64m2_t rs2,
                                      size_t vl);
vuint32m2x2_t __riscv_vluxseg2ei64_mu(vbool16_t vm, vuint32m2x2_t vd,
                                      const uint32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint32m2x3_t __riscv_vluxseg3ei64_mu(vbool16_t vm, vuint32m2x3_t vd,
                                      const uint32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint32m2x4_t __riscv_vluxseg4ei64_mu(vbool16_t vm, vuint32m2x4_t vd,
                                      const uint32_t *rs1, vuint64m4_t rs2,
                                      size_t vl);
vuint32m4x2_t __riscv_vluxseg2ei64_mu(vbool8_t vm, vuint32m4x2_t vd,
                                      const uint32_t *rs1, vuint64m8_t rs2,
                                      size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei8_mu(vbool64_t vm, vuint64m1x2_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei8_mu(vbool64_t vm, vuint64m1x3_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei8_mu(vbool64_t vm, vuint64m1x4_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei8_mu(vbool64_t vm, vuint64m1x5_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei8_mu(vbool64_t vm, vuint64m1x6_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei8_mu(vbool64_t vm, vuint64m1x7_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei8_mu(vbool64_t vm, vuint64m1x8_t vd,
                                     const uint64_t *rs1, vuint8mf8_t rs2,
                                     size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei8_mu(vbool32_t vm, vuint64m2x2_t vd,
                                     const uint64_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei8_mu(vbool32_t vm, vuint64m2x3_t vd,
                                     const uint64_t *rs1, vuint8mf4_t rs2,
                                     size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei8_mu(vbool32_t vm, vuint64m2x4_t vd,
```

```
                                    const uint64_t *rs1, vuint8mf4_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei8_mu(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, vuint8mf2_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei16_mu(vbool64_t vm, vuint64m1x2_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei16_mu(vbool64_t vm, vuint64m1x3_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei16_mu(vbool64_t vm, vuint64m1x4_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei16_mu(vbool64_t vm, vuint64m1x5_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei16_mu(vbool64_t vm, vuint64m1x6_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei16_mu(vbool64_t vm, vuint64m1x7_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei16_mu(vbool64_t vm, vuint64m1x8_t vd,
                                     const uint64_t *rs1, vuint16mf4_t rs2,
                                     size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei16_mu(vbool32_t vm, vuint64m2x2_t vd,
                                     const uint64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei16_mu(vbool32_t vm, vuint64m2x3_t vd,
                                     const uint64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei16_mu(vbool32_t vm, vuint64m2x4_t vd,
                                     const uint64_t *rs1, vuint16mf2_t rs2,
                                     size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei16_mu(vbool16_t vm, vuint64m4x2_t vd,
                                     const uint64_t *rs1, vuint16m1_t rs2,
                                     size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei32_mu(vbool64_t vm, vuint64m1x2_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei32_mu(vbool64_t vm, vuint64m1x3_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei32_mu(vbool64_t vm, vuint64m1x4_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei32_mu(vbool64_t vm, vuint64m1x5_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei32_mu(vbool64_t vm, vuint64m1x6_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei32_mu(vbool64_t vm, vuint64m1x7_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei32_mu(vbool64_t vm, vuint64m1x8_t vd,
                                     const uint64_t *rs1, vuint32mf2_t rs2,
                                     size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei32_mu(vbool32_t vm, vuint64m2x2_t vd,
                                     const uint64_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei32_mu(vbool32_t vm, vuint64m2x3_t vd,
                                     const uint64_t *rs1, vuint32m1_t rs2,
                                     size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei32_mu(vbool32_t vm, vuint64m2x4_t vd,
                                     const uint64_t *rs1, vuint32m1_t rs2,
```

```
                                    size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei32_mu(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, vuint32m2_t rs2,
                                    size_t vl);
vuint64m1x2_t __riscv_vluxseg2ei64_mu(vbool64_t vm, vuint64m1x2_t vd,
                                    const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x3_t __riscv_vluxseg3ei64_mu(vbool64_t vm, vuint64m1x3_t vd,
                                    const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x4_t __riscv_vluxseg4ei64_mu(vbool64_t vm, vuint64m1x4_t vd,
                                    const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x5_t __riscv_vluxseg5ei64_mu(vbool64_t vm, vuint64m1x5_t vd,
                                    const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x6_t __riscv_vluxseg6ei64_mu(vbool64_t vm, vuint64m1x6_t vd,
                                    const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x7_t __riscv_vluxseg7ei64_mu(vbool64_t vm, vuint64m1x7_t vd,
                                    const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m1x8_t __riscv_vluxseg8ei64_mu(vbool64_t vm, vuint64m1x8_t vd,
                                    const uint64_t *rs1, vuint64m1_t rs2,
                                    size_t vl);
vuint64m2x2_t __riscv_vluxseg2ei64_mu(vbool32_t vm, vuint64m2x2_t vd,
                                    const uint64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint64m2x3_t __riscv_vluxseg3ei64_mu(vbool32_t vm, vuint64m2x3_t vd,
                                    const uint64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint64m2x4_t __riscv_vluxseg4ei64_mu(vbool32_t vm, vuint64m2x4_t vd,
                                    const uint64_t *rs1, vuint64m2_t rs2,
                                    size_t vl);
vuint64m4x2_t __riscv_vluxseg2ei64_mu(vbool16_t vm, vuint64m4x2_t vd,
                                    const uint64_t *rs1, vuint64m4_t rs2,
                                    size_t vl);
```

D.2.6. Vector Indexed Segment Store Intrinsics

Intrinsics here don't have a policy variant.

D.3. Vector Integer Arithmetic Intrinsics

D.3.1. Vector Single-Width Integer Add and Subtract Intrinsics

```
vint8mf8_t __riscv_vadd_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vadd_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                           size_t vl);
vint8mf4_t __riscv_vadd_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vadd_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vadd_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                           size_t vl);
vint8mf2_t __riscv_vadd_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                           size_t vl);
vint8m1_t __riscv_vadd_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vadd_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vadd_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
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                          size_t vl);
vint8m2_t __riscv_vadd_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vadd_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                          size_t vl);
vint8m4_t __riscv_vadd_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vadd_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                          size_t vl);
vint8m8_t __riscv_vadd_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vadd_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vadd_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vadd_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vadd_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint16m1_t __riscv_vadd_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vadd_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                           size_t vl);
vint16m2_t __riscv_vadd_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                           size_t vl);
vint16m2_t __riscv_vadd_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                           size_t vl);
vint16m4_t __riscv_vadd_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                           size_t vl);
vint16m4_t __riscv_vadd_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                           size_t vl);
vint16m8_t __riscv_vadd_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                           size_t vl);
vint16m8_t __riscv_vadd_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                           size_t vl);
vint32mf2_t __riscv_vadd_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vadd_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                            size_t vl);
vint32m1_t __riscv_vadd_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vadd_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                           size_t vl);
vint32m2_t __riscv_vadd_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                           size_t vl);
vint32m2_t __riscv_vadd_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                           size_t vl);
vint32m4_t __riscv_vadd_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                           size_t vl);
vint32m4_t __riscv_vadd_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                           size_t vl);
vint32m8_t __riscv_vadd_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                           size_t vl);
vint32m8_t __riscv_vadd_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                           size_t vl);
vint64m1_t __riscv_vadd_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vadd_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                           size_t vl);
vint64m2_t __riscv_vadd_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                           size_t vl);
vint64m2_t __riscv_vadd_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                           size_t vl);
vint64m4_t __riscv_vadd_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                           size_t vl);
vint64m4_t __riscv_vadd_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                           size_t vl);
vint64m8_t __riscv_vadd_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                           size_t vl);
vint64m8_t __riscv_vadd_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
```

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                           size_t vl);
vint8mf8_t __riscv_vsub_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vsub_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                           size_t vl);
vint8mf4_t __riscv_vsub_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vsub_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vsub_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                           size_t vl);
vint8mf2_t __riscv_vsub_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                           size_t vl);
vint8m1_t __riscv_vsub_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vsub_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vsub_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                          size_t vl);
vint8m2_t __riscv_vsub_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vsub_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                          size_t vl);
vint8m4_t __riscv_vsub_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vsub_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                          size_t vl);
vint8m8_t __riscv_vsub_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsub_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vsub_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vsub_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vsub_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint16m1_t __riscv_vsub_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vsub_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                           size_t vl);
vint16m2_t __riscv_vsub_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                           size_t vl);
vint16m2_t __riscv_vsub_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                           size_t vl);
vint16m4_t __riscv_vsub_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                           size_t vl);
vint16m4_t __riscv_vsub_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                           size_t vl);
vint16m8_t __riscv_vsub_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                           size_t vl);
vint16m8_t __riscv_vsub_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                           size_t vl);
vint32mf2_t __riscv_vsub_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vsub_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                            size_t vl);
vint32m1_t __riscv_vsub_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vsub_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                           size_t vl);
vint32m2_t __riscv_vsub_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                           size_t vl);
vint32m2_t __riscv_vsub_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                           size_t vl);
vint32m4_t __riscv_vsub_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                           size_t vl);
vint32m4_t __riscv_vsub_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                           size_t vl);
vint32m8_t __riscv_vsub_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                           size_t vl);
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vint32m8_t __riscv_vsub_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                           size_t vl);
vint64m1_t __riscv_vsub_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vsub_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                           size_t vl);
vint64m2_t __riscv_vsub_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                           size_t vl);
vint64m2_t __riscv_vsub_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                           size_t vl);
vint64m4_t __riscv_vsub_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                           size_t vl);
vint64m4_t __riscv_vsub_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                           size_t vl);
vint64m8_t __riscv_vsub_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                           size_t vl);
vint64m8_t __riscv_vsub_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                           size_t vl);
vint8mf8_t __riscv_vrsub_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                            size_t vl);
vint8mf4_t __riscv_vrsub_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                            size_t vl);
vint8mf2_t __riscv_vrsub_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                            size_t vl);
vint8m1_t __riscv_vrsub_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vrsub_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vrsub_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vrsub_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrsub_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                             size_t vl);
vint16mf2_t __riscv_vrsub_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                             size_t vl);
vint16m1_t __riscv_vrsub_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                            size_t vl);
vint16m2_t __riscv_vrsub_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                            size_t vl);
vint16m4_t __riscv_vrsub_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                            size_t vl);
vint16m8_t __riscv_vrsub_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                            size_t vl);
vint32mf2_t __riscv_vrsub_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                             size_t vl);
vint32m1_t __riscv_vrsub_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                            size_t vl);
vint32m2_t __riscv_vrsub_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                            size_t vl);
vint32m4_t __riscv_vrsub_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                            size_t vl);
vint32m8_t __riscv_vrsub_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                            size_t vl);
vint64m1_t __riscv_vrsub_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                            size_t vl);
vint64m2_t __riscv_vrsub_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                            size_t vl);
vint64m4_t __riscv_vrsub_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                            size_t vl);
vint64m8_t __riscv_vrsub_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                            size_t vl);
vint8mf8_t __riscv_vneg_tu(vint8mf8_t vd, vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vneg_tu(vint8mf4_t vd, vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vneg_tu(vint8mf2_t vd, vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vneg_tu(vint8m1_t vd, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vneg_tu(vint8m2_t vd, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vneg_tu(vint8m4_t vd, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vneg_tu(vint8m8_t vd, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vneg_tu(vint16mf4_t vd, vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vneg_tu(vint16mf2_t vd, vint16mf2_t vs, size_t vl);
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vint16m1_t __riscv_vneg_tu(vint16m1_t vd, vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vneg_tu(vint16m2_t vd, vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vneg_tu(vint16m4_t vd, vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vneg_tu(vint16m8_t vd, vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vneg_tu(vint32mf2_t vd, vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vneg_tu(vint32m1_t vd, vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vneg_tu(vint32m2_t vd, vint32m2_t vs, size_t vl);
vint32m4_t __riscv_vneg_tu(vint32m4_t vd, vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vneg_tu(vint32m8_t vd, vint32m8_t vs, size_t vl);
vint64m1_t __riscv_vneg_tu(vint64m1_t vd, vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vneg_tu(vint64m2_t vd, vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vneg_tu(vint64m4_t vd, vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vneg_tu(vint64m8_t vd, vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vadd_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                            size_t vl);
vuint8mf8_t __riscv_vadd_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                            size_t vl);
vuint8mf4_t __riscv_vadd_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                            size_t vl);
vuint8mf4_t __riscv_vadd_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                            size_t vl);
vuint8mf2_t __riscv_vadd_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                            size_t vl);
vuint8mf2_t __riscv_vadd_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m1_t __riscv_vadd_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vadd_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m2_t __riscv_vadd_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                           size_t vl);
vuint8m2_t __riscv_vadd_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m4_t __riscv_vadd_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                           size_t vl);
vuint8m4_t __riscv_vadd_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m8_t __riscv_vadd_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                           size_t vl);
vuint8m8_t __riscv_vadd_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                           size_t vl);
vuint16mf4_t __riscv_vadd_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vadd_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                             size_t vl);
vuint16mf2_t __riscv_vadd_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vadd_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m1_t __riscv_vadd_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vadd_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m2_t __riscv_vadd_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                            size_t vl);
vuint16m2_t __riscv_vadd_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m4_t __riscv_vadd_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                            size_t vl);
vuint16m4_t __riscv_vadd_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m8_t __riscv_vadd_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                            size_t vl);
vuint16m8_t __riscv_vadd_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                            size_t vl);
vuint32mf2_t __riscv_vadd_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
```

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vuint32mf2_t __riscv_vadd_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m1_t __riscv_vadd_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vadd_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m2_t __riscv_vadd_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                            size_t vl);
vuint32m2_t __riscv_vadd_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m4_t __riscv_vadd_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                            size_t vl);
vuint32m4_t __riscv_vadd_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m8_t __riscv_vadd_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                            size_t vl);
vuint32m8_t __riscv_vadd_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                            size_t vl);
vuint64m1_t __riscv_vadd_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vadd_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m2_t __riscv_vadd_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                            size_t vl);
vuint64m2_t __riscv_vadd_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m4_t __riscv_vadd_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                            size_t vl);
vuint64m4_t __riscv_vadd_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m8_t __riscv_vadd_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                            size_t vl);
vuint64m8_t __riscv_vadd_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                            size_t vl);
vuint8mf8_t __riscv_vsub_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                            size_t vl);
vuint8mf8_t __riscv_vsub_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                            size_t vl);
vuint8mf4_t __riscv_vsub_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                            size_t vl);
vuint8mf4_t __riscv_vsub_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                            size_t vl);
vuint8mf2_t __riscv_vsub_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                            size_t vl);
vuint8mf2_t __riscv_vsub_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m1_t __riscv_vsub_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vsub_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m2_t __riscv_vsub_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                           size_t vl);
vuint8m2_t __riscv_vsub_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m4_t __riscv_vsub_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                           size_t vl);
vuint8m4_t __riscv_vsub_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m8_t __riscv_vsub_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                           size_t vl);
vuint8m8_t __riscv_vsub_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                           size_t vl);
vuint16mf4_t __riscv_vsub_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsub_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                             size_t vl);
vuint16mf2_t __riscv_vsub_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
```

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                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsub_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m1_t __riscv_vsub_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vsub_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m2_t __riscv_vsub_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                            size_t vl);
vuint16m2_t __riscv_vsub_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m4_t __riscv_vsub_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                            size_t vl);
vuint16m4_t __riscv_vsub_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m8_t __riscv_vsub_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                            size_t vl);
vuint16m8_t __riscv_vsub_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                            size_t vl);
vuint32mf2_t __riscv_vsub_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsub_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m1_t __riscv_vsub_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vsub_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m2_t __riscv_vsub_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                            size_t vl);
vuint32m2_t __riscv_vsub_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m4_t __riscv_vsub_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                            size_t vl);
vuint32m4_t __riscv_vsub_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m8_t __riscv_vsub_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                            size_t vl);
vuint32m8_t __riscv_vsub_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                            size_t vl);
vuint64m1_t __riscv_vsub_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vsub_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m2_t __riscv_vsub_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                            size_t vl);
vuint64m2_t __riscv_vsub_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m4_t __riscv_vsub_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                            size_t vl);
vuint64m4_t __riscv_vsub_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m8_t __riscv_vsub_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                            size_t vl);
vuint64m8_t __riscv_vsub_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                            size_t vl);
vuint8mf8_t __riscv_vrsub_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                             size_t vl);
vuint8mf4_t __riscv_vrsub_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                             size_t vl);
vuint8mf2_t __riscv_vrsub_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m1_t __riscv_vrsub_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m2_t __riscv_vrsub_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m4_t __riscv_vrsub_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                            size_t vl);
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vuint8m8_t __riscv_vrsub_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                            size_t vl);
vuint16mf4_t __riscv_vrsub_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                              size_t vl);
vuint16mf2_t __riscv_vrsub_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m1_t __riscv_vrsub_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m2_t __riscv_vrsub_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m4_t __riscv_vrsub_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m8_t __riscv_vrsub_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                             size_t vl);
vuint32mf2_t __riscv_vrsub_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m1_t __riscv_vrsub_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m2_t __riscv_vrsub_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m4_t __riscv_vrsub_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m8_t __riscv_vrsub_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                             size_t vl);
vuint64m1_t __riscv_vrsub_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                             size_t vl);
vuint64m2_t __riscv_vrsub_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                             size_t vl);
vuint64m4_t __riscv_vrsub_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                             size_t vl);
vuint64m8_t __riscv_vrsub_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                             size_t vl);
// masked functions
vint8mf8_t __riscv_vadd_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vadd_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vadd_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vadd_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vadd_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vadd_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vadd_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vadd_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           size_t vl);
vint8m2_t __riscv_vadd_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vadd_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vadd_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vadd_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           size_t vl);
vint8m8_t __riscv_vadd_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vadd_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vadd_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vadd_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vadd_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
```

```
vint16mf2_t __riscv_vadd_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vadd_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vadd_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vadd_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vadd_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vadd_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vadd_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vadd_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vadd_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vadd_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vadd_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vadd_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vadd_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vadd_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vadd_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vadd_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vadd_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vadd_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vadd_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vadd_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vadd_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vadd_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vadd_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vadd_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vadd_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vadd_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vadd_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vint8mf8_t __riscv_vsub_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsub_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsub_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsub_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsub_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsub_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vsub_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
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                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsub_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                            size_t vl);
vint8m2_t __riscv_vsub_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsub_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                            size_t vl);
vint8m4_t __riscv_vsub_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsub_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                            size_t vl);
vint8m8_t __riscv_vsub_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsub_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                            size_t vl);
vint16mf4_t __riscv_vsub_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsub_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsub_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsub_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vsub_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsub_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vsub_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsub_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vsub_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsub_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vsub_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsub_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsub_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsub_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vsub_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsub_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vsub_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsub_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vsub_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsub_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vsub_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsub_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vsub_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsub_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vsub_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsub_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
```

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vint64m4_t __riscv_vsub_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsub_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vsub_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsub_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrsub_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrsub_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrsub_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vrsub_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vrsub_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vrsub_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vrsub_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrsub_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrsub_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vrsub_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vrsub_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vrsub_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vrsub_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrsub_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vrsub_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vrsub_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vrsub_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, size_t vl);
vint32m8_t __riscv_vrsub_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, size_t vl);
vint64m1_t __riscv_vrsub_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, size_t vl);
vint64m2_t __riscv_vrsub_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, size_t vl);
vint64m4_t __riscv_vrsub_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, size_t vl);
vint64m8_t __riscv_vrsub_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, size_t vl);
vint8mf8_t __riscv_vneg_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                            size_t vl);
vint8mf4_t __riscv_vneg_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
                            size_t vl);
vint8mf2_t __riscv_vneg_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                            size_t vl);
vint8m1_t __riscv_vneg_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vneg_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vneg_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vneg_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vneg_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs,
                             size_t vl);
vint16mf2_t __riscv_vneg_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs,
                             size_t vl);
vint16m1_t __riscv_vneg_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
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                            size_t vl);
vint16m2_t __riscv_vneg_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                            size_t vl);
vint16m4_t __riscv_vneg_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                            size_t vl);
vint16m8_t __riscv_vneg_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                            size_t vl);
vint32mf2_t __riscv_vneg_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs,
                             size_t vl);
vint32m1_t __riscv_vneg_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                            size_t vl);
vint32m2_t __riscv_vneg_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                            size_t vl);
vint32m4_t __riscv_vneg_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                            size_t vl);
vint32m8_t __riscv_vneg_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                            size_t vl);
vint64m1_t __riscv_vneg_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                            size_t vl);
vint64m2_t __riscv_vneg_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
                            size_t vl);
vint64m4_t __riscv_vneg_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                            size_t vl);
vint64m8_t __riscv_vneg_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
                            size_t vl);
vuint8mf8_t __riscv_vadd_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vadd_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vadd_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vadd_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vadd_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vadd_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vadd_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vadd_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vadd_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vadd_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vadd_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vadd_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vadd_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vadd_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vadd_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vadd_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vadd_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vadd_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vadd_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vadd_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vadd_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
```

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vuint16m2_t __riscv_vadd_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vadd_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vadd_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vadd_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vadd_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vadd_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vadd_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vadd_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vadd_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vadd_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vadd_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vadd_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vadd_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vadd_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vadd_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vadd_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vadd_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vadd_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vadd_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vadd_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vadd_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vadd_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vadd_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsub_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsub_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsub_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsub_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsub_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsub_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsub_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsub_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsub_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsub_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsub_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
```

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                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsub_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsub_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsub_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsub_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsub_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsub_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsub_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsub_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsub_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsub_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsub_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsub_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsub_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsub_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsub_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsub_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsub_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsub_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsub_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsub_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsub_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsub_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsub_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsub_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsub_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsub_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsub_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsub_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsub_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsub_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsub_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsub_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsub_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             uint64_t rs1, size_t vl);
```

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vuint8mf8_t __riscv_vrsub_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vrsub_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vrsub_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vrsub_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vrsub_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vrsub_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vrsub_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vrsub_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vrsub_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vrsub_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vrsub_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vrsub_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vrsub_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vrsub_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vrsub_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vrsub_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vrsub_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vrsub_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vrsub_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vrsub_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vrsub_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vrsub_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vadd_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vadd_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vadd_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vadd_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vadd_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vadd_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vadd_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vadd_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vadd_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vadd_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vadd_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
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vint8m4_t __riscv_vadd_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vadd_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vadd_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vadd_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vadd_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vadd_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vadd_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vadd_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vadd_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vadd_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vadd_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vadd_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vadd_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vadd_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vadd_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vadd_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vadd_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vadd_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vadd_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vadd_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vadd_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vadd_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vadd_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, size_t vl);
vint32m8_t __riscv_vadd_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vadd_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, size_t vl);
vint64m1_t __riscv_vadd_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vadd_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, size_t vl);
vint64m2_t __riscv_vadd_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vadd_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, size_t vl);
vint64m4_t __riscv_vadd_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vadd_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, size_t vl);
vint64m8_t __riscv_vadd_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vadd_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, size_t vl);
vint8mf8_t __riscv_vsub_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
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                              vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsub_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsub_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsub_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsub_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsub_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              int8_t rs1, size_t vl);
vint8m1_t __riscv_vsub_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsub_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vsub_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsub_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vsub_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsub_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vsub_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsub_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsub_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsub_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsub_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsub_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vsub_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsub_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vsub_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsub_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vsub_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsub_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vsub_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsub_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsub_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsub_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vsub_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsub_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vsub_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsub_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vsub_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsub_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, size_t vl);
```

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vint32m8_t __riscv_vsub_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsub_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, size_t vl);
vint64m1_t __riscv_vsub_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsub_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, size_t vl);
vint64m2_t __riscv_vsub_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsub_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, size_t vl);
vint64m4_t __riscv_vsub_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsub_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, size_t vl);
vint64m8_t __riscv_vsub_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsub_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrsub_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrsub_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrsub_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              int8_t rs1, size_t vl);
vint8m1_t __riscv_vrsub_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             int8_t rs1, size_t vl);
vint8m2_t __riscv_vrsub_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             int8_t rs1, size_t vl);
vint8m4_t __riscv_vrsub_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             int8_t rs1, size_t vl);
vint8m8_t __riscv_vrsub_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrsub_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrsub_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               int16_t rs1, size_t vl);
vint16m1_t __riscv_vrsub_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              int16_t rs1, size_t vl);
vint16m2_t __riscv_vrsub_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              int16_t rs1, size_t vl);
vint16m4_t __riscv_vrsub_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              int16_t rs1, size_t vl);
vint16m8_t __riscv_vrsub_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                              int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrsub_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               int32_t rs1, size_t vl);
vint32m1_t __riscv_vrsub_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              int32_t rs1, size_t vl);
vint32m2_t __riscv_vrsub_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              int32_t rs1, size_t vl);
vint32m4_t __riscv_vrsub_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              int32_t rs1, size_t vl);
vint32m8_t __riscv_vrsub_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              int32_t rs1, size_t vl);
vint64m1_t __riscv_vrsub_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              int64_t rs1, size_t vl);
vint64m2_t __riscv_vrsub_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              int64_t rs1, size_t vl);
vint64m4_t __riscv_vrsub_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              int64_t rs1, size_t vl);
vint64m8_t __riscv_vrsub_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              int64_t rs1, size_t vl);
vint8mf8_t __riscv_vneg_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                             size_t vl);
vint8mf4_t __riscv_vneg_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
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                              size_t vl);
vint8mf2_t __riscv_vneg_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                              size_t vl);
vint8m1_t __riscv_vneg_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vneg_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vneg_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vneg_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vneg_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs,
                               size_t vl);
vint16mf2_t __riscv_vneg_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs,
                               size_t vl);
vint16m1_t __riscv_vneg_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
                              size_t vl);
vint16m2_t __riscv_vneg_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                              size_t vl);
vint16m4_t __riscv_vneg_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                              size_t vl);
vint16m8_t __riscv_vneg_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                              size_t vl);
vint32mf2_t __riscv_vneg_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs,
                               size_t vl);
vint32m1_t __riscv_vneg_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                              size_t vl);
vint32m2_t __riscv_vneg_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                              size_t vl);
vint32m4_t __riscv_vneg_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                              size_t vl);
vint32m8_t __riscv_vneg_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                              size_t vl);
vint64m1_t __riscv_vneg_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                              size_t vl);
vint64m2_t __riscv_vneg_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
                              size_t vl);
vint64m4_t __riscv_vneg_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                              size_t vl);
vint64m8_t __riscv_vneg_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
                              size_t vl);
vuint8mf8_t __riscv_vadd_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vadd_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vadd_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vadd_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vadd_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vadd_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vadd_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vadd_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vadd_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vadd_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vadd_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vadd_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vadd_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vadd_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vadd_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
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vuint16mf4_t __riscv_vadd_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vadd_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vadd_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vadd_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vadd_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vadd_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vadd_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vadd_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vadd_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vadd_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vadd_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vadd_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vadd_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vadd_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vadd_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vadd_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vadd_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vadd_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vadd_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vadd_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vadd_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vadd_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vadd_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vadd_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vadd_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vadd_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vadd_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vadd_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vadd_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsub_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsub_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsub_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsub_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsub_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
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                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsub_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsub_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsub_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsub_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsub_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsub_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsub_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsub_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsub_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsub_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsub_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsub_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsub_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsub_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsub_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsub_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsub_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsub_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsub_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsub_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsub_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsub_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsub_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsub_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsub_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsub_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsub_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsub_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsub_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsub_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsub_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsub_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsub_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
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vuint64m2_t __riscv_vsub_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsub_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsub_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsub_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsub_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsub_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vrsub_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vrsub_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vrsub_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vrsub_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vrsub_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vrsub_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vrsub_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vrsub_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vrsub_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vrsub_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vrsub_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vrsub_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vrsub_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vrsub_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vrsub_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vrsub_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vrsub_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vrsub_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vrsub_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vrsub_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vrsub_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vrsub_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vadd_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vadd_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vint8mf4_t __riscv_vadd_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vadd_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vint8mf2_t __riscv_vadd_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
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vint8mf2_t __riscv_vadd_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vint8m1_t __riscv_vadd_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vadd_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vint8m2_t __riscv_vadd_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vadd_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vint8m4_t __riscv_vadd_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vadd_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vint8m8_t __riscv_vadd_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vadd_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vint16mf4_t __riscv_vadd_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vadd_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            int16_t rs1, size_t vl);
vint16mf2_t __riscv_vadd_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vadd_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            int16_t rs1, size_t vl);
vint16m1_t __riscv_vadd_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vadd_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vint16m2_t __riscv_vadd_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vadd_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           int16_t rs1, size_t vl);
vint16m4_t __riscv_vadd_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vadd_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           int16_t rs1, size_t vl);
vint16m8_t __riscv_vadd_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vadd_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           int16_t rs1, size_t vl);
vint32mf2_t __riscv_vadd_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vadd_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            int32_t rs1, size_t vl);
vint32m1_t __riscv_vadd_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vadd_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vint32m2_t __riscv_vadd_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vadd_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vint32m4_t __riscv_vadd_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vadd_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           int32_t rs1, size_t vl);
vint32m8_t __riscv_vadd_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vadd_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           int32_t rs1, size_t vl);
vint64m1_t __riscv_vadd_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vadd_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vint64m2_t __riscv_vadd_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
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                          vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vadd_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                          int64_t rs1, size_t vl);
vint64m4_t __riscv_vadd_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                          vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vadd_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                          int64_t rs1, size_t vl);
vint64m8_t __riscv_vadd_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vadd_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          int64_t rs1, size_t vl);
vint8mf8_t __riscv_vsub_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                          vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsub_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                          int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsub_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                          vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsub_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                          int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsub_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                          vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsub_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                          int8_t rs1, size_t vl);
vint8m1_t __riscv_vsub_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsub_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                         size_t vl);
vint8m2_t __riscv_vsub_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                         vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsub_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                         size_t vl);
vint8m4_t __riscv_vsub_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                         vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsub_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                         size_t vl);
vint8m8_t __riscv_vsub_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                         vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsub_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                         size_t vl);
vint16mf4_t __riscv_vsub_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                           vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsub_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                           int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsub_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                           vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsub_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                           int16_t rs1, size_t vl);
vint16m1_t __riscv_vsub_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsub_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                          int16_t rs1, size_t vl);
vint16m2_t __riscv_vsub_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                          vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsub_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                          int16_t rs1, size_t vl);
vint16m4_t __riscv_vsub_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                          vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsub_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                          int16_t rs1, size_t vl);
vint16m8_t __riscv_vsub_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                          vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsub_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                          int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsub_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                           vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsub_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                           int32_t rs1, size_t vl);
```

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vint32m1_t __riscv_vsub_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsub_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vint32m2_t __riscv_vsub_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsub_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vint32m4_t __riscv_vsub_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsub_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           int32_t rs1, size_t vl);
vint32m8_t __riscv_vsub_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsub_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           int32_t rs1, size_t vl);
vint64m1_t __riscv_vsub_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsub_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vint64m2_t __riscv_vsub_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsub_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           int64_t rs1, size_t vl);
vint64m4_t __riscv_vsub_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsub_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           int64_t rs1, size_t vl);
vint64m8_t __riscv_vsub_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsub_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrsub_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrsub_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrsub_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vrsub_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           size_t vl);
vint8m2_t __riscv_vrsub_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vrsub_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           size_t vl);
vint8m8_t __riscv_vrsub_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vrsub_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrsub_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vrsub_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vrsub_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vrsub_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vrsub_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrsub_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vrsub_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vrsub_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vrsub_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vrsub_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
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                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vrsub_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vrsub_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vrsub_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vrsub_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vint8mf8_t __riscv_vneg_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                           size_t vl);
vint8mf4_t __riscv_vneg_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
                           size_t vl);
vint8mf2_t __riscv_vneg_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                           size_t vl);
vint8m1_t __riscv_vneg_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vneg_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vneg_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vneg_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vneg_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs,
                            size_t vl);
vint16mf2_t __riscv_vneg_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs,
                            size_t vl);
vint16m1_t __riscv_vneg_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
                           size_t vl);
vint16m2_t __riscv_vneg_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                           size_t vl);
vint16m4_t __riscv_vneg_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                           size_t vl);
vint16m8_t __riscv_vneg_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                           size_t vl);
vint32mf2_t __riscv_vneg_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs,
                            size_t vl);
vint32m1_t __riscv_vneg_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                           size_t vl);
vint32m2_t __riscv_vneg_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                           size_t vl);
vint32m4_t __riscv_vneg_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                           size_t vl);
vint32m8_t __riscv_vneg_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                           size_t vl);
vint64m1_t __riscv_vneg_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                           size_t vl);
vint64m2_t __riscv_vneg_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
                           size_t vl);
vint64m4_t __riscv_vneg_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                           size_t vl);
vint64m8_t __riscv_vneg_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
                           size_t vl);
vuint8mf8_t __riscv_vadd_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vadd_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vadd_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vadd_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vadd_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vadd_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vadd_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vadd_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vadd_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
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vuint8m2_t __riscv_vadd_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vadd_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vadd_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vadd_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vadd_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vadd_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vadd_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vadd_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vadd_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vadd_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vadd_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vadd_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vadd_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vadd_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vadd_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vadd_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vadd_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vadd_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vadd_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vadd_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vadd_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vadd_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vadd_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vadd_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vadd_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vadd_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vadd_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vadd_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vadd_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vadd_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vadd_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vadd_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vadd_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vadd_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
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                            vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vadd_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsub_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsub_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsub_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsub_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsub_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsub_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsub_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsub_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsub_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsub_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsub_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsub_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsub_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsub_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsub_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsub_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsub_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsub_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsub_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsub_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsub_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsub_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsub_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsub_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsub_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsub_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsub_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsub_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsub_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsub_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsub_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsub_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            uint32_t rs1, size_t vl);
```

```
vuint32m4_t __riscv_vsub_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsub_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsub_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsub_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsub_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsub_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsub_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsub_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsub_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsub_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsub_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsub_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vrsub_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vrsub_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vrsub_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vrsub_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vrsub_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vrsub_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vrsub_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vrsub_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vrsub_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vrsub_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vrsub_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vrsub_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vrsub_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vrsub_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vrsub_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vrsub_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vrsub_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vrsub_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vrsub_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vrsub_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vrsub_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vrsub_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
```

```
                                uint64_t rs1, size_t vl);
```

D.3.2. Vector Widening Integer Add/Subtract Intrinsics

```
vint16mf4_t __riscv_vwadd_vv_tu(vint16mf4_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                                size_t vl);
vint16mf4_t __riscv_vwadd_vx_tu(vint16mf4_t vd, vint8mf8_t vs2, int8_t rs1,
                                size_t vl);
vint16mf4_t __riscv_vwadd_wv_tu(vint16mf4_t vd, vint16mf4_t vs2, vint8mf8_t vs1,
                                size_t vl);
vint16mf4_t __riscv_vwadd_wx_tu(vint16mf4_t vd, vint16mf4_t vs2, int8_t rs1,
                                size_t vl);
vint16mf2_t __riscv_vwadd_vv_tu(vint16mf2_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                                size_t vl);
vint16mf2_t __riscv_vwadd_vx_tu(vint16mf2_t vd, vint8mf4_t vs2, int8_t rs1,
                                size_t vl);
vint16mf2_t __riscv_vwadd_wv_tu(vint16mf2_t vd, vint16mf2_t vs2, vint8mf4_t vs1,
                                size_t vl);
vint16mf2_t __riscv_vwadd_wx_tu(vint16mf2_t vd, vint16mf2_t vs2, int8_t rs1,
                                size_t vl);
vint16m1_t __riscv_vwadd_vv_tu(vint16m1_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                               size_t vl);
vint16m1_t __riscv_vwadd_vx_tu(vint16m1_t vd, vint8mf2_t vs2, int8_t rs1,
                               size_t vl);
vint16m1_t __riscv_vwadd_wv_tu(vint16m1_t vd, vint16m1_t vs2, vint8mf2_t vs1,
                               size_t vl);
vint16m1_t __riscv_vwadd_wx_tu(vint16m1_t vd, vint16m1_t vs2, int8_t rs1,
                               size_t vl);
vint16m2_t __riscv_vwadd_vv_tu(vint16m2_t vd, vint8m1_t vs2, vint8m1_t vs1,
                               size_t vl);
vint16m2_t __riscv_vwadd_vx_tu(vint16m2_t vd, vint8m1_t vs2, int8_t rs1,
                               size_t vl);
vint16m2_t __riscv_vwadd_wv_tu(vint16m2_t vd, vint16m2_t vs2, vint8m1_t vs1,
                               size_t vl);
vint16m2_t __riscv_vwadd_wx_tu(vint16m2_t vd, vint16m2_t vs2, int8_t rs1,
                               size_t vl);
vint16m4_t __riscv_vwadd_vv_tu(vint16m4_t vd, vint8m2_t vs2, vint8m2_t vs1,
                               size_t vl);
vint16m4_t __riscv_vwadd_vx_tu(vint16m4_t vd, vint8m2_t vs2, int8_t rs1,
                               size_t vl);
vint16m4_t __riscv_vwadd_wv_tu(vint16m4_t vd, vint16m4_t vs2, vint8m2_t vs1,
                               size_t vl);
vint16m4_t __riscv_vwadd_wx_tu(vint16m4_t vd, vint16m4_t vs2, int8_t rs1,
                               size_t vl);
vint16m8_t __riscv_vwadd_vv_tu(vint16m8_t vd, vint8m4_t vs2, vint8m4_t vs1,
                               size_t vl);
vint16m8_t __riscv_vwadd_vx_tu(vint16m8_t vd, vint8m4_t vs2, int8_t rs1,
                               size_t vl);
vint16m8_t __riscv_vwadd_wv_tu(vint16m8_t vd, vint16m8_t vs2, vint8m4_t vs1,
                               size_t vl);
vint16m8_t __riscv_vwadd_wx_tu(vint16m8_t vd, vint16m8_t vs2, int8_t rs1,
                               size_t vl);
vint32mf2_t __riscv_vwadd_vv_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_vx_tu(vint32mf2_t vd, vint16mf4_t vs2, int16_t rs1,
                                size_t vl);
vint32mf2_t __riscv_vwadd_wv_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_wx_tu(vint32mf2_t vd, vint32mf2_t vs2, int16_t rs1,
                                size_t vl);
vint32m1_t __riscv_vwadd_vv_tu(vint32m1_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                               size_t vl);
vint32m1_t __riscv_vwadd_vx_tu(vint32m1_t vd, vint16mf2_t vs2, int16_t rs1,
                               size_t vl);
vint32m1_t __riscv_vwadd_wv_tu(vint32m1_t vd, vint32m1_t vs2, vint16mf2_t vs1,
```

```
                                size_t vl);
vint32m1_t __riscv_vwadd_wx_tu(vint32m1_t vd, vint32m1_t vs2, int16_t rs1,
                                size_t vl);
vint32m2_t __riscv_vwadd_vv_tu(vint32m2_t vd, vint16m1_t vs2, vint16m1_t vs1,
                                size_t vl);
vint32m2_t __riscv_vwadd_vx_tu(vint32m2_t vd, vint16m1_t vs2, int16_t rs1,
                                size_t vl);
vint32m2_t __riscv_vwadd_wv_tu(vint32m2_t vd, vint32m2_t vs2, vint16m1_t vs1,
                                size_t vl);
vint32m2_t __riscv_vwadd_wx_tu(vint32m2_t vd, vint32m2_t vs2, int16_t rs1,
                                size_t vl);
vint32m4_t __riscv_vwadd_vv_tu(vint32m4_t vd, vint16m2_t vs2, vint16m2_t vs1,
                                size_t vl);
vint32m4_t __riscv_vwadd_vx_tu(vint32m4_t vd, vint16m2_t vs2, int16_t rs1,
                                size_t vl);
vint32m4_t __riscv_vwadd_wv_tu(vint32m4_t vd, vint32m4_t vs2, vint16m2_t vs1,
                                size_t vl);
vint32m4_t __riscv_vwadd_wx_tu(vint32m4_t vd, vint32m4_t vs2, int16_t rs1,
                                size_t vl);
vint32m8_t __riscv_vwadd_vv_tu(vint32m8_t vd, vint16m4_t vs2, vint16m4_t vs1,
                                size_t vl);
vint32m8_t __riscv_vwadd_vx_tu(vint32m8_t vd, vint16m4_t vs2, int16_t rs1,
                                size_t vl);
vint32m8_t __riscv_vwadd_wv_tu(vint32m8_t vd, vint32m8_t vs2, vint16m4_t vs1,
                                size_t vl);
vint32m8_t __riscv_vwadd_wx_tu(vint32m8_t vd, vint32m8_t vs2, int16_t rs1,
                                size_t vl);
vint64m1_t __riscv_vwadd_vv_tu(vint64m1_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                                size_t vl);
vint64m1_t __riscv_vwadd_vx_tu(vint64m1_t vd, vint32mf2_t vs2, int32_t rs1,
                                size_t vl);
vint64m1_t __riscv_vwadd_wv_tu(vint64m1_t vd, vint64m1_t vs2, vint32mf2_t vs1,
                                size_t vl);
vint64m1_t __riscv_vwadd_wx_tu(vint64m1_t vd, vint64m1_t vs2, int32_t rs1,
                                size_t vl);
vint64m2_t __riscv_vwadd_vv_tu(vint64m2_t vd, vint32m1_t vs2, vint32m1_t vs1,
                                size_t vl);
vint64m2_t __riscv_vwadd_vx_tu(vint64m2_t vd, vint32m1_t vs2, int32_t rs1,
                                size_t vl);
vint64m2_t __riscv_vwadd_wv_tu(vint64m2_t vd, vint64m2_t vs2, vint32m1_t vs1,
                                size_t vl);
vint64m2_t __riscv_vwadd_wx_tu(vint64m2_t vd, vint64m2_t vs2, int32_t rs1,
                                size_t vl);
vint64m4_t __riscv_vwadd_vv_tu(vint64m4_t vd, vint32m2_t vs2, vint32m2_t vs1,
                                size_t vl);
vint64m4_t __riscv_vwadd_vx_tu(vint64m4_t vd, vint32m2_t vs2, int32_t rs1,
                                size_t vl);
vint64m4_t __riscv_vwadd_wv_tu(vint64m4_t vd, vint64m4_t vs2, vint32m2_t vs1,
                                size_t vl);
vint64m4_t __riscv_vwadd_wx_tu(vint64m4_t vd, vint64m4_t vs2, int32_t rs1,
                                size_t vl);
vint64m8_t __riscv_vwadd_vv_tu(vint64m8_t vd, vint32m4_t vs2, vint32m4_t vs1,
                                size_t vl);
vint64m8_t __riscv_vwadd_vx_tu(vint64m8_t vd, vint32m4_t vs2, int32_t rs1,
                                size_t vl);
vint64m8_t __riscv_vwadd_wv_tu(vint64m8_t vd, vint64m8_t vs2, vint32m4_t vs1,
                                size_t vl);
vint64m8_t __riscv_vwadd_wx_tu(vint64m8_t vd, vint64m8_t vs2, int32_t rs1,
                                size_t vl);
vint16mf4_t __riscv_vwsub_vv_tu(vint16mf4_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                                 size_t vl);
vint16mf4_t __riscv_vwsub_vx_tu(vint16mf4_t vd, vint8mf8_t vs2, int8_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vwsub_wv_tu(vint16mf4_t vd, vint16mf4_t vs2, vint8mf8_t vs1,
                                 size_t vl);
vint16mf4_t __riscv_vwsub_wx_tu(vint16mf4_t vd, vint16mf4_t vs2, int8_t rs1,
                                 size_t vl);
```

```
vint16mf2_t __riscv_vwsub_vv_tu(vint16mf2_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                                size_t vl);
vint16mf2_t __riscv_vwsub_vx_tu(vint16mf2_t vd, vint8mf4_t vs2, int8_t rs1,
                                size_t vl);
vint16mf2_t __riscv_vwsub_wv_tu(vint16mf2_t vd, vint16mf2_t vs2, vint8mf4_t vs1,
                                size_t vl);
vint16mf2_t __riscv_vwsub_wx_tu(vint16mf2_t vd, vint16mf2_t vs2, int8_t rs1,
                                size_t vl);
vint16m1_t __riscv_vwsub_vv_tu(vint16m1_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                               size_t vl);
vint16m1_t __riscv_vwsub_vx_tu(vint16m1_t vd, vint8mf2_t vs2, int8_t rs1,
                               size_t vl);
vint16m1_t __riscv_vwsub_wv_tu(vint16m1_t vd, vint16m1_t vs2, vint8mf2_t vs1,
                               size_t vl);
vint16m1_t __riscv_vwsub_wx_tu(vint16m1_t vd, vint16m1_t vs2, int8_t rs1,
                               size_t vl);
vint16m2_t __riscv_vwsub_vv_tu(vint16m2_t vd, vint8m1_t vs2, vint8m1_t vs1,
                               size_t vl);
vint16m2_t __riscv_vwsub_vx_tu(vint16m2_t vd, vint8m1_t vs2, int8_t rs1,
                               size_t vl);
vint16m2_t __riscv_vwsub_wv_tu(vint16m2_t vd, vint16m2_t vs2, vint8m1_t vs1,
                               size_t vl);
vint16m2_t __riscv_vwsub_wx_tu(vint16m2_t vd, vint16m2_t vs2, int8_t rs1,
                               size_t vl);
vint16m4_t __riscv_vwsub_vv_tu(vint16m4_t vd, vint8m2_t vs2, vint8m2_t vs1,
                               size_t vl);
vint16m4_t __riscv_vwsub_vx_tu(vint16m4_t vd, vint8m2_t vs2, int8_t rs1,
                               size_t vl);
vint16m4_t __riscv_vwsub_wv_tu(vint16m4_t vd, vint16m4_t vs2, vint8m2_t vs1,
                               size_t vl);
vint16m4_t __riscv_vwsub_wx_tu(vint16m4_t vd, vint16m4_t vs2, int8_t rs1,
                               size_t vl);
vint16m8_t __riscv_vwsub_vv_tu(vint16m8_t vd, vint8m4_t vs2, vint8m4_t vs1,
                               size_t vl);
vint16m8_t __riscv_vwsub_vx_tu(vint16m8_t vd, vint8m4_t vs2, int8_t rs1,
                               size_t vl);
vint16m8_t __riscv_vwsub_wv_tu(vint16m8_t vd, vint16m8_t vs2, vint8m4_t vs1,
                               size_t vl);
vint16m8_t __riscv_vwsub_wx_tu(vint16m8_t vd, vint16m8_t vs2, int8_t rs1,
                               size_t vl);
vint32mf2_t __riscv_vwsub_vv_tu(vint32mf2_t vd, vint16mf4_t vs2,
                                vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_vx_tu(vint32mf2_t vd, vint16mf4_t vs2, int16_t rs1,
                                size_t vl);
vint32mf2_t __riscv_vwsub_wv_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_wx_tu(vint32mf2_t vd, vint32mf2_t vs2, int16_t rs1,
                                size_t vl);
vint32m1_t __riscv_vwsub_vv_tu(vint32m1_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                               size_t vl);
vint32m1_t __riscv_vwsub_vx_tu(vint32m1_t vd, vint16mf2_t vs2, int16_t rs1,
                               size_t vl);
vint32m1_t __riscv_vwsub_wv_tu(vint32m1_t vd, vint32m1_t vs2, vint16mf2_t vs1,
                               size_t vl);
vint32m1_t __riscv_vwsub_wx_tu(vint32m1_t vd, vint32m1_t vs2, int16_t rs1,
                               size_t vl);
vint32m2_t __riscv_vwsub_vv_tu(vint32m2_t vd, vint16m1_t vs2, vint16m1_t vs1,
                               size_t vl);
vint32m2_t __riscv_vwsub_vx_tu(vint32m2_t vd, vint16m1_t vs2, int16_t rs1,
                               size_t vl);
vint32m2_t __riscv_vwsub_wv_tu(vint32m2_t vd, vint32m2_t vs2, vint16m1_t vs1,
                               size_t vl);
vint32m2_t __riscv_vwsub_wx_tu(vint32m2_t vd, vint32m2_t vs2, int16_t rs1,
                               size_t vl);
vint32m4_t __riscv_vwsub_vv_tu(vint32m4_t vd, vint16m2_t vs2, vint16m2_t vs1,
                               size_t vl);
vint32m4_t __riscv_vwsub_vx_tu(vint32m4_t vd, vint16m2_t vs2, int16_t rs1,
```

```
                                size_t vl);
vint32m4_t __riscv_vwsub_wv_tu(vint32m4_t vd, vint32m4_t vs2, vint16m2_t vs1,
                                size_t vl);
vint32m4_t __riscv_vwsub_wx_tu(vint32m4_t vd, vint32m4_t vs2, int16_t rs1,
                                size_t vl);
vint32m8_t __riscv_vwsub_vv_tu(vint32m8_t vd, vint16m4_t vs2, vint16m4_t vs1,
                                size_t vl);
vint32m8_t __riscv_vwsub_vx_tu(vint32m8_t vd, vint16m4_t vs2, int16_t rs1,
                                size_t vl);
vint32m8_t __riscv_vwsub_wv_tu(vint32m8_t vd, vint32m8_t vs2, vint16m4_t vs1,
                                size_t vl);
vint32m8_t __riscv_vwsub_wx_tu(vint32m8_t vd, vint32m8_t vs2, int16_t rs1,
                                size_t vl);
vint64m1_t __riscv_vwsub_vv_tu(vint64m1_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                                size_t vl);
vint64m1_t __riscv_vwsub_vx_tu(vint64m1_t vd, vint32mf2_t vs2, int32_t rs1,
                                size_t vl);
vint64m1_t __riscv_vwsub_wv_tu(vint64m1_t vd, vint64m1_t vs2, vint32mf2_t vs1,
                                size_t vl);
vint64m1_t __riscv_vwsub_wx_tu(vint64m1_t vd, vint64m1_t vs2, int32_t rs1,
                                size_t vl);
vint64m2_t __riscv_vwsub_vv_tu(vint64m2_t vd, vint32m1_t vs2, vint32m1_t vs1,
                                size_t vl);
vint64m2_t __riscv_vwsub_vx_tu(vint64m2_t vd, vint32m1_t vs2, int32_t rs1,
                                size_t vl);
vint64m2_t __riscv_vwsub_wv_tu(vint64m2_t vd, vint64m2_t vs2, vint32m1_t vs1,
                                size_t vl);
vint64m2_t __riscv_vwsub_wx_tu(vint64m2_t vd, vint64m2_t vs2, int32_t rs1,
                                size_t vl);
vint64m4_t __riscv_vwsub_vv_tu(vint64m4_t vd, vint32m2_t vs2, vint32m2_t vs1,
                                size_t vl);
vint64m4_t __riscv_vwsub_vx_tu(vint64m4_t vd, vint32m2_t vs2, int32_t rs1,
                                size_t vl);
vint64m4_t __riscv_vwsub_wv_tu(vint64m4_t vd, vint64m4_t vs2, vint32m2_t vs1,
                                size_t vl);
vint64m4_t __riscv_vwsub_wx_tu(vint64m4_t vd, vint64m4_t vs2, int32_t rs1,
                                size_t vl);
vint64m8_t __riscv_vwsub_vv_tu(vint64m8_t vd, vint32m4_t vs2, vint32m4_t vs1,
                                size_t vl);
vint64m8_t __riscv_vwsub_vx_tu(vint64m8_t vd, vint32m4_t vs2, int32_t rs1,
                                size_t vl);
vint64m8_t __riscv_vwsub_wv_tu(vint64m8_t vd, vint64m8_t vs2, vint32m4_t vs1,
                                size_t vl);
vint64m8_t __riscv_vwsub_wx_tu(vint64m8_t vd, vint64m8_t vs2, int32_t rs1,
                                size_t vl);
vuint16mf4_t __riscv_vwaddu_vv_tu(vuint16mf4_t vd, vuint8mf8_t vs2,
                                  vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vx_tu(vuint16mf4_t vd, vuint8mf8_t vs2, uint8_t rs1,
                                  size_t vl);
vuint16mf4_t __riscv_vwaddu_wv_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                  vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wx_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vv_tu(vuint16mf2_t vd, vuint8mf4_t vs2,
                                  vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vx_tu(vuint16mf2_t vd, vuint8mf4_t vs2, uint8_t rs1,
                                  size_t vl);
vuint16mf2_t __riscv_vwaddu_wv_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                  vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wx_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vv_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                 vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vx_tu(vuint16m1_t vd, vuint8mf2_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16m1_t __riscv_vwaddu_wv_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                 vuint8mf2_t vs1, size_t vl);
```

```
vuint16m1_t __riscv_vwaddu_wx_tu(vuint16m1_t vd, vuint16m1_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16m2_t __riscv_vwaddu_vv_tu(vuint16m2_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                                 size_t vl);
vuint16m2_t __riscv_vwaddu_vx_tu(vuint16m2_t vd, vuint8m1_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16m2_t __riscv_vwaddu_wv_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                 vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wx_tu(vuint16m2_t vd, vuint16m2_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16m4_t __riscv_vwaddu_vv_tu(vuint16m4_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                                 size_t vl);
vuint16m4_t __riscv_vwaddu_vx_tu(vuint16m4_t vd, vuint8m2_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16m4_t __riscv_vwaddu_wv_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                 vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wx_tu(vuint16m4_t vd, vuint16m4_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16m8_t __riscv_vwaddu_vv_tu(vuint16m8_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                                 size_t vl);
vuint16m8_t __riscv_vwaddu_vx_tu(vuint16m8_t vd, vuint8m4_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16m8_t __riscv_vwaddu_wv_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                 vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wx_tu(vuint16m8_t vd, vuint16m8_t vs2, uint8_t rs1,
                                 size_t vl);
vuint32mf2_t __riscv_vwaddu_vv_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                  vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_vx_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_wv_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                  vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_wx_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vv_tu(vuint32m1_t vd, vuint16mf2_t vs2,
                                 vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vx_tu(vuint32m1_t vd, vuint16mf2_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m1_t __riscv_vwaddu_wv_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                 vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wx_tu(vuint32m1_t vd, vuint32m1_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m2_t __riscv_vwaddu_vv_tu(vuint32m2_t vd, vuint16m1_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vx_tu(vuint32m2_t vd, vuint16m1_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m2_t __riscv_vwaddu_wv_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wx_tu(vuint32m2_t vd, vuint32m2_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m4_t __riscv_vwaddu_vv_tu(vuint32m4_t vd, vuint16m2_t vs2,
                                 vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vx_tu(vuint32m4_t vd, vuint16m2_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m4_t __riscv_vwaddu_wv_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                 vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wx_tu(vuint32m4_t vd, vuint32m4_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m8_t __riscv_vwaddu_vv_tu(vuint32m8_t vd, vuint16m4_t vs2,
                                 vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vx_tu(vuint32m8_t vd, vuint16m4_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m8_t __riscv_vwaddu_wv_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                 vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wx_tu(vuint32m8_t vd, vuint32m8_t vs2, uint16_t rs1,
                                 size_t vl);
vuint64m1_t __riscv_vwaddu_vv_tu(vuint64m1_t vd, vuint32mf2_t vs2,
```

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                                vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vx_tu(vuint64m1_t vd, vuint32mf2_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m1_t __riscv_vwaddu_wv_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wx_tu(vuint64m1_t vd, vuint64m1_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m2_t __riscv_vwaddu_vv_tu(vuint64m2_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vx_tu(vuint64m2_t vd, vuint32m1_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m2_t __riscv_vwaddu_wv_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wx_tu(vuint64m2_t vd, vuint64m2_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m4_t __riscv_vwaddu_vv_tu(vuint64m4_t vd, vuint32m2_t vs2,
                                vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vx_tu(vuint64m4_t vd, vuint32m2_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m4_t __riscv_vwaddu_wv_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wx_tu(vuint64m4_t vd, vuint64m4_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m8_t __riscv_vwaddu_vv_tu(vuint64m8_t vd, vuint32m4_t vs2,
                                vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vx_tu(vuint64m8_t vd, vuint32m4_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m8_t __riscv_vwaddu_wv_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wx_tu(vuint64m8_t vd, vuint64m8_t vs2, uint32_t rs1,
                                size_t vl);
vuint16mf4_t __riscv_vwsubu_vv_tu(vuint16mf4_t vd, vuint8mf8_t vs2,
                                 vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vx_tu(vuint16mf4_t vd, vuint8mf8_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16mf4_t __riscv_vwsubu_wv_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                 vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wx_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                 uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vv_tu(vuint16mf2_t vd, vuint8mf4_t vs2,
                                 vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vx_tu(vuint16mf2_t vd, vuint8mf4_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16mf2_t __riscv_vwsubu_wv_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                 vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wx_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                 uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vv_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vx_tu(vuint16m1_t vd, vuint8mf2_t vs2, uint8_t rs1,
                                size_t vl);
vuint16m1_t __riscv_vwsubu_wv_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wx_tu(vuint16m1_t vd, vuint16m1_t vs2, uint8_t rs1,
                                size_t vl);
vuint16m2_t __riscv_vwsubu_vv_tu(vuint16m2_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                                size_t vl);
vuint16m2_t __riscv_vwsubu_vx_tu(vuint16m2_t vd, vuint8m1_t vs2, uint8_t rs1,
                                size_t vl);
vuint16m2_t __riscv_vwsubu_wv_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wx_tu(vuint16m2_t vd, vuint16m2_t vs2, uint8_t rs1,
                                size_t vl);
vuint16m4_t __riscv_vwsubu_vv_tu(vuint16m4_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                                size_t vl);
vuint16m4_t __riscv_vwsubu_vx_tu(vuint16m4_t vd, vuint8m2_t vs2, uint8_t rs1,
                                size_t vl);
```

```
vuint16m4_t __riscv_vwsubu_wv_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                 vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wx_tu(vuint16m4_t vd, vuint16m4_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16m8_t __riscv_vwsubu_vv_tu(vuint16m8_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                                 size_t vl);
vuint16m8_t __riscv_vwsubu_vx_tu(vuint16m8_t vd, vuint8m4_t vs2, uint8_t rs1,
                                 size_t vl);
vuint16m8_t __riscv_vwsubu_wv_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                 vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wx_tu(vuint16m8_t vd, vuint16m8_t vs2, uint8_t rs1,
                                 size_t vl);
vuint32mf2_t __riscv_vwsubu_vv_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                  vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_vx_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_wv_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                  vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_wx_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vv_tu(vuint32m1_t vd, vuint16mf2_t vs2,
                                 vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vx_tu(vuint32m1_t vd, vuint16mf2_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m1_t __riscv_vwsubu_wv_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                 vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wx_tu(vuint32m1_t vd, vuint32m1_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m2_t __riscv_vwsubu_vv_tu(vuint32m2_t vd, vuint16m1_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vx_tu(vuint32m2_t vd, vuint16m1_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m2_t __riscv_vwsubu_wv_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wx_tu(vuint32m2_t vd, vuint32m2_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m4_t __riscv_vwsubu_vv_tu(vuint32m4_t vd, vuint16m2_t vs2,
                                 vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vx_tu(vuint32m4_t vd, vuint16m2_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m4_t __riscv_vwsubu_wv_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                 vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wx_tu(vuint32m4_t vd, vuint32m4_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m8_t __riscv_vwsubu_vv_tu(vuint32m8_t vd, vuint16m4_t vs2,
                                 vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vx_tu(vuint32m8_t vd, vuint16m4_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32m8_t __riscv_vwsubu_wv_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                 vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wx_tu(vuint32m8_t vd, vuint32m8_t vs2, uint16_t rs1,
                                 size_t vl);
vuint64m1_t __riscv_vwsubu_vv_tu(vuint64m1_t vd, vuint32mf2_t vs2,
                                 vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwsubu_vx_tu(vuint64m1_t vd, vuint32mf2_t vs2, uint32_t rs1,
                                 size_t vl);
vuint64m1_t __riscv_vwsubu_wv_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                 vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwsubu_wx_tu(vuint64m1_t vd, vuint64m1_t vs2, uint32_t rs1,
                                 size_t vl);
vuint64m2_t __riscv_vwsubu_vv_tu(vuint64m2_t vd, vuint32m1_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_vx_tu(vuint64m2_t vd, vuint32m1_t vs2, uint32_t rs1,
                                 size_t vl);
vuint64m2_t __riscv_vwsubu_wv_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wx_tu(vuint64m2_t vd, vuint64m2_t vs2, uint32_t rs1,
```

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                                size_t vl);
vuint64m4_t __riscv_vwsubu_vv_tu(vuint64m4_t vd, vuint32m2_t vs2,
                                vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vx_tu(vuint64m4_t vd, vuint32m2_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m4_t __riscv_vwsubu_wv_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wx_tu(vuint64m4_t vd, vuint64m4_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m8_t __riscv_vwsubu_vv_tu(vuint64m8_t vd, vuint32m4_t vs2,
                                vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vx_tu(vuint64m8_t vd, vuint32m4_t vs2, uint32_t rs1,
                                size_t vl);
vuint64m8_t __riscv_vwsubu_wv_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wx_tu(vuint64m8_t vd, vuint64m8_t vs2, uint32_t rs1,
                                size_t vl);
// masked functions
vint16mf4_t __riscv_vwadd_vv_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_vx_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwadd_wv_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_wx_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_vv_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_vx_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_wv_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_wx_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_vv_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                               vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_vx_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                               int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_wv_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_wx_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_vv_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                               vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_vx_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                               int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_wv_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_wx_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_vv_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                               vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_vx_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                               int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_wv_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_wx_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_vv_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                               vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_vx_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                               int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_wv_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_wx_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_vv_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
```

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                                vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_vx_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_wv_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_wx_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_vv_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                               vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_vx_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                               int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_wv_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_wx_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_vv_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                               vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_vx_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                               int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_wv_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_wx_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_vv_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                               vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_vx_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                               int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_wv_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_wx_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_vv_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                               vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_vx_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                               int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_wv_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_wx_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               int16_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_vv_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                               vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_vx_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                               int32_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_wv_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_wx_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_vv_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                               vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_vx_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                               int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_wv_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_wx_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_vv_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                               vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_vx_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                               int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_wv_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_wx_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_vv_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                               vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_vx_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                               int32_t rs1, size_t vl);
```

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vint64m8_t __riscv_vwadd_wv_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_wx_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_vv_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                 vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_vx_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                 int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_wv_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                 vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_wx_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                 int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_vv_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                 vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_vx_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                 int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_wv_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                 vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_wx_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                 int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_vv_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_vx_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_wv_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_wx_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_vv_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_vx_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_wv_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_wx_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_vv_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_vx_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_wv_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_wx_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_vv_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_vx_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_wv_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_wx_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_vv_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                 vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_vx_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                 int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_wv_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_wx_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_vv_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_vx_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_wv_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_wx_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
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                                int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_vv_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_vx_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_wv_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_wx_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_vv_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_vx_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_wv_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_wx_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_vv_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_vx_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_wv_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_wx_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                int16_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_vv_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_vx_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                int32_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_wv_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_wx_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_vv_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_vx_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_wv_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_wx_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_vv_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_vx_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_wv_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_wx_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_vv_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_vx_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_wv_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_wx_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                int32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vv_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vx_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wv_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vuint16mf4_t vs2, vuint8mf8_t vs1,
                                   size_t vl);
vuint16mf4_t __riscv_vwaddu_wx_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vuint16mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vv_tum(vbool32_t vm, vuint16mf2_t vd,
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                                    vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vx_tum(vbool32_t vm, vuint16mf2_t vd,
                                    vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wv_tum(vbool32_t vm, vuint16mf2_t vd,
                                    vuint16mf2_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vwaddu_wx_tum(vbool32_t vm, vuint16mf2_t vd,
                                    vuint16mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vv_tum(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                   vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vx_tum(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wv_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                   vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wx_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vv_tum(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vx_tum(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wv_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wx_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vv_tum(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vx_tum(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wv_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wx_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vv_tum(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vx_tum(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wv_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wx_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_vv_tum(vbool64_t vm, vuint32mf2_t vd,
                                    vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vwaddu_vx_tum(vbool64_t vm, vuint32mf2_t vd,
                                    vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_wv_tum(vbool64_t vm, vuint32mf2_t vd,
                                    vuint32mf2_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vwaddu_wx_tum(vbool64_t vm, vuint32mf2_t vd,
                                    vuint32mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vv_tum(vbool32_t vm, vuint32m1_t vd,
                                   vuint16mf2_t vs2, vuint16mf2_t vs1,
                                   size_t vl);
vuint32m1_t __riscv_vwaddu_vx_tum(vbool32_t vm, vuint32m1_t vd,
                                   vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wv_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                   vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wx_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                   uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vv_tum(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vx_tum(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                   uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wv_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wx_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                   uint16_t rs1, size_t vl);
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vuint32m4_t __riscv_vwaddu_vv_tum(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                  vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vx_tum(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wv_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                  vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wx_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vv_tum(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                  vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vx_tum(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wv_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                  vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wx_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                  uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vv_tum(vbool64_t vm, vuint64m1_t vd,
                                  vuint32mf2_t vs2, vuint32mf2_t vs1,
                                  size_t vl);
vuint64m1_t __riscv_vwaddu_vx_tum(vbool64_t vm, vuint64m1_t vd,
                                  vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wv_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                  vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wx_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vv_tum(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vx_tum(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wv_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wx_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vv_tum(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                  vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vx_tum(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wv_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                  vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wx_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vv_tum(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                  vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vx_tum(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wv_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                  vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wx_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                  uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vv_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vx_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wv_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vuint16mf4_t vs2, vuint8mf8_t vs1,
                                   size_t vl);
vuint16mf4_t __riscv_vwsubu_wx_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vuint16mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vv_tum(vbool32_t vm, vuint16mf2_t vd,
                                   vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vx_tum(vbool32_t vm, vuint16mf2_t vd,
                                   vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wv_tum(vbool32_t vm, vuint16mf2_t vd,
                                   vuint16mf2_t vs2, vuint8mf4_t vs1,
                                   size_t vl);
vuint16mf2_t __riscv_vwsubu_wx_tum(vbool32_t vm, vuint16mf2_t vd,
                                   vuint16mf2_t vs2, uint8_t rs1, size_t vl);
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vuint16m1_t __riscv_vwsubu_vv_tum(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                  vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vx_tum(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wv_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                  vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wx_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vv_tum(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                  vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vx_tum(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wv_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                  vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wx_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vv_tum(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                  vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vx_tum(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wv_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                  vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wx_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vv_tum(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                  vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vx_tum(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wv_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                  vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wx_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                  uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_vv_tum(vbool64_t vm, vuint32mf2_t vd,
                                   vuint16mf4_t vs2, vuint16mf4_t vs1,
                                   size_t vl);
vuint32mf2_t __riscv_vwsubu_vx_tum(vbool64_t vm, vuint32mf2_t vd,
                                   vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_wv_tum(vbool64_t vm, vuint32mf2_t vd,
                                   vuint32mf2_t vs2, vuint16mf4_t vs1,
                                   size_t vl);
vuint32mf2_t __riscv_vwsubu_wx_tum(vbool64_t vm, vuint32mf2_t vd,
                                   vuint32mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vv_tum(vbool32_t vm, vuint32m1_t vd,
                                  vuint16mf2_t vs2, vuint16mf2_t vs1,
                                  size_t vl);
vuint32m1_t __riscv_vwsubu_vx_tum(vbool32_t vm, vuint32m1_t vd,
                                  vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wv_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                  vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wx_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vv_tum(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vx_tum(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wv_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wx_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vv_tum(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                  vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vx_tum(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wv_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                  vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wx_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                  uint16_t rs1, size_t vl);
```

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vuint32m8_t __riscv_vwsubu_vv_tum(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                  vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vx_tum(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wv_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                  vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wx_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                  uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_vv_tum(vbool64_t vm, vuint64m1_t vd,
                                  vuint32mf2_t vs2, vuint32mf2_t vs1,
                                  size_t vl);
vuint64m1_t __riscv_vwsubu_vx_tum(vbool64_t vm, vuint64m1_t vd,
                                  vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_wv_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                  vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwsubu_wx_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_vv_tum(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_vx_tum(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wv_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wx_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vv_tum(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                  vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vx_tum(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wv_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                  vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wx_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vv_tum(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                  vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vx_tum(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wv_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                  vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wx_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                  uint32_t rs1, size_t vl);
// masked functions
vint16mf4_t __riscv_vwadd_vv_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                  vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_vx_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwadd_wv_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                  vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_wx_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_vv_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                  vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_vx_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_wv_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                  vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_wx_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                  int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_vv_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                 vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_vx_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                 int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_wv_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                 vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_wx_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                 int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_vv_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
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                                vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_vx_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_wv_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_wx_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_vv_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_vx_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_wv_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_wx_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_vv_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_vx_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_wv_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_wx_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_vv_tumu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                 vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_vx_tumu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                 int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_wv_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_wx_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_vv_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_vx_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_wv_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_wx_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_vv_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_vx_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_wv_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_wx_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_vv_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_vx_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_wv_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_wx_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_vv_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_vx_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_wv_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_wx_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                int16_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_vv_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_vx_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                int32_t rs1, size_t vl);
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vint64m1_t __riscv_vwadd_wv_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                 vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_wx_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                 int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_vv_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                 vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_vx_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                 int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_wv_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                 vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_wx_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                 int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_vv_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                 vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_vx_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                 int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_wv_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                 vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_wx_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                 int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_vv_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                 vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_vx_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                 int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_wv_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                 vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_wx_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                 int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_vv_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                  vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_vx_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_wv_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                  vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_wx_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_vv_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                  vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_vx_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_wv_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                  vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_wx_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                  int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_vv_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                 vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_vx_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                 int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_wv_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                 vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_wx_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                 int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_vv_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                 vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_vx_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                 int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_wv_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                 vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_wx_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                 int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_vv_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                 vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_vx_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                 int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_wv_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                 vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_wx_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
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                                int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_vv_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_vx_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_wv_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_wx_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_vv_tumu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                 vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_vx_tumu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                 int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_wv_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_wx_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_vv_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_vx_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_wv_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_wx_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_vv_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_vx_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_wv_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_wx_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_vv_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_vx_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_wv_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_wx_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_vv_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_vx_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_wv_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_wx_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                int16_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_vv_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_vx_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                int32_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_wv_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_wx_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_vv_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_vx_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_wv_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_wx_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_vv_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                vint32m2_t vs1, size_t vl);
```

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vint64m4_t __riscv_vwsub_vx_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                 int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_wv_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                 vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_wx_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                 int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_vv_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                 vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_vx_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                 int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_wv_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                 vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_wx_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                 int32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vv_tumu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vwaddu_vx_tumu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wv_tumu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint16mf4_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vwaddu_wx_tumu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint16mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vv_tumu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vwaddu_vx_tumu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wv_tumu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint16mf2_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vwaddu_wx_tumu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint16mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vv_tumu(vbool16_t vm, vuint16m1_t vd,
                                   vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vx_tumu(vbool16_t vm, vuint16m1_t vd,
                                   vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wv_tumu(vbool16_t vm, vuint16m1_t vd,
                                   vuint16m1_t vs2, vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wx_tumu(vbool16_t vm, vuint16m1_t vd,
                                   vuint16m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vv_tumu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vx_tumu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wv_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wx_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vv_tumu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vx_tumu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wv_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wx_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vv_tumu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vx_tumu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wv_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wx_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_vv_tumu(vbool64_t vm, vuint32mf2_t vd,
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                                    vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vwaddu_vx_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_wv_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint32mf2_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vwaddu_wx_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint32mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vv_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vuint16mf2_t vs2, vuint16mf2_t vs1,
                                   size_t vl);
vuint32m1_t __riscv_vwaddu_vx_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wv_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vuint32m1_t vs2, vuint16mf2_t vs1,
                                   size_t vl);
vuint32m1_t __riscv_vwaddu_wx_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vuint32m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vv_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vx_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wv_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vuint32m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wx_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vuint32m2_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vv_tumu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vx_tumu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                   uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wv_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wx_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                   uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vv_tumu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vx_tumu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                   uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wv_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wx_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                   uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vv_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint32mf2_t vs2, vuint32mf2_t vs1,
                                   size_t vl);
vuint64m1_t __riscv_vwaddu_vx_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wv_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint64m1_t vs2, vuint32mf2_t vs1,
                                   size_t vl);
vuint64m1_t __riscv_vwaddu_wx_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint64m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vv_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vx_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wv_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vuint64m2_t vs2, vuint32m1_t vs1, size_t vl);
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                                   vuint64m2_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vv_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vx_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wv_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint64m4_t vs2, vuint32m2_t vs1, size_t vl);
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vuint64m4_t __riscv_vwaddu_wx_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint64m4_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vv_tumu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                   vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vx_tumu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                   uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wv_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                   vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wx_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                   uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vv_tumu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint8mf8_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vwsubu_vx_tumu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wv_tumu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint16mf4_t vs2, vuint8mf8_t vs1,
                                    size_t vl);
vuint16mf4_t __riscv_vwsubu_wx_tumu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint16mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vv_tumu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint8mf4_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vwsubu_vx_tumu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wv_tumu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint16mf2_t vs2, vuint8mf4_t vs1,
                                    size_t vl);
vuint16mf2_t __riscv_vwsubu_wx_tumu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint16mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vv_tumu(vbool16_t vm, vuint16m1_t vd,
                                   vuint8mf2_t vs2, vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vx_tumu(vbool16_t vm, vuint16m1_t vd,
                                   vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wv_tumu(vbool16_t vm, vuint16m1_t vd,
                                   vuint16m1_t vs2, vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wx_tumu(vbool16_t vm, vuint16m1_t vd,
                                   vuint16m1_t vs2, uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vv_tumu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vx_tumu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wv_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                   vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wx_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vv_tumu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vx_tumu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wv_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                   vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wx_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vv_tumu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vx_tumu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                   uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wv_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                   vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wx_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                   uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_vv_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vwsubu_vx_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint16mf4_t vs2, uint16_t rs1, size_t vl);
```

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vuint32mf2_t __riscv_vwsubu_wv_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint32mf2_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vwsubu_wx_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint32mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vv_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vuint16mf2_t vs2, vuint16mf2_t vs1,
                                   size_t vl);
vuint32m1_t __riscv_vwsubu_vx_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wv_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vuint32m1_t vs2, vuint16mf2_t vs1,
                                   size_t vl);
vuint32m1_t __riscv_vwsubu_wx_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vuint32m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vv_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vuint16m1_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vx_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wv_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vuint32m2_t vs2, vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wx_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vuint32m2_t vs2, uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vv_tumu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vx_tumu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                   uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wv_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wx_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                   uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vv_tumu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vx_tumu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                   uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wv_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wx_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                   uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_vv_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint32mf2_t vs2, vuint32mf2_t vs1,
                                   size_t vl);
vuint64m1_t __riscv_vwsubu_vx_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_wv_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint64m1_t vs2, vuint32mf2_t vs1,
                                   size_t vl);
vuint64m1_t __riscv_vwsubu_wx_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint64m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_vv_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vuint32m1_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_vx_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wv_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vuint64m2_t vs2, vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wx_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vuint64m2_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vv_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint32m2_t vs2, vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vx_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wv_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint64m4_t vs2, vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wx_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint64m4_t vs2, uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vv_tumu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                   vuint32m4_t vs1, size_t vl);
```

```
vuint64m8_t __riscv_vwsubu_vx_tumu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                   uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wv_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                   vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wx_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                   uint32_t rs1, size_t vl);
// masked functions
vint16mf4_t __riscv_vwadd_vv_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_vx_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwadd_wv_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwadd_wx_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_vv_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_vx_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwadd_wv_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwadd_wx_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_vv_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                               vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_vx_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                               int8_t rs1, size_t vl);
vint16m1_t __riscv_vwadd_wv_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwadd_wx_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_vv_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                               vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_vx_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                               int8_t rs1, size_t vl);
vint16m2_t __riscv_vwadd_wv_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwadd_wx_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_vv_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                               vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_vx_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                               int8_t rs1, size_t vl);
vint16m4_t __riscv_vwadd_wv_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwadd_wx_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_vv_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                               vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_vx_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                               int8_t rs1, size_t vl);
vint16m8_t __riscv_vwadd_wv_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwadd_wx_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_vv_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_vx_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwadd_wv_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwadd_wx_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                int16_t rs1, size_t vl);
vint32m1_t __riscv_vwadd_vv_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                               vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_vx_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                               int16_t rs1, size_t vl);
```

```
vint32m1_t __riscv_vwadd_wv_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwadd_wx_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_vv_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                               vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_vx_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                               int16_t rs1, size_t vl);
vint32m2_t __riscv_vwadd_wv_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwadd_wx_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_vv_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                               vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_vx_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                               int16_t rs1, size_t vl);
vint32m4_t __riscv_vwadd_wv_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwadd_wx_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_vv_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                               vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_vx_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                               int16_t rs1, size_t vl);
vint32m8_t __riscv_vwadd_wv_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwadd_wx_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               int16_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_vv_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                               vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_vx_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                               int32_t rs1, size_t vl);
vint64m1_t __riscv_vwadd_wv_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwadd_wx_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_vv_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                               vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_vx_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                               int32_t rs1, size_t vl);
vint64m2_t __riscv_vwadd_wv_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwadd_wx_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_vv_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                               vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_vx_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                               int32_t rs1, size_t vl);
vint64m4_t __riscv_vwadd_wv_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwadd_wx_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_vv_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                               vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_vx_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                               int32_t rs1, size_t vl);
vint64m8_t __riscv_vwadd_wv_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                               vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwadd_wx_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                               int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_vv_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_vx_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                int8_t rs1, size_t vl);
vint16mf4_t __riscv_vwsub_wv_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwsub_wx_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
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                                int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_vv_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_vx_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwsub_wv_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwsub_wx_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_vv_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                               vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_vx_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                               int8_t rs1, size_t vl);
vint16m1_t __riscv_vwsub_wv_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwsub_wx_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_vv_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                               vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_vx_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                               int8_t rs1, size_t vl);
vint16m2_t __riscv_vwsub_wv_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwsub_wx_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_vv_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                               vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_vx_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                               int8_t rs1, size_t vl);
vint16m4_t __riscv_vwsub_wv_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwsub_wx_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_vv_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                               vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_vx_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                               int8_t rs1, size_t vl);
vint16m8_t __riscv_vwsub_wv_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwsub_wx_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_vv_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_vx_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                int16_t rs1, size_t vl);
vint32mf2_t __riscv_vwsub_wv_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwsub_wx_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_vv_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                               vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_vx_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                               int16_t rs1, size_t vl);
vint32m1_t __riscv_vwsub_wv_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwsub_wx_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_vv_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                               vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_vx_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                               int16_t rs1, size_t vl);
vint32m2_t __riscv_vwsub_wv_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwsub_wx_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_vv_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                               vint16m2_t vs1, size_t vl);
```

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vint32m4_t __riscv_vwsub_vx_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                               int16_t rs1, size_t vl);
vint32m4_t __riscv_vwsub_wv_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwsub_wx_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_vv_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                               vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_vx_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                               int16_t rs1, size_t vl);
vint32m8_t __riscv_vwsub_wv_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwsub_wx_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               int16_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_vv_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                               vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_vx_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                               int32_t rs1, size_t vl);
vint64m1_t __riscv_vwsub_wv_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwsub_wx_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_vv_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                               vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_vx_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                               int32_t rs1, size_t vl);
vint64m2_t __riscv_vwsub_wv_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwsub_wx_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_vv_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                               vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_vx_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                               int32_t rs1, size_t vl);
vint64m4_t __riscv_vwsub_wv_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwsub_wx_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_vv_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                               vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_vx_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                               int32_t rs1, size_t vl);
vint64m8_t __riscv_vwsub_wv_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                               vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwsub_wx_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                               int32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vv_mu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_vx_mu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wv_mu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint16mf4_t vs2, vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwaddu_wx_mu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint16mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vv_mu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_vx_mu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wv_mu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint16mf2_t vs2, vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwaddu_wx_mu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint16mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vv_mu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                 vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_vx_mu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                 uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wv_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
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                                vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwaddu_wx_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vv_mu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_vx_mu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wv_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwaddu_wx_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vv_mu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_vx_mu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wv_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwaddu_wx_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vv_mu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_vx_mu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wv_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwaddu_wx_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_vv_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint16mf4_t vs2, vuint16mf4_t vs1,
                                 size_t vl);
vuint32mf2_t __riscv_vwaddu_vx_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwaddu_wv_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, vuint16mf4_t vs1,
                                 size_t vl);
vuint32mf2_t __riscv_vwaddu_wx_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vv_mu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwaddu_vx_mu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
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                                vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwaddu_wx_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vv_mu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_vx_mu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wv_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwaddu_wx_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vv_mu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_vx_mu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wv_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwaddu_wx_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vv_mu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwaddu_vx_mu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwaddu_wv_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                vuint16m4_t vs1, size_t vl);
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vuint32m8_t __riscv_vwaddu_wx_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                 uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vv_mu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                                 vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwaddu_vx_mu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wv_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                 vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwaddu_wx_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vv_mu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_vx_mu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wv_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwaddu_wx_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vv_mu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                 vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_vx_mu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wv_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                 vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwaddu_wx_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vv_mu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                 vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_vx_mu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wv_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                 vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwaddu_wx_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                 uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vv_mu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint8mf8_t vs2, vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_vx_mu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wv_mu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint16mf4_t vs2, vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwsubu_wx_mu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint16mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vv_mu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint8mf4_t vs2, vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_vx_mu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wv_mu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint16mf2_t vs2, vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwsubu_wx_mu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint16mf2_t vs2, uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vv_mu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                 vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_vx_mu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                 uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wv_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                 vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwsubu_wx_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                 uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vv_mu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                 vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_vx_mu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                 uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wv_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                 vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwsubu_wx_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                 uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vv_mu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
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                                vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_vx_mu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wv_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwsubu_wx_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vv_mu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_vx_mu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wv_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwsubu_wx_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_vv_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint16mf4_t vs2, vuint16mf4_t vs1,
                                 size_t vl);
vuint32mf2_t __riscv_vwsubu_vx_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vwsubu_wv_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, vuint16mf4_t vs1,
                                 size_t vl);
vuint32mf2_t __riscv_vwsubu_wx_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vv_mu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwsubu_vx_mu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wv_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwsubu_wx_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vv_mu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_vx_mu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wv_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwsubu_wx_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vv_mu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_vx_mu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wv_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwsubu_wx_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vv_mu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_vx_mu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wv_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwsubu_wx_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_vv_mu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwsubu_vx_mu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vwsubu_wv_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwsubu_wx_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_vv_mu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
```

```
vuint64m2_t __riscv_vwsubu_vx_mu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wv_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwsubu_wx_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vv_mu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                 vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_vx_mu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wv_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                 vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwsubu_wx_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vv_mu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                 vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_vx_mu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wv_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                 vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwsubu_wx_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                 uint32_t rs1, size_t vl);
```

D.3.3. Vector Integer Widening Intrinsics

```
vint16mf4_t __riscv_vwcvt_x_tu(vint16mf4_t vd, vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwcvt_x_tu(vint16mf2_t vd, vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwcvt_x_tu(vint16m1_t vd, vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwcvt_x_tu(vint16m2_t vd, vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwcvt_x_tu(vint16m4_t vd, vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwcvt_x_tu(vint16m8_t vd, vint8m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwcvtu_x_tu(vuint16mf4_t vd, vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwcvtu_x_tu(vuint16mf2_t vd, vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwcvtu_x_tu(vuint16m1_t vd, vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwcvtu_x_tu(vuint16m2_t vd, vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwcvtu_x_tu(vuint16m4_t vd, vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwcvtu_x_tu(vuint16m8_t vd, vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwcvt_x_tu(vint32mf2_t vd, vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwcvt_x_tu(vint32m1_t vd, vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwcvt_x_tu(vint32m2_t vd, vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwcvt_x_tu(vint32m4_t vd, vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwcvt_x_tu(vint32m8_t vd, vint16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwcvtu_x_tu(vuint32mf2_t vd, vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwcvtu_x_tu(vuint32m1_t vd, vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwcvtu_x_tu(vuint32m2_t vd, vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwcvtu_x_tu(vuint32m4_t vd, vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwcvtu_x_tu(vuint32m8_t vd, vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwcvt_x_tu(vint64m1_t vd, vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwcvt_x_tu(vint64m2_t vd, vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwcvt_x_tu(vint64m4_t vd, vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwcvt_x_tu(vint64m8_t vd, vint32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwcvtu_x_tu(vuint64m1_t vd, vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwcvtu_x_tu(vuint64m2_t vd, vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwcvtu_x_tu(vuint64m4_t vd, vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vwcvtu_x_tu(vuint64m8_t vd, vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vwcvt_x_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                size_t vl);
vint16mf2_t __riscv_vwcvt_x_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                size_t vl);
vint16m1_t __riscv_vwcvt_x_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                               size_t vl);
vint16m2_t __riscv_vwcvt_x_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                               size_t vl);
vint16m4_t __riscv_vwcvt_x_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
```

```
                                size_t vl);
vint16m8_t __riscv_vwcvt_x_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                               size_t vl);
vuint16mf4_t __riscv_vwcvtu_x_tum(vbool64_t vm, vuint16mf4_t vd,
                                  vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwcvtu_x_tum(vbool32_t vm, vuint16mf2_t vd,
                                  vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwcvtu_x_tum(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                 size_t vl);
vuint16m2_t __riscv_vwcvtu_x_tum(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                 size_t vl);
vuint16m4_t __riscv_vwcvtu_x_tum(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                 size_t vl);
vuint16m8_t __riscv_vwcvtu_x_tum(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                 size_t vl);
vint32mf2_t __riscv_vwcvt_x_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                size_t vl);
vint32m1_t __riscv_vwcvt_x_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                               size_t vl);
vint32m2_t __riscv_vwcvt_x_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                               size_t vl);
vint32m4_t __riscv_vwcvt_x_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                               size_t vl);
vint32m8_t __riscv_vwcvt_x_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                               size_t vl);
vuint32mf2_t __riscv_vwcvtu_x_tum(vbool64_t vm, vuint32mf2_t vd,
                                  vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwcvtu_x_tum(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                                 size_t vl);
vuint32m2_t __riscv_vwcvtu_x_tum(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                 size_t vl);
vuint32m4_t __riscv_vwcvtu_x_tum(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                 size_t vl);
vuint32m8_t __riscv_vwcvtu_x_tum(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                 size_t vl);
vint64m1_t __riscv_vwcvt_x_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                               size_t vl);
vint64m2_t __riscv_vwcvt_x_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                               size_t vl);
vint64m4_t __riscv_vwcvt_x_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                               size_t vl);
vint64m8_t __riscv_vwcvt_x_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                               size_t vl);
vuint64m1_t __riscv_vwcvtu_x_tum(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                                 size_t vl);
vuint64m2_t __riscv_vwcvtu_x_tum(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                 size_t vl);
vuint64m4_t __riscv_vwcvtu_x_tum(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                 size_t vl);
vuint64m8_t __riscv_vwcvtu_x_tum(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                 size_t vl);
// masked functions
vint16mf4_t __riscv_vwcvt_x_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                 size_t vl);
vint16mf2_t __riscv_vwcvt_x_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                 size_t vl);
vint16m1_t __riscv_vwcvt_x_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                size_t vl);
vint16m2_t __riscv_vwcvt_x_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                size_t vl);
vint16m4_t __riscv_vwcvt_x_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                size_t vl);
vint16m8_t __riscv_vwcvt_x_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                size_t vl);
vuint16mf4_t __riscv_vwcvtu_x_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwcvtu_x_tumu(vbool32_t vm, vuint16mf2_t vd,
```

```
                                    vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwcvtu_x_tumu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                  size_t vl);
vuint16m2_t __riscv_vwcvtu_x_tumu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                  size_t vl);
vuint16m4_t __riscv_vwcvtu_x_tumu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                  size_t vl);
vuint16m8_t __riscv_vwcvtu_x_tumu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                  size_t vl);
vint32mf2_t __riscv_vwcvt_x_tumu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                 size_t vl);
vint32m1_t __riscv_vwcvt_x_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                size_t vl);
vint32m2_t __riscv_vwcvt_x_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                size_t vl);
vint32m4_t __riscv_vwcvt_x_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                size_t vl);
vint32m8_t __riscv_vwcvt_x_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                size_t vl);
vuint32mf2_t __riscv_vwcvtu_x_tumu(vbool64_t vm, vuint32mf2_t vd,
                                   vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwcvtu_x_tumu(vbool32_t vm, vuint32m1_t vd,
                                  vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwcvtu_x_tumu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                  size_t vl);
vuint32m4_t __riscv_vwcvtu_x_tumu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                  size_t vl);
vuint32m8_t __riscv_vwcvtu_x_tumu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vwcvt_x_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                size_t vl);
vint64m2_t __riscv_vwcvt_x_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                size_t vl);
vint64m4_t __riscv_vwcvt_x_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                size_t vl);
vint64m8_t __riscv_vwcvt_x_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                size_t vl);
vuint64m1_t __riscv_vwcvtu_x_tumu(vbool64_t vm, vuint64m1_t vd,
                                  vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwcvtu_x_tumu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                  size_t vl);
vuint64m4_t __riscv_vwcvtu_x_tumu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                  size_t vl);
vuint64m8_t __riscv_vwcvtu_x_tumu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                  size_t vl);
// masked functions
vint16mf4_t __riscv_vwcvt_x_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                               size_t vl);
vint16mf2_t __riscv_vwcvt_x_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                               size_t vl);
vint16m1_t __riscv_vwcvt_x_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                              size_t vl);
vint16m2_t __riscv_vwcvt_x_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                              size_t vl);
vint16m4_t __riscv_vwcvt_x_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                              size_t vl);
vint16m8_t __riscv_vwcvt_x_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                              size_t vl);
vuint16mf4_t __riscv_vwcvtu_x_mu(vbool64_t vm, vuint16mf4_t vd, vuint8mf8_t vs2,
                                 size_t vl);
vuint16mf2_t __riscv_vwcvtu_x_mu(vbool32_t vm, vuint16mf2_t vd, vuint8mf4_t vs2,
                                 size_t vl);
vuint16m1_t __riscv_vwcvtu_x_mu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                size_t vl);
vuint16m2_t __riscv_vwcvtu_x_mu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                size_t vl);
vuint16m4_t __riscv_vwcvtu_x_mu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
```

```
                                size_t vl);
vuint16m8_t __riscv_vwcvtu_x_mu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                size_t vl);
vint32mf2_t __riscv_vwcvt_x_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                               size_t vl);
vint32m1_t __riscv_vwcvt_x_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                              size_t vl);
vint32m2_t __riscv_vwcvt_x_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                              size_t vl);
vint32m4_t __riscv_vwcvt_x_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                              size_t vl);
vint32m8_t __riscv_vwcvt_x_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                              size_t vl);
vuint32mf2_t __riscv_vwcvtu_x_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwcvtu_x_mu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                                size_t vl);
vuint32m2_t __riscv_vwcvtu_x_mu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                size_t vl);
vuint32m4_t __riscv_vwcvtu_x_mu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                size_t vl);
vuint32m8_t __riscv_vwcvtu_x_mu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                size_t vl);
vint64m1_t __riscv_vwcvt_x_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                              size_t vl);
vint64m2_t __riscv_vwcvt_x_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                              size_t vl);
vint64m4_t __riscv_vwcvt_x_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                              size_t vl);
vint64m8_t __riscv_vwcvt_x_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                              size_t vl);
vuint64m1_t __riscv_vwcvtu_x_mu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                                size_t vl);
vuint64m2_t __riscv_vwcvtu_x_mu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                size_t vl);
vuint64m4_t __riscv_vwcvtu_x_mu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                size_t vl);
vuint64m8_t __riscv_vwcvtu_x_mu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                size_t vl);
```

D.3.4. Vector Integer Extension Intrinsics

```
vint16mf4_t __riscv_vsext_vf2_tu(vint16mf4_t vd, vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vsext_vf2_tu(vint16mf2_t vd, vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vsext_vf2_tu(vint16m1_t vd, vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vsext_vf2_tu(vint16m2_t vd, vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vsext_vf2_tu(vint16m4_t vd, vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vsext_vf2_tu(vint16m8_t vd, vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf4_tu(vint32mf2_t vd, vint8mf8_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf4_tu(vint32m1_t vd, vint8mf4_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf4_tu(vint32m2_t vd, vint8mf2_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf4_tu(vint32m4_t vd, vint8m1_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf4_tu(vint32m8_t vd, vint8m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf8_tu(vint64m1_t vd, vint8mf8_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf8_tu(vint64m2_t vd, vint8mf4_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf8_tu(vint64m4_t vd, vint8mf2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf8_tu(vint64m8_t vd, vint8m1_t vs2, size_t vl);
vint32mf2_t __riscv_vsext_vf2_tu(vint32mf2_t vd, vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf2_tu(vint32m1_t vd, vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vsext_vf2_tu(vint32m2_t vd, vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vsext_vf2_tu(vint32m4_t vd, vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vsext_vf2_tu(vint32m8_t vd, vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf4_tu(vint64m1_t vd, vint16mf4_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf4_tu(vint64m2_t vd, vint16mf2_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf4_tu(vint64m4_t vd, vint16m1_t vs2, size_t vl);
```

```
vint64m8_t __riscv_vsext_vf4_tu(vint64m8_t vd, vint16m2_t vs2, size_t vl);
vint64m1_t __riscv_vsext_vf2_tu(vint64m1_t vd, vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vsext_vf2_tu(vint64m2_t vd, vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vsext_vf2_tu(vint64m4_t vd, vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vsext_vf2_tu(vint64m8_t vd, vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vzext_vf2_tu(vuint16mf4_t vd, vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vzext_vf2_tu(vuint16mf2_t vd, vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vzext_vf2_tu(vuint16m1_t vd, vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vzext_vf2_tu(vuint16m2_t vd, vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vzext_vf2_tu(vuint16m4_t vd, vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vzext_vf2_tu(vuint16m8_t vd, vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf4_tu(vuint32mf2_t vd, vuint8mf8_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf4_tu(vuint32m1_t vd, vuint8mf4_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf4_tu(vuint32m2_t vd, vuint8mf2_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf4_tu(vuint32m4_t vd, vuint8m1_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf4_tu(vuint32m8_t vd, vuint8m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf8_tu(vuint64m1_t vd, vuint8mf8_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf8_tu(vuint64m2_t vd, vuint8mf4_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf8_tu(vuint64m4_t vd, vuint8mf2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf8_tu(vuint64m8_t vd, vuint8m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vzext_vf2_tu(vuint32mf2_t vd, vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf2_tu(vuint32m1_t vd, vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf2_tu(vuint32m2_t vd, vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf2_tu(vuint32m4_t vd, vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vzext_vf2_tu(vuint32m8_t vd, vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf4_tu(vuint64m1_t vd, vuint16mf4_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf4_tu(vuint64m2_t vd, vuint16mf2_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf4_tu(vuint64m4_t vd, vuint16m1_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf4_tu(vuint64m8_t vd, vuint16m2_t vs2, size_t vl);
vuint64m1_t __riscv_vzext_vf2_tu(vuint64m1_t vd, vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf2_tu(vuint64m2_t vd, vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf2_tu(vuint64m4_t vd, vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf2_tu(vuint64m8_t vd, vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vsext_vf2_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                  size_t vl);
vint16mf2_t __riscv_vsext_vf2_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                  size_t vl);
vint16m1_t __riscv_vsext_vf2_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                 size_t vl);
vint16m2_t __riscv_vsext_vf2_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                 size_t vl);
vint16m4_t __riscv_vsext_vf2_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                 size_t vl);
vint16m8_t __riscv_vsext_vf2_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                 size_t vl);
vint32mf2_t __riscv_vsext_vf4_tum(vbool64_t vm, vint32mf2_t vd, vint8mf8_t vs2,
                                  size_t vl);
vint32m1_t __riscv_vsext_vf4_tum(vbool32_t vm, vint32m1_t vd, vint8mf4_t vs2,
                                 size_t vl);
vint32m2_t __riscv_vsext_vf4_tum(vbool16_t vm, vint32m2_t vd, vint8mf2_t vs2,
                                 size_t vl);
vint32m4_t __riscv_vsext_vf4_tum(vbool8_t vm, vint32m4_t vd, vint8m1_t vs2,
                                 size_t vl);
vint32m8_t __riscv_vsext_vf4_tum(vbool4_t vm, vint32m8_t vd, vint8m2_t vs2,
                                 size_t vl);
vint64m1_t __riscv_vsext_vf8_tum(vbool64_t vm, vint64m1_t vd, vint8mf8_t vs2,
                                 size_t vl);
vint64m2_t __riscv_vsext_vf8_tum(vbool32_t vm, vint64m2_t vd, vint8mf4_t vs2,
                                 size_t vl);
vint64m4_t __riscv_vsext_vf8_tum(vbool16_t vm, vint64m4_t vd, vint8mf2_t vs2,
                                 size_t vl);
vint64m8_t __riscv_vsext_vf8_tum(vbool8_t vm, vint64m8_t vd, vint8m1_t vs2,
                                 size_t vl);
vint32mf2_t __riscv_vsext_vf2_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                  size_t vl);
vint32m1_t __riscv_vsext_vf2_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
```

```
                                  size_t vl);
vint32m2_t __riscv_vsext_vf2_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                  size_t vl);
vint32m4_t __riscv_vsext_vf2_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                  size_t vl);
vint32m8_t __riscv_vsext_vf2_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vsext_vf4_tum(vbool64_t vm, vint64m1_t vd, vint16mf4_t vs2,
                                  size_t vl);
vint64m2_t __riscv_vsext_vf4_tum(vbool32_t vm, vint64m2_t vd, vint16mf2_t vs2,
                                  size_t vl);
vint64m4_t __riscv_vsext_vf4_tum(vbool16_t vm, vint64m4_t vd, vint16m1_t vs2,
                                  size_t vl);
vint64m8_t __riscv_vsext_vf4_tum(vbool8_t vm, vint64m8_t vd, vint16m2_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vsext_vf2_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                  size_t vl);
vint64m2_t __riscv_vsext_vf2_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                  size_t vl);
vint64m4_t __riscv_vsext_vf2_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                  size_t vl);
vint64m8_t __riscv_vsext_vf2_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                  size_t vl);
vuint16mf4_t __riscv_vzext_vf2_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vzext_vf2_tum(vbool32_t vm, vuint16mf2_t vd,
                                   vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vzext_vf2_tum(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                  size_t vl);
vuint16m2_t __riscv_vzext_vf2_tum(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                  size_t vl);
vuint16m4_t __riscv_vzext_vf2_tum(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                  size_t vl);
vuint16m8_t __riscv_vzext_vf2_tum(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                  size_t vl);
vuint32mf2_t __riscv_vzext_vf4_tum(vbool64_t vm, vuint32mf2_t vd,
                                   vuint8mf8_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf4_tum(vbool32_t vm, vuint32m1_t vd, vuint8mf4_t vs2,
                                  size_t vl);
vuint32m2_t __riscv_vzext_vf4_tum(vbool16_t vm, vuint32m2_t vd, vuint8mf2_t vs2,
                                  size_t vl);
vuint32m4_t __riscv_vzext_vf4_tum(vbool8_t vm, vuint32m4_t vd, vuint8m1_t vs2,
                                  size_t vl);
vuint32m8_t __riscv_vzext_vf4_tum(vbool4_t vm, vuint32m8_t vd, vuint8m2_t vs2,
                                  size_t vl);
vuint64m1_t __riscv_vzext_vf8_tum(vbool64_t vm, vuint64m1_t vd, vuint8mf8_t vs2,
                                  size_t vl);
vuint64m2_t __riscv_vzext_vf8_tum(vbool32_t vm, vuint64m2_t vd, vuint8mf4_t vs2,
                                  size_t vl);
vuint64m4_t __riscv_vzext_vf8_tum(vbool16_t vm, vuint64m4_t vd, vuint8mf2_t vs2,
                                  size_t vl);
vuint64m8_t __riscv_vzext_vf8_tum(vbool8_t vm, vuint64m8_t vd, vuint8m1_t vs2,
                                  size_t vl);
vuint32mf2_t __riscv_vzext_vf2_tum(vbool64_t vm, vuint32mf2_t vd,
                                   vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf2_tum(vbool32_t vm, vuint32m1_t vd,
                                  vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf2_tum(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                  size_t vl);
vuint32m4_t __riscv_vzext_vf2_tum(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                  size_t vl);
vuint32m8_t __riscv_vzext_vf2_tum(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                  size_t vl);
vuint64m1_t __riscv_vzext_vf4_tum(vbool64_t vm, vuint64m1_t vd,
                                  vuint16mf4_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf4_tum(vbool32_t vm, vuint64m2_t vd,
                                  vuint16mf2_t vs2, size_t vl);
```

```
vuint64m4_t __riscv_vzext_vf4_tum(vbool16_t vm, vuint64m4_t vd, vuint16m1_t vs2,
                                  size_t vl);
vuint64m8_t __riscv_vzext_vf4_tum(vbool8_t vm, vuint64m8_t vd, vuint16m2_t vs2,
                                  size_t vl);
vuint64m1_t __riscv_vzext_vf2_tum(vbool64_t vm, vuint64m1_t vd,
                                  vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf2_tum(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                  size_t vl);
vuint64m4_t __riscv_vzext_vf2_tum(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                  size_t vl);
vuint64m8_t __riscv_vzext_vf2_tum(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                  size_t vl);
// masked functions
vint16mf4_t __riscv_vsext_vf2_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                   size_t vl);
vint16mf2_t __riscv_vsext_vf2_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                   size_t vl);
vint16m1_t __riscv_vsext_vf2_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                  size_t vl);
vint16m2_t __riscv_vsext_vf2_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                  size_t vl);
vint16m4_t __riscv_vsext_vf2_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                  size_t vl);
vint16m8_t __riscv_vsext_vf2_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                  size_t vl);
vint32mf2_t __riscv_vsext_vf4_tumu(vbool64_t vm, vint32mf2_t vd, vint8mf8_t vs2,
                                   size_t vl);
vint32m1_t __riscv_vsext_vf4_tumu(vbool32_t vm, vint32m1_t vd, vint8mf4_t vs2,
                                  size_t vl);
vint32m2_t __riscv_vsext_vf4_tumu(vbool16_t vm, vint32m2_t vd, vint8mf2_t vs2,
                                  size_t vl);
vint32m4_t __riscv_vsext_vf4_tumu(vbool8_t vm, vint32m4_t vd, vint8m1_t vs2,
                                  size_t vl);
vint32m8_t __riscv_vsext_vf4_tumu(vbool4_t vm, vint32m8_t vd, vint8m2_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vsext_vf8_tumu(vbool64_t vm, vint64m1_t vd, vint8mf8_t vs2,
                                  size_t vl);
vint64m2_t __riscv_vsext_vf8_tumu(vbool32_t vm, vint64m2_t vd, vint8mf4_t vs2,
                                  size_t vl);
vint64m4_t __riscv_vsext_vf8_tumu(vbool16_t vm, vint64m4_t vd, vint8mf2_t vs2,
                                  size_t vl);
vint64m8_t __riscv_vsext_vf8_tumu(vbool8_t vm, vint64m8_t vd, vint8m1_t vs2,
                                  size_t vl);
vint32mf2_t __riscv_vsext_vf2_tumu(vbool64_t vm, vint32mf2_t vd,
                                   vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vsext_vf2_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                  size_t vl);
vint32m2_t __riscv_vsext_vf2_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                  size_t vl);
vint32m4_t __riscv_vsext_vf2_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                  size_t vl);
vint32m8_t __riscv_vsext_vf2_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vsext_vf4_tumu(vbool64_t vm, vint64m1_t vd, vint16mf4_t vs2,
                                  size_t vl);
vint64m2_t __riscv_vsext_vf4_tumu(vbool32_t vm, vint64m2_t vd, vint16mf2_t vs2,
                                  size_t vl);
vint64m4_t __riscv_vsext_vf4_tumu(vbool16_t vm, vint64m4_t vd, vint16m1_t vs2,
                                  size_t vl);
vint64m8_t __riscv_vsext_vf4_tumu(vbool8_t vm, vint64m8_t vd, vint16m2_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vsext_vf2_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                  size_t vl);
vint64m2_t __riscv_vsext_vf2_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                  size_t vl);
vint64m4_t __riscv_vsext_vf2_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                  size_t vl);
```

```
vint64m8_t __riscv_vsext_vf2_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                  size_t vl);
vuint16mf4_t __riscv_vzext_vf2_tumu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vzext_vf2_tumu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vzext_vf2_tumu(vbool16_t vm, vuint16m1_t vd,
                                   vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vzext_vf2_tumu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                   size_t vl);
vuint16m4_t __riscv_vzext_vf2_tumu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                   size_t vl);
vuint16m8_t __riscv_vzext_vf2_tumu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                   size_t vl);
vuint32mf2_t __riscv_vzext_vf4_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint8mf8_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf4_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vuint8mf4_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf4_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vuint8mf2_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf4_tumu(vbool8_t vm, vuint32m4_t vd, vuint8m1_t vs2,
                                   size_t vl);
vuint32m8_t __riscv_vzext_vf4_tumu(vbool4_t vm, vuint32m8_t vd, vuint8m2_t vs2,
                                   size_t vl);
vuint64m1_t __riscv_vzext_vf8_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint8mf8_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf8_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vuint8mf4_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf8_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint8mf2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf8_tumu(vbool8_t vm, vuint64m8_t vd, vuint8m1_t vs2,
                                   size_t vl);
vuint32mf2_t __riscv_vzext_vf2_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf2_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vzext_vf2_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vzext_vf2_tumu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                   size_t vl);
vuint32m8_t __riscv_vzext_vf2_tumu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                   size_t vl);
vuint64m1_t __riscv_vzext_vf4_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint16mf4_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf4_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vuint16mf2_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf4_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint16m1_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf4_tumu(vbool8_t vm, vuint64m8_t vd, vuint16m2_t vs2,
                                   size_t vl);
vuint64m1_t __riscv_vzext_vf2_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vzext_vf2_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vzext_vf2_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vzext_vf2_tumu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                   size_t vl);
// masked functions
vint16mf4_t __riscv_vsext_vf2_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                 size_t vl);
vint16mf2_t __riscv_vsext_vf2_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                 size_t vl);
vint16m1_t __riscv_vsext_vf2_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                size_t vl);
vint16m2_t __riscv_vsext_vf2_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                size_t vl);
```

```
vint16m4_t __riscv_vsext_vf2_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                size_t vl);
vint16m8_t __riscv_vsext_vf2_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                size_t vl);
vint32mf2_t __riscv_vsext_vf4_mu(vbool64_t vm, vint32mf2_t vd, vint8mf8_t vs2,
                                 size_t vl);
vint32m1_t __riscv_vsext_vf4_mu(vbool32_t vm, vint32m1_t vd, vint8mf4_t vs2,
                                size_t vl);
vint32m2_t __riscv_vsext_vf4_mu(vbool16_t vm, vint32m2_t vd, vint8mf2_t vs2,
                                size_t vl);
vint32m4_t __riscv_vsext_vf4_mu(vbool8_t vm, vint32m4_t vd, vint8m1_t vs2,
                                size_t vl);
vint32m8_t __riscv_vsext_vf4_mu(vbool4_t vm, vint32m8_t vd, vint8m2_t vs2,
                                size_t vl);
vint64m1_t __riscv_vsext_vf8_mu(vbool64_t vm, vint64m1_t vd, vint8mf8_t vs2,
                                size_t vl);
vint64m2_t __riscv_vsext_vf8_mu(vbool32_t vm, vint64m2_t vd, vint8mf4_t vs2,
                                size_t vl);
vint64m4_t __riscv_vsext_vf8_mu(vbool16_t vm, vint64m4_t vd, vint8mf2_t vs2,
                                size_t vl);
vint64m8_t __riscv_vsext_vf8_mu(vbool8_t vm, vint64m8_t vd, vint8m1_t vs2,
                                size_t vl);
vint32mf2_t __riscv_vsext_vf2_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                 size_t vl);
vint32m1_t __riscv_vsext_vf2_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                size_t vl);
vint32m2_t __riscv_vsext_vf2_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                size_t vl);
vint32m4_t __riscv_vsext_vf2_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                size_t vl);
vint32m8_t __riscv_vsext_vf2_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                size_t vl);
vint64m1_t __riscv_vsext_vf4_mu(vbool64_t vm, vint64m1_t vd, vint16mf4_t vs2,
                                size_t vl);
vint64m2_t __riscv_vsext_vf4_mu(vbool32_t vm, vint64m2_t vd, vint16mf2_t vs2,
                                size_t vl);
vint64m4_t __riscv_vsext_vf4_mu(vbool16_t vm, vint64m4_t vd, vint16m1_t vs2,
                                size_t vl);
vint64m8_t __riscv_vsext_vf4_mu(vbool8_t vm, vint64m8_t vd, vint16m2_t vs2,
                                size_t vl);
vint64m1_t __riscv_vsext_vf2_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                size_t vl);
vint64m2_t __riscv_vsext_vf2_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                size_t vl);
vint64m4_t __riscv_vsext_vf2_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                size_t vl);
vint64m8_t __riscv_vsext_vf2_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                size_t vl);
vuint16mf4_t __riscv_vzext_vf2_mu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vzext_vf2_mu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vzext_vf2_mu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                 size_t vl);
vuint16m2_t __riscv_vzext_vf2_mu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                 size_t vl);
vuint16m4_t __riscv_vzext_vf2_mu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                 size_t vl);
vuint16m8_t __riscv_vzext_vf2_mu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                 size_t vl);
vuint32mf2_t __riscv_vzext_vf4_mu(vbool64_t vm, vuint32mf2_t vd,
                                  vuint8mf8_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf4_mu(vbool32_t vm, vuint32m1_t vd, vuint8mf4_t vs2,
                                 size_t vl);
vuint32m2_t __riscv_vzext_vf4_mu(vbool16_t vm, vuint32m2_t vd, vuint8mf2_t vs2,
                                 size_t vl);
vuint32m4_t __riscv_vzext_vf4_mu(vbool8_t vm, vuint32m4_t vd, vuint8m1_t vs2,
```

```
                                size_t vl);
vuint32m8_t __riscv_vzext_vf4_mu(vbool4_t vm, vuint32m8_t vd, vuint8m2_t vs2,
                                size_t vl);
vuint64m1_t __riscv_vzext_vf8_mu(vbool64_t vm, vuint64m1_t vd, vuint8mf8_t vs2,
                                size_t vl);
vuint64m2_t __riscv_vzext_vf8_mu(vbool32_t vm, vuint64m2_t vd, vuint8mf4_t vs2,
                                size_t vl);
vuint64m4_t __riscv_vzext_vf8_mu(vbool16_t vm, vuint64m4_t vd, vuint8mf2_t vs2,
                                size_t vl);
vuint64m8_t __riscv_vzext_vf8_mu(vbool8_t vm, vuint64m8_t vd, vuint8m1_t vs2,
                                size_t vl);
vuint32mf2_t __riscv_vzext_vf2_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vzext_vf2_mu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                                size_t vl);
vuint32m2_t __riscv_vzext_vf2_mu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                size_t vl);
vuint32m4_t __riscv_vzext_vf2_mu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                size_t vl);
vuint32m8_t __riscv_vzext_vf2_mu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                size_t vl);
vuint64m1_t __riscv_vzext_vf4_mu(vbool64_t vm, vuint64m1_t vd, vuint16mf4_t vs2,
                                size_t vl);
vuint64m2_t __riscv_vzext_vf4_mu(vbool32_t vm, vuint64m2_t vd, vuint16mf2_t vs2,
                                size_t vl);
vuint64m4_t __riscv_vzext_vf4_mu(vbool16_t vm, vuint64m4_t vd, vuint16m1_t vs2,
                                size_t vl);
vuint64m8_t __riscv_vzext_vf4_mu(vbool8_t vm, vuint64m8_t vd, vuint16m2_t vs2,
                                size_t vl);
vuint64m1_t __riscv_vzext_vf2_mu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                                size_t vl);
vuint64m2_t __riscv_vzext_vf2_mu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                size_t vl);
vuint64m4_t __riscv_vzext_vf2_mu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                size_t vl);
vuint64m8_t __riscv_vzext_vf2_mu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                size_t vl);
```

D.3.5. Vector Integer Add-with-Carry / Subtract-with-Borrow Intrinsics

```
vint8mf8_t __riscv_vadc_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                           vbool64_t v0, size_t vl);
vint8mf8_t __riscv_vadc_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                           vbool64_t v0, size_t vl);
vint8mf4_t __riscv_vadc_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                           vbool32_t v0, size_t vl);
vint8mf4_t __riscv_vadc_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                           vbool32_t v0, size_t vl);
vint8mf2_t __riscv_vadc_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                           vbool16_t v0, size_t vl);
vint8mf2_t __riscv_vadc_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                           vbool16_t v0, size_t vl);
vint8m1_t __riscv_vadc_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                          vbool8_t v0, size_t vl);
vint8m1_t __riscv_vadc_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, vbool8_t v0,
                          size_t vl);
vint8m2_t __riscv_vadc_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                          vbool4_t v0, size_t vl);
vint8m2_t __riscv_vadc_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, vbool4_t v0,
                          size_t vl);
vint8m4_t __riscv_vadc_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                          vbool2_t v0, size_t vl);
vint8m4_t __riscv_vadc_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, vbool2_t v0,
                          size_t vl);
vint8m8_t __riscv_vadc_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
```

```
                           vbool1_t v0, size_t vl);
vint8m8_t __riscv_vadc_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, vbool1_t v0,
                          size_t vl);
vint16mf4_t __riscv_vadc_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                            vbool64_t v0, size_t vl);
vint16mf4_t __riscv_vadc_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                            vbool64_t v0, size_t vl);
vint16mf2_t __riscv_vadc_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            vbool32_t v0, size_t vl);
vint16mf2_t __riscv_vadc_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                            vbool32_t v0, size_t vl);
vint16m1_t __riscv_vadc_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                           vbool16_t v0, size_t vl);
vint16m1_t __riscv_vadc_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                           vbool16_t v0, size_t vl);
vint16m2_t __riscv_vadc_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                           vbool8_t v0, size_t vl);
vint16m2_t __riscv_vadc_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                           vbool8_t v0, size_t vl);
vint16m4_t __riscv_vadc_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                           vbool4_t v0, size_t vl);
vint16m4_t __riscv_vadc_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                           vbool4_t v0, size_t vl);
vint16m8_t __riscv_vadc_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                           vbool2_t v0, size_t vl);
vint16m8_t __riscv_vadc_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                           vbool2_t v0, size_t vl);
vint32mf2_t __riscv_vadc_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                            vbool64_t v0, size_t vl);
vint32mf2_t __riscv_vadc_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                            vbool64_t v0, size_t vl);
vint32m1_t __riscv_vadc_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                           vbool32_t v0, size_t vl);
vint32m1_t __riscv_vadc_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                           vbool32_t v0, size_t vl);
vint32m2_t __riscv_vadc_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                           vbool16_t v0, size_t vl);
vint32m2_t __riscv_vadc_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                           vbool16_t v0, size_t vl);
vint32m4_t __riscv_vadc_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                           vbool8_t v0, size_t vl);
vint32m4_t __riscv_vadc_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                           vbool8_t v0, size_t vl);
vint32m8_t __riscv_vadc_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                           vbool4_t v0, size_t vl);
vint32m8_t __riscv_vadc_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                           vbool4_t v0, size_t vl);
vint64m1_t __riscv_vadc_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                           vbool64_t v0, size_t vl);
vint64m1_t __riscv_vadc_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                           vbool64_t v0, size_t vl);
vint64m2_t __riscv_vadc_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                           vbool32_t v0, size_t vl);
vint64m2_t __riscv_vadc_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                           vbool32_t v0, size_t vl);
vint64m4_t __riscv_vadc_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                           vbool16_t v0, size_t vl);
vint64m4_t __riscv_vadc_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                           vbool16_t v0, size_t vl);
vint64m8_t __riscv_vadc_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                           vbool8_t v0, size_t vl);
vint64m8_t __riscv_vadc_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                           vbool8_t v0, size_t vl);
vint8mf8_t __riscv_vsbc_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                           vbool64_t v0, size_t vl);
vint8mf8_t __riscv_vsbc_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                           vbool64_t v0, size_t vl);
```

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vint8mf4_t __riscv_vsbc_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                           vbool32_t v0, size_t vl);
vint8mf4_t __riscv_vsbc_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                           vbool32_t v0, size_t vl);
vint8mf2_t __riscv_vsbc_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                           vbool16_t v0, size_t vl);
vint8mf2_t __riscv_vsbc_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                           vbool16_t v0, size_t vl);
vint8m1_t __riscv_vsbc_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                          vbool8_t v0, size_t vl);
vint8m1_t __riscv_vsbc_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, vbool8_t v0,
                          size_t vl);
vint8m2_t __riscv_vsbc_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                          vbool4_t v0, size_t vl);
vint8m2_t __riscv_vsbc_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, vbool4_t v0,
                          size_t vl);
vint8m4_t __riscv_vsbc_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                          vbool2_t v0, size_t vl);
vint8m4_t __riscv_vsbc_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, vbool2_t v0,
                          size_t vl);
vint8m8_t __riscv_vsbc_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                          vbool1_t v0, size_t vl);
vint8m8_t __riscv_vsbc_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, vbool1_t v0,
                          size_t vl);
vint16mf4_t __riscv_vsbc_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                            vbool64_t v0, size_t vl);
vint16mf4_t __riscv_vsbc_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                            vbool64_t v0, size_t vl);
vint16mf2_t __riscv_vsbc_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            vbool32_t v0, size_t vl);
vint16mf2_t __riscv_vsbc_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                            vbool32_t v0, size_t vl);
vint16m1_t __riscv_vsbc_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                           vbool16_t v0, size_t vl);
vint16m1_t __riscv_vsbc_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                           vbool16_t v0, size_t vl);
vint16m2_t __riscv_vsbc_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                           vbool8_t v0, size_t vl);
vint16m2_t __riscv_vsbc_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                           vbool8_t v0, size_t vl);
vint16m4_t __riscv_vsbc_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                           vbool4_t v0, size_t vl);
vint16m4_t __riscv_vsbc_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                           vbool4_t v0, size_t vl);
vint16m8_t __riscv_vsbc_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                           vbool2_t v0, size_t vl);
vint16m8_t __riscv_vsbc_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                           vbool2_t v0, size_t vl);
vint32mf2_t __riscv_vsbc_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                            vbool64_t v0, size_t vl);
vint32mf2_t __riscv_vsbc_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                            vbool64_t v0, size_t vl);
vint32m1_t __riscv_vsbc_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                           vbool32_t v0, size_t vl);
vint32m1_t __riscv_vsbc_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                           vbool32_t v0, size_t vl);
vint32m2_t __riscv_vsbc_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                           vbool16_t v0, size_t vl);
vint32m2_t __riscv_vsbc_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                           vbool16_t v0, size_t vl);
vint32m4_t __riscv_vsbc_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                           vbool8_t v0, size_t vl);
vint32m4_t __riscv_vsbc_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                           vbool8_t v0, size_t vl);
vint32m8_t __riscv_vsbc_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                           vbool4_t v0, size_t vl);
vint32m8_t __riscv_vsbc_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
```

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                          vbool4_t v0, size_t vl);
vint64m1_t __riscv_vsbc_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                          vbool64_t v0, size_t vl);
vint64m1_t __riscv_vsbc_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                          vbool64_t v0, size_t vl);
vint64m2_t __riscv_vsbc_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                          vbool32_t v0, size_t vl);
vint64m2_t __riscv_vsbc_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                          vbool32_t v0, size_t vl);
vint64m4_t __riscv_vsbc_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                          vbool16_t v0, size_t vl);
vint64m4_t __riscv_vsbc_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                          vbool16_t v0, size_t vl);
vint64m8_t __riscv_vsbc_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                          vbool8_t v0, size_t vl);
vint64m8_t __riscv_vsbc_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                          vbool8_t v0, size_t vl);
vuint8mf8_t __riscv_vadc_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                           vbool64_t v0, size_t vl);
vuint8mf8_t __riscv_vadc_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                           vbool64_t v0, size_t vl);
vuint8mf4_t __riscv_vadc_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                           vbool32_t v0, size_t vl);
vuint8mf4_t __riscv_vadc_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                           vbool32_t v0, size_t vl);
vuint8mf2_t __riscv_vadc_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                           vbool16_t v0, size_t vl);
vuint8mf2_t __riscv_vadc_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                           vbool16_t v0, size_t vl);
vuint8m1_t __riscv_vadc_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                          vbool8_t v0, size_t vl);
vuint8m1_t __riscv_vadc_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                          vbool8_t v0, size_t vl);
vuint8m2_t __riscv_vadc_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                          vbool4_t v0, size_t vl);
vuint8m2_t __riscv_vadc_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                          vbool4_t v0, size_t vl);
vuint8m4_t __riscv_vadc_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                          vbool2_t v0, size_t vl);
vuint8m4_t __riscv_vadc_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                          vbool2_t v0, size_t vl);
vuint8m8_t __riscv_vadc_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                          vbool1_t v0, size_t vl);
vuint8m8_t __riscv_vadc_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                          vbool1_t v0, size_t vl);
vuint16mf4_t __riscv_vadc_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                            vuint16mf4_t vs1, vbool64_t v0, size_t vl);
vuint16mf4_t __riscv_vadc_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                            vbool64_t v0, size_t vl);
vuint16mf2_t __riscv_vadc_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                            vuint16mf2_t vs1, vbool32_t v0, size_t vl);
vuint16mf2_t __riscv_vadc_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                            vbool32_t v0, size_t vl);
vuint16m1_t __riscv_vadc_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                           vbool16_t v0, size_t vl);
vuint16m1_t __riscv_vadc_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                           vbool16_t v0, size_t vl);
vuint16m2_t __riscv_vadc_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                           vbool8_t v0, size_t vl);
vuint16m2_t __riscv_vadc_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                           vbool8_t v0, size_t vl);
vuint16m4_t __riscv_vadc_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                           vbool4_t v0, size_t vl);
vuint16m4_t __riscv_vadc_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                           vbool4_t v0, size_t vl);
vuint16m8_t __riscv_vadc_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                           vbool2_t v0, size_t vl);
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vuint16m8_t __riscv_vadc_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                            vbool2_t v0, size_t vl);
vuint32mf2_t __riscv_vadc_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, vbool64_t v0, size_t vl);
vuint32mf2_t __riscv_vadc_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                             vbool64_t v0, size_t vl);
vuint32m1_t __riscv_vadc_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                            vbool32_t v0, size_t vl);
vuint32m1_t __riscv_vadc_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                            vbool32_t v0, size_t vl);
vuint32m2_t __riscv_vadc_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                            vbool16_t v0, size_t vl);
vuint32m2_t __riscv_vadc_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                            vbool16_t v0, size_t vl);
vuint32m4_t __riscv_vadc_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                            vbool8_t v0, size_t vl);
vuint32m4_t __riscv_vadc_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                            vbool8_t v0, size_t vl);
vuint32m8_t __riscv_vadc_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                            vbool4_t v0, size_t vl);
vuint32m8_t __riscv_vadc_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                            vbool4_t v0, size_t vl);
vuint64m1_t __riscv_vadc_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                            vbool64_t v0, size_t vl);
vuint64m1_t __riscv_vadc_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                            vbool64_t v0, size_t vl);
vuint64m2_t __riscv_vadc_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                            vbool32_t v0, size_t vl);
vuint64m2_t __riscv_vadc_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                            vbool32_t v0, size_t vl);
vuint64m4_t __riscv_vadc_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                            vbool16_t v0, size_t vl);
vuint64m4_t __riscv_vadc_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                            vbool16_t v0, size_t vl);
vuint64m8_t __riscv_vadc_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                            vbool8_t v0, size_t vl);
vuint64m8_t __riscv_vadc_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                            vbool8_t v0, size_t vl);
vuint8mf8_t __riscv_vsbc_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                            vbool64_t v0, size_t vl);
vuint8mf8_t __riscv_vsbc_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                            vbool64_t v0, size_t vl);
vuint8mf4_t __riscv_vsbc_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                            vbool32_t v0, size_t vl);
vuint8mf4_t __riscv_vsbc_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                            vbool32_t v0, size_t vl);
vuint8mf2_t __riscv_vsbc_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                            vbool16_t v0, size_t vl);
vuint8mf2_t __riscv_vsbc_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                            vbool16_t v0, size_t vl);
vuint8m1_t __riscv_vsbc_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                           vbool8_t v0, size_t vl);
vuint8m1_t __riscv_vsbc_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                           vbool8_t v0, size_t vl);
vuint8m2_t __riscv_vsbc_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                           vbool4_t v0, size_t vl);
vuint8m2_t __riscv_vsbc_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                           vbool4_t v0, size_t vl);
vuint8m4_t __riscv_vsbc_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                           vbool2_t v0, size_t vl);
vuint8m4_t __riscv_vsbc_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                           vbool2_t v0, size_t vl);
vuint8m8_t __riscv_vsbc_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                           vbool1_t v0, size_t vl);
vuint8m8_t __riscv_vsbc_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                           vbool1_t v0, size_t vl);
vuint16mf4_t __riscv_vsbc_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
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```
                            vuint16mf4_t vs1, vbool64_t v0, size_t vl);
vuint16mf4_t __riscv_vsbc_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                             vbool64_t v0, size_t vl);
vuint16mf2_t __riscv_vsbc_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, vbool32_t v0, size_t vl);
vuint16mf2_t __riscv_vsbc_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                             vbool32_t v0, size_t vl);
vuint16m1_t __riscv_vsbc_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                            vbool16_t v0, size_t vl);
vuint16m1_t __riscv_vsbc_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                            vbool16_t v0, size_t vl);
vuint16m2_t __riscv_vsbc_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                            vbool8_t v0, size_t vl);
vuint16m2_t __riscv_vsbc_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                            vbool8_t v0, size_t vl);
vuint16m4_t __riscv_vsbc_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                            vbool4_t v0, size_t vl);
vuint16m4_t __riscv_vsbc_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                            vbool4_t v0, size_t vl);
vuint16m8_t __riscv_vsbc_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                            vbool2_t v0, size_t vl);
vuint16m8_t __riscv_vsbc_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                            vbool2_t v0, size_t vl);
vuint32mf2_t __riscv_vsbc_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, vbool64_t v0, size_t vl);
vuint32mf2_t __riscv_vsbc_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                             vbool64_t v0, size_t vl);
vuint32m1_t __riscv_vsbc_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                            vbool32_t v0, size_t vl);
vuint32m1_t __riscv_vsbc_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                            vbool32_t v0, size_t vl);
vuint32m2_t __riscv_vsbc_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                            vbool16_t v0, size_t vl);
vuint32m2_t __riscv_vsbc_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                            vbool16_t v0, size_t vl);
vuint32m4_t __riscv_vsbc_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                            vbool8_t v0, size_t vl);
vuint32m4_t __riscv_vsbc_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                            vbool8_t v0, size_t vl);
vuint32m8_t __riscv_vsbc_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                            vbool4_t v0, size_t vl);
vuint32m8_t __riscv_vsbc_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                            vbool4_t v0, size_t vl);
vuint64m1_t __riscv_vsbc_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                            vbool64_t v0, size_t vl);
vuint64m1_t __riscv_vsbc_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                            vbool64_t v0, size_t vl);
vuint64m2_t __riscv_vsbc_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                            vbool32_t v0, size_t vl);
vuint64m2_t __riscv_vsbc_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                            vbool32_t v0, size_t vl);
vuint64m4_t __riscv_vsbc_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                            vbool16_t v0, size_t vl);
vuint64m4_t __riscv_vsbc_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                            vbool16_t v0, size_t vl);
vuint64m8_t __riscv_vsbc_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                            vbool8_t v0, size_t vl);
vuint64m8_t __riscv_vsbc_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                            vbool8_t v0, size_t vl);
```

D.3.6. Vector Integer Carry-out / Borrow-out Intrinsics

Intrinsics here don't have a policy variant.

D.3.7. Vector Bitwise Binary Logical Intrinsics

```
vint8mf8_t __riscv_vand_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vand_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                           size_t vl);
vint8mf4_t __riscv_vand_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vand_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vand_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                           size_t vl);
vint8mf2_t __riscv_vand_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                           size_t vl);
vint8m1_t __riscv_vand_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vand_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vand_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                          size_t vl);
vint8m2_t __riscv_vand_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vand_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                          size_t vl);
vint8m4_t __riscv_vand_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vand_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                          size_t vl);
vint8m8_t __riscv_vand_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vand_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vand_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vand_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vand_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint16m1_t __riscv_vand_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vand_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                           size_t vl);
vint16m2_t __riscv_vand_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                           size_t vl);
vint16m2_t __riscv_vand_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                           size_t vl);
vint16m4_t __riscv_vand_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                           size_t vl);
vint16m4_t __riscv_vand_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                           size_t vl);
vint16m8_t __riscv_vand_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                           size_t vl);
vint16m8_t __riscv_vand_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                           size_t vl);
vint32mf2_t __riscv_vand_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vand_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                            size_t vl);
vint32m1_t __riscv_vand_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vand_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                           size_t vl);
vint32m2_t __riscv_vand_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                           size_t vl);
vint32m2_t __riscv_vand_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                           size_t vl);
vint32m4_t __riscv_vand_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                           size_t vl);
vint32m4_t __riscv_vand_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                           size_t vl);
```

```
vint32m8_t __riscv_vand_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                           size_t vl);
vint32m8_t __riscv_vand_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                           size_t vl);
vint64m1_t __riscv_vand_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vand_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                           size_t vl);
vint64m2_t __riscv_vand_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                           size_t vl);
vint64m2_t __riscv_vand_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                           size_t vl);
vint64m4_t __riscv_vand_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                           size_t vl);
vint64m4_t __riscv_vand_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                           size_t vl);
vint64m8_t __riscv_vand_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                           size_t vl);
vint64m8_t __riscv_vand_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                           size_t vl);
vint8mf8_t __riscv_vor_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                          size_t vl);
vint8mf8_t __riscv_vor_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vor_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                          size_t vl);
vint8mf4_t __riscv_vor_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vor_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                          size_t vl);
vint8mf2_t __riscv_vor_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1, size_t vl);
vint8m1_t __riscv_vor_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vor_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vor_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vor_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vor_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vor_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vor_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vor_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vor_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                           size_t vl);
vint16mf4_t __riscv_vor_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                           size_t vl);
vint16mf2_t __riscv_vor_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                           size_t vl);
vint16mf2_t __riscv_vor_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                           size_t vl);
vint16m1_t __riscv_vor_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                          size_t vl);
vint16m1_t __riscv_vor_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                          size_t vl);
vint16m2_t __riscv_vor_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                          size_t vl);
vint16m2_t __riscv_vor_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                          size_t vl);
vint16m4_t __riscv_vor_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                          size_t vl);
vint16m4_t __riscv_vor_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                          size_t vl);
vint16m8_t __riscv_vor_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                          size_t vl);
vint16m8_t __riscv_vor_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                          size_t vl);
vint32mf2_t __riscv_vor_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                           size_t vl);
vint32mf2_t __riscv_vor_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                           size_t vl);
vint32m1_t __riscv_vor_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                          size_t vl);
```

```
vint32m1_t __riscv_vor_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                          size_t vl);
vint32m2_t __riscv_vor_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                          size_t vl);
vint32m2_t __riscv_vor_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                          size_t vl);
vint32m4_t __riscv_vor_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                          size_t vl);
vint32m4_t __riscv_vor_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                          size_t vl);
vint32m8_t __riscv_vor_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                          size_t vl);
vint32m8_t __riscv_vor_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                          size_t vl);
vint64m1_t __riscv_vor_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                          size_t vl);
vint64m1_t __riscv_vor_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                          size_t vl);
vint64m2_t __riscv_vor_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                          size_t vl);
vint64m2_t __riscv_vor_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                          size_t vl);
vint64m4_t __riscv_vor_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                          size_t vl);
vint64m4_t __riscv_vor_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                          size_t vl);
vint64m8_t __riscv_vor_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                          size_t vl);
vint64m8_t __riscv_vor_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                          size_t vl);
vint8mf8_t __riscv_vxor_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vxor_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                           size_t vl);
vint8mf4_t __riscv_vxor_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vxor_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vxor_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                           size_t vl);
vint8mf2_t __riscv_vxor_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                           size_t vl);
vint8m1_t __riscv_vxor_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vxor_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vxor_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                          size_t vl);
vint8m2_t __riscv_vxor_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vxor_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                          size_t vl);
vint8m4_t __riscv_vxor_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vxor_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                          size_t vl);
vint8m8_t __riscv_vxor_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vxor_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vxor_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vxor_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vxor_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint16m1_t __riscv_vxor_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vxor_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                           size_t vl);
vint16m2_t __riscv_vxor_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
```

```
                            size_t vl);
vint16m2_t __riscv_vxor_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                            size_t vl);
vint16m4_t __riscv_vxor_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                            size_t vl);
vint16m4_t __riscv_vxor_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                            size_t vl);
vint16m8_t __riscv_vxor_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                            size_t vl);
vint16m8_t __riscv_vxor_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                            size_t vl);
vint32mf2_t __riscv_vxor_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                             size_t vl);
vint32mf2_t __riscv_vxor_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                             size_t vl);
vint32m1_t __riscv_vxor_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vxor_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                            size_t vl);
vint32m2_t __riscv_vxor_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                            size_t vl);
vint32m2_t __riscv_vxor_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                            size_t vl);
vint32m4_t __riscv_vxor_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                            size_t vl);
vint32m4_t __riscv_vxor_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                            size_t vl);
vint32m8_t __riscv_vxor_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                            size_t vl);
vint32m8_t __riscv_vxor_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                            size_t vl);
vint64m1_t __riscv_vxor_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                            size_t vl);
vint64m1_t __riscv_vxor_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                            size_t vl);
vint64m2_t __riscv_vxor_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                            size_t vl);
vint64m2_t __riscv_vxor_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                            size_t vl);
vint64m4_t __riscv_vxor_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                            size_t vl);
vint64m4_t __riscv_vxor_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                            size_t vl);
vint64m8_t __riscv_vxor_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                            size_t vl);
vint64m8_t __riscv_vxor_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                            size_t vl);
vuint8mf8_t __riscv_vand_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                             size_t vl);
vuint8mf8_t __riscv_vand_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                             size_t vl);
vuint8mf4_t __riscv_vand_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                             size_t vl);
vuint8mf4_t __riscv_vand_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                             size_t vl);
vuint8mf2_t __riscv_vand_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                             size_t vl);
vuint8mf2_t __riscv_vand_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m1_t __riscv_vand_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vand_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m2_t __riscv_vand_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                            size_t vl);
vuint8m2_t __riscv_vand_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                            size_t vl);
```

```
vuint8m4_t __riscv_vand_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                           size_t vl);
vuint8m4_t __riscv_vand_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m8_t __riscv_vand_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                           size_t vl);
vuint8m8_t __riscv_vand_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                           size_t vl);
vuint16mf4_t __riscv_vand_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vand_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                             size_t vl);
vuint16mf2_t __riscv_vand_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vand_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m1_t __riscv_vand_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vand_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m2_t __riscv_vand_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                            size_t vl);
vuint16m2_t __riscv_vand_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m4_t __riscv_vand_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                            size_t vl);
vuint16m4_t __riscv_vand_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m8_t __riscv_vand_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                            size_t vl);
vuint16m8_t __riscv_vand_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                            size_t vl);
vuint32mf2_t __riscv_vand_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vand_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m1_t __riscv_vand_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vand_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m2_t __riscv_vand_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                            size_t vl);
vuint32m2_t __riscv_vand_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m4_t __riscv_vand_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                            size_t vl);
vuint32m4_t __riscv_vand_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m8_t __riscv_vand_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                            size_t vl);
vuint32m8_t __riscv_vand_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                            size_t vl);
vuint64m1_t __riscv_vand_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vand_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m2_t __riscv_vand_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                            size_t vl);
vuint64m2_t __riscv_vand_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m4_t __riscv_vand_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                            size_t vl);
vuint64m4_t __riscv_vand_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m8_t __riscv_vand_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                            size_t vl);
vuint64m8_t __riscv_vand_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
```

```
                            size_t vl);
vuint8mf8_t __riscv_vor_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                           size_t vl);
vuint8mf8_t __riscv_vor_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                           size_t vl);
vuint8mf4_t __riscv_vor_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                           size_t vl);
vuint8mf4_t __riscv_vor_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                           size_t vl);
vuint8mf2_t __riscv_vor_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                           size_t vl);
vuint8mf2_t __riscv_vor_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m1_t __riscv_vor_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                          size_t vl);
vuint8m1_t __riscv_vor_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                          size_t vl);
vuint8m2_t __riscv_vor_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                          size_t vl);
vuint8m2_t __riscv_vor_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                          size_t vl);
vuint8m4_t __riscv_vor_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                          size_t vl);
vuint8m4_t __riscv_vor_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                          size_t vl);
vuint8m8_t __riscv_vor_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                          size_t vl);
vuint8m8_t __riscv_vor_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                          size_t vl);
vuint16mf4_t __riscv_vor_tu(vuint16mf4_t vd, vuint16mf4_t vs2, vuint16mf4_t vs1,
                            size_t vl);
vuint16mf4_t __riscv_vor_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                            size_t vl);
vuint16mf2_t __riscv_vor_tu(vuint16mf2_t vd, vuint16mf2_t vs2, vuint16mf2_t vs1,
                            size_t vl);
vuint16mf2_t __riscv_vor_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m1_t __riscv_vor_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                           size_t vl);
vuint16m1_t __riscv_vor_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m2_t __riscv_vor_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                           size_t vl);
vuint16m2_t __riscv_vor_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m4_t __riscv_vor_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                           size_t vl);
vuint16m4_t __riscv_vor_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                           size_t vl);
vuint16m8_t __riscv_vor_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                           size_t vl);
vuint16m8_t __riscv_vor_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                           size_t vl);
vuint32mf2_t __riscv_vor_tu(vuint32mf2_t vd, vuint32mf2_t vs2, vuint32mf2_t vs1,
                            size_t vl);
vuint32mf2_t __riscv_vor_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m1_t __riscv_vor_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                           size_t vl);
vuint32m1_t __riscv_vor_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m2_t __riscv_vor_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                           size_t vl);
vuint32m2_t __riscv_vor_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m4_t __riscv_vor_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                           size_t vl);
```

```
vuint32m4_t __riscv_vor_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                           size_t vl);
vuint32m8_t __riscv_vor_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                           size_t vl);
vuint32m8_t __riscv_vor_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                           size_t vl);
vuint64m1_t __riscv_vor_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                           size_t vl);
vuint64m1_t __riscv_vor_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                           size_t vl);
vuint64m2_t __riscv_vor_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                           size_t vl);
vuint64m2_t __riscv_vor_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                           size_t vl);
vuint64m4_t __riscv_vor_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                           size_t vl);
vuint64m4_t __riscv_vor_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                           size_t vl);
vuint64m8_t __riscv_vor_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                           size_t vl);
vuint64m8_t __riscv_vor_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                           size_t vl);
vuint8mf8_t __riscv_vxor_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                            size_t vl);
vuint8mf8_t __riscv_vxor_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                            size_t vl);
vuint8mf4_t __riscv_vxor_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                            size_t vl);
vuint8mf4_t __riscv_vxor_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                            size_t vl);
vuint8mf2_t __riscv_vxor_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                            size_t vl);
vuint8mf2_t __riscv_vxor_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m1_t __riscv_vxor_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vxor_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m2_t __riscv_vxor_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                           size_t vl);
vuint8m2_t __riscv_vxor_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m4_t __riscv_vxor_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                           size_t vl);
vuint8m4_t __riscv_vxor_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m8_t __riscv_vxor_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                           size_t vl);
vuint8m8_t __riscv_vxor_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                           size_t vl);
vuint16mf4_t __riscv_vxor_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vxor_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                             size_t vl);
vuint16mf2_t __riscv_vxor_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vxor_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m1_t __riscv_vxor_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vxor_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m2_t __riscv_vxor_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                            size_t vl);
vuint16m2_t __riscv_vxor_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m4_t __riscv_vxor_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
```

```
                            size_t vl);
vuint16m4_t __riscv_vxor_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m8_t __riscv_vxor_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                            size_t vl);
vuint16m8_t __riscv_vxor_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                            size_t vl);
vuint32mf2_t __riscv_vxor_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vxor_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m1_t __riscv_vxor_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vxor_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m2_t __riscv_vxor_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                            size_t vl);
vuint32m2_t __riscv_vxor_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m4_t __riscv_vxor_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                            size_t vl);
vuint32m4_t __riscv_vxor_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m8_t __riscv_vxor_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                            size_t vl);
vuint32m8_t __riscv_vxor_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                            size_t vl);
vuint64m1_t __riscv_vxor_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vxor_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m2_t __riscv_vxor_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                            size_t vl);
vuint64m2_t __riscv_vxor_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m4_t __riscv_vxor_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                            size_t vl);
vuint64m4_t __riscv_vxor_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m8_t __riscv_vxor_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                            size_t vl);
vuint64m8_t __riscv_vxor_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                            size_t vl);
// masked functions
vint8mf8_t __riscv_vand_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vand_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vand_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vand_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vand_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vand_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vand_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vand_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           size_t vl);
vint8m2_t __riscv_vand_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vand_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vand_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vand_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
```

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                            size_t vl);
vint8m8_t __riscv_vand_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vand_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vand_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vand_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vand_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vand_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vand_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vand_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vand_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vand_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vand_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vand_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vand_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vand_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vand_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vand_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vand_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vand_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vand_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vand_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vand_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vand_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vand_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vand_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vand_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vand_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vand_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vand_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vand_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vand_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vand_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vand_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vint8mf8_t __riscv_vor_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
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vint8mf8_t __riscv_vor_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vint8mf4_t __riscv_vor_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vor_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vint8mf2_t __riscv_vor_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vor_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vint8m1_t __riscv_vor_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vor_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vint8m2_t __riscv_vor_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vor_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vint8m4_t __riscv_vor_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vor_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vint8m8_t __riscv_vor_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vor_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vint16mf4_t __riscv_vor_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vor_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            int16_t rs1, size_t vl);
vint16mf2_t __riscv_vor_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vor_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            int16_t rs1, size_t vl);
vint16m1_t __riscv_vor_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vor_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vint16m2_t __riscv_vor_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vor_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           int16_t rs1, size_t vl);
vint16m4_t __riscv_vor_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vor_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           int16_t rs1, size_t vl);
vint16m8_t __riscv_vor_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vor_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           int16_t rs1, size_t vl);
vint32mf2_t __riscv_vor_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vor_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            int32_t rs1, size_t vl);
vint32m1_t __riscv_vor_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vor_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vint32m2_t __riscv_vor_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vor_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vint32m4_t __riscv_vor_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vor_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           int32_t rs1, size_t vl);
vint32m8_t __riscv_vor_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
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                          vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vor_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                          int32_t rs1, size_t vl);
vint64m1_t __riscv_vor_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vor_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                          int64_t rs1, size_t vl);
vint64m2_t __riscv_vor_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                          vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vor_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                          int64_t rs1, size_t vl);
vint64m4_t __riscv_vor_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                          vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vor_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                          int64_t rs1, size_t vl);
vint64m8_t __riscv_vor_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vor_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          int64_t rs1, size_t vl);
vint8mf8_t __riscv_vxor_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vxor_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vint8mf4_t __riscv_vxor_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vxor_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vint8mf2_t __riscv_vxor_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vxor_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vint8m1_t __riscv_vxor_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vxor_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vint8m2_t __riscv_vxor_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vxor_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vint8m4_t __riscv_vxor_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vxor_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vint8m8_t __riscv_vxor_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vxor_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vint16mf4_t __riscv_vxor_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vxor_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            int16_t rs1, size_t vl);
vint16mf2_t __riscv_vxor_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vxor_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            int16_t rs1, size_t vl);
vint16m1_t __riscv_vxor_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vxor_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vint16m2_t __riscv_vxor_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vxor_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           int16_t rs1, size_t vl);
vint16m4_t __riscv_vxor_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vxor_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           int16_t rs1, size_t vl);
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vint16m8_t __riscv_vxor_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vxor_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vxor_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vxor_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vxor_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vxor_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vxor_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vxor_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vxor_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vxor_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vxor_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vxor_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vxor_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vxor_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vxor_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vxor_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vxor_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vxor_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vxor_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vxor_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vand_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vand_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vand_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vand_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vand_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vand_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vand_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vand_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vand_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vand_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vand_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vand_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vand_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vand_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
```

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                            uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vand_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vand_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vand_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vand_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vand_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vand_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vand_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vand_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vand_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vand_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vand_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vand_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vand_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vand_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vand_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vand_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vand_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vand_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vand_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vand_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vand_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vand_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vand_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vand_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vand_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vand_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vand_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vand_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vand_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vand_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vor_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vor_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vor_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
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vuint8mf4_t __riscv_vor_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vor_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vor_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vor_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vor_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vor_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vor_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vor_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vor_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vor_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vor_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vor_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vor_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vor_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vor_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vor_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vor_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vor_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vor_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vor_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vor_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vor_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vor_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vor_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vor_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vor_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vor_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vor_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vor_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vor_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vor_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vor_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vor_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vor_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
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                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vor_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vor_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vor_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vor_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vor_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vor_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vor_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vxor_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vxor_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vxor_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vxor_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vxor_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vxor_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vxor_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vxor_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vxor_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vxor_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vxor_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vxor_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vxor_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vxor_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vxor_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vxor_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vxor_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vxor_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vxor_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vxor_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vxor_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vxor_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vxor_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vxor_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vxor_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vxor_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             uint16_t rs1, size_t vl);
```

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vuint32mf2_t __riscv_vxor_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vxor_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vxor_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vxor_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vxor_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vxor_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vxor_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vxor_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vxor_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vxor_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vxor_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vxor_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vxor_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vxor_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vxor_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vxor_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vxor_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vxor_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vand_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vand_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vand_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vand_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vand_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vand_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vand_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vand_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vand_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vand_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vand_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vand_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vand_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vand_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vand_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
```

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vint16mf4_t __riscv_vand_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vand_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vand_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vand_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vand_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vand_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vand_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vand_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vand_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vand_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vand_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vand_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vand_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vand_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vand_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vand_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vand_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vand_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vand_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, size_t vl);
vint32m8_t __riscv_vand_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vand_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, size_t vl);
vint64m1_t __riscv_vand_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vand_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, size_t vl);
vint64m2_t __riscv_vand_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vand_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, size_t vl);
vint64m4_t __riscv_vand_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vand_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, size_t vl);
vint64m8_t __riscv_vand_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vand_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, size_t vl);
vint8mf8_t __riscv_vor_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vor_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vor_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vor_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vor_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
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                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vor_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vor_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vor_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           size_t vl);
vint8m2_t __riscv_vor_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vor_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vor_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vor_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           size_t vl);
vint8m8_t __riscv_vor_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vor_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vor_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vor_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vor_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vor_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vor_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vor_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vor_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vor_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vor_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vor_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vor_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vor_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vor_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vor_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vor_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vor_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vor_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vor_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vor_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vor_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vor_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vor_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vor_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vor_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
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vint64m2_t __riscv_vor_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vor_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vor_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vor_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vor_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vor_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vint8mf8_t __riscv_vxor_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vxor_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vxor_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vxor_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vxor_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vxor_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vxor_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vxor_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vxor_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vxor_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vxor_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vxor_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vxor_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vxor_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vxor_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vxor_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vxor_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vxor_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vxor_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vxor_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vxor_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vxor_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vxor_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vxor_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vxor_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vxor_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vxor_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vxor_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
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                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vxor_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vxor_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vxor_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vxor_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vxor_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vxor_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, size_t vl);
vint32m8_t __riscv_vxor_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vxor_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, size_t vl);
vint64m1_t __riscv_vxor_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vxor_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, size_t vl);
vint64m2_t __riscv_vxor_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vxor_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, size_t vl);
vint64m4_t __riscv_vxor_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vxor_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, size_t vl);
vint64m8_t __riscv_vxor_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vxor_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vand_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vand_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vand_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vand_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vand_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vand_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vand_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vand_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vand_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vand_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vand_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vand_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vand_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vand_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vand_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vand_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vand_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
```

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vuint16mf2_t __riscv_vand_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vand_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vand_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vand_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vand_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vand_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vand_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vand_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vand_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vand_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vand_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vand_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vand_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vand_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vand_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vand_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vand_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vand_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vand_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vand_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vand_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vand_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vand_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vand_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vand_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vand_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vand_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vor_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vor_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vor_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vor_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vor_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vor_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vor_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
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                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vor_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vor_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vor_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vor_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vor_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vor_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vor_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vor_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vor_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vor_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vor_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vor_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vor_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vor_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vor_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vor_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vor_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vor_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vor_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vor_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vor_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vor_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vor_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vor_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vor_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vor_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vor_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vor_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vor_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vor_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vor_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vor_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vor_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             uint64_t rs1, size_t vl);
```

```
vuint64m4_t __riscv_vor_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vor_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vor_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vor_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vxor_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vxor_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vxor_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vxor_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vxor_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vxor_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vxor_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vxor_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vxor_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vxor_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vxor_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vxor_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vxor_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vxor_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vxor_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vxor_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vxor_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vxor_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vxor_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vxor_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vxor_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vxor_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vxor_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vxor_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vxor_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vxor_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vxor_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vxor_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vxor_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vxor_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
```

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                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vxor_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vxor_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vxor_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vxor_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vxor_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vxor_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vxor_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vxor_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vxor_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vxor_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vxor_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vxor_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vxor_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vxor_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vand_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vand_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vint8mf4_t __riscv_vand_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vand_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vint8mf2_t __riscv_vand_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vand_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vint8m1_t __riscv_vand_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vand_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vint8m2_t __riscv_vand_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vand_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vint8m4_t __riscv_vand_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vand_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vint8m8_t __riscv_vand_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vand_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vint16mf4_t __riscv_vand_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vand_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            int16_t rs1, size_t vl);
vint16mf2_t __riscv_vand_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vand_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            int16_t rs1, size_t vl);
vint16m1_t __riscv_vand_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
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                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vand_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                          int16_t rs1, size_t vl);
vint16m2_t __riscv_vand_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                          vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vand_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                          int16_t rs1, size_t vl);
vint16m4_t __riscv_vand_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                          vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vand_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                          int16_t rs1, size_t vl);
vint16m8_t __riscv_vand_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                          vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vand_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                          int16_t rs1, size_t vl);
vint32mf2_t __riscv_vand_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                           vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vand_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                           int32_t rs1, size_t vl);
vint32m1_t __riscv_vand_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vand_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                          int32_t rs1, size_t vl);
vint32m2_t __riscv_vand_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                          vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vand_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                          int32_t rs1, size_t vl);
vint32m4_t __riscv_vand_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                          vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vand_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                          int32_t rs1, size_t vl);
vint32m8_t __riscv_vand_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                          vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vand_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                          int32_t rs1, size_t vl);
vint64m1_t __riscv_vand_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vand_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                          int64_t rs1, size_t vl);
vint64m2_t __riscv_vand_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                          vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vand_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                          int64_t rs1, size_t vl);
vint64m4_t __riscv_vand_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                          vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vand_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                          int64_t rs1, size_t vl);
vint64m8_t __riscv_vand_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vand_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          int64_t rs1, size_t vl);
vint8mf8_t __riscv_vor_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                         vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vor_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                         int8_t rs1, size_t vl);
vint8mf4_t __riscv_vor_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                         vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vor_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                         int8_t rs1, size_t vl);
vint8mf2_t __riscv_vor_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                         vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vor_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                         int8_t rs1, size_t vl);
vint8m1_t __riscv_vor_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                        vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vor_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                        size_t vl);
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vint8m2_t __riscv_vor_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                         vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vor_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                         size_t vl);
vint8m4_t __riscv_vor_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                         vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vor_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                         size_t vl);
vint8m8_t __riscv_vor_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                         vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vor_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                         size_t vl);
vint16mf4_t __riscv_vor_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                           vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vor_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                           int16_t rs1, size_t vl);
vint16mf2_t __riscv_vor_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                           vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vor_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                           int16_t rs1, size_t vl);
vint16m1_t __riscv_vor_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vor_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                          int16_t rs1, size_t vl);
vint16m2_t __riscv_vor_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                          vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vor_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                          int16_t rs1, size_t vl);
vint16m4_t __riscv_vor_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                          vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vor_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                          int16_t rs1, size_t vl);
vint16m8_t __riscv_vor_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                          vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vor_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                          int16_t rs1, size_t vl);
vint32mf2_t __riscv_vor_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                           vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vor_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                           int32_t rs1, size_t vl);
vint32m1_t __riscv_vor_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vor_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                          int32_t rs1, size_t vl);
vint32m2_t __riscv_vor_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                          vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vor_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                          int32_t rs1, size_t vl);
vint32m4_t __riscv_vor_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                          vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vor_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                          int32_t rs1, size_t vl);
vint32m8_t __riscv_vor_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                          vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vor_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                          int32_t rs1, size_t vl);
vint64m1_t __riscv_vor_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vor_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                          int64_t rs1, size_t vl);
vint64m2_t __riscv_vor_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                          vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vor_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                          int64_t rs1, size_t vl);
vint64m4_t __riscv_vor_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                          vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vor_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
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                          int64_t rs1, size_t vl);
vint64m8_t __riscv_vor_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vor_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          int64_t rs1, size_t vl);
vint8mf8_t __riscv_vxor_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vxor_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vint8mf4_t __riscv_vxor_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vxor_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vint8mf2_t __riscv_vxor_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vxor_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vint8m1_t __riscv_vxor_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vxor_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vint8m2_t __riscv_vxor_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vxor_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vint8m4_t __riscv_vxor_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vxor_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vint8m8_t __riscv_vxor_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vxor_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vint16mf4_t __riscv_vxor_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vxor_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            int16_t rs1, size_t vl);
vint16mf2_t __riscv_vxor_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vxor_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            int16_t rs1, size_t vl);
vint16m1_t __riscv_vxor_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vxor_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vint16m2_t __riscv_vxor_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vxor_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           int16_t rs1, size_t vl);
vint16m4_t __riscv_vxor_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vxor_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           int16_t rs1, size_t vl);
vint16m8_t __riscv_vxor_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vxor_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           int16_t rs1, size_t vl);
vint32mf2_t __riscv_vxor_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vxor_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            int32_t rs1, size_t vl);
vint32m1_t __riscv_vxor_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vxor_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vint32m2_t __riscv_vxor_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
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vint32m2_t __riscv_vxor_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vint32m4_t __riscv_vxor_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vxor_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           int32_t rs1, size_t vl);
vint32m8_t __riscv_vxor_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vxor_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           int32_t rs1, size_t vl);
vint64m1_t __riscv_vxor_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vxor_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vint64m2_t __riscv_vxor_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vxor_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           int64_t rs1, size_t vl);
vint64m4_t __riscv_vxor_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vxor_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           int64_t rs1, size_t vl);
vint64m8_t __riscv_vxor_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vxor_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vand_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vand_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vand_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vand_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vand_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vand_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vand_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vand_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vand_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vand_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vand_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vand_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vand_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vand_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vand_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vand_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vand_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vand_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vand_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vand_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vand_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
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                            vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vand_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vand_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vand_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vand_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vand_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vand_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vand_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vand_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vand_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vand_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vand_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vand_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vand_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vand_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vand_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vand_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vand_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vand_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vand_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vand_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vand_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vand_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vand_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vor_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                           vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vor_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                           uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vor_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                           vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vor_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                           uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vor_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                           vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vor_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vor_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vor_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                          uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vor_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                          vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vor_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                          uint8_t rs1, size_t vl);
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vuint8m4_t __riscv_vor_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                          vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vor_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                          uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vor_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                          vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vor_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                          uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vor_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                            vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vor_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                            uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vor_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                            vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vor_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vor_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                           vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vor_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                           uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vor_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                           vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vor_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                           uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vor_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                           vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vor_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                           uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vor_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                           vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vor_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                           uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vor_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                            vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vor_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vor_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                           vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vor_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                           uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vor_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                           vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vor_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                           uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vor_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                           vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vor_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                           uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vor_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                           vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vor_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                           uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vor_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                           vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vor_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                           uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vor_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                           vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vor_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                           uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vor_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                           vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vor_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                           uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vor_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                           vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vor_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
```

```
                          uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vxor_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vxor_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vxor_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vxor_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vxor_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vxor_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vxor_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vxor_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vxor_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vxor_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vxor_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vxor_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vxor_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vxor_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vxor_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vxor_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vxor_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vxor_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vxor_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vxor_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vxor_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vxor_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vxor_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vxor_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vxor_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vxor_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vxor_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vxor_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vxor_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vxor_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vxor_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vxor_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vxor_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            vuint32m4_t vs1, size_t vl);
```

```
vuint32m4_t __riscv_vxor_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vxor_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vxor_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vxor_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vxor_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vxor_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vxor_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vxor_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vxor_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vxor_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vxor_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            uint64_t rs1, size_t vl);
```

D.3.8. Vector Bitwise Unary Logical Intrinsics

```
vint8mf8_t __riscv_vnot_tu(vint8mf8_t vd, vint8mf8_t vs, size_t vl);
vint8mf4_t __riscv_vnot_tu(vint8mf4_t vd, vint8mf4_t vs, size_t vl);
vint8mf2_t __riscv_vnot_tu(vint8mf2_t vd, vint8mf2_t vs, size_t vl);
vint8m1_t __riscv_vnot_tu(vint8m1_t vd, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vnot_tu(vint8m2_t vd, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vnot_tu(vint8m4_t vd, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vnot_tu(vint8m8_t vd, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vnot_tu(vint16mf4_t vd, vint16mf4_t vs, size_t vl);
vint16mf2_t __riscv_vnot_tu(vint16mf2_t vd, vint16mf2_t vs, size_t vl);
vint16m1_t __riscv_vnot_tu(vint16m1_t vd, vint16m1_t vs, size_t vl);
vint16m2_t __riscv_vnot_tu(vint16m2_t vd, vint16m2_t vs, size_t vl);
vint16m4_t __riscv_vnot_tu(vint16m4_t vd, vint16m4_t vs, size_t vl);
vint16m8_t __riscv_vnot_tu(vint16m8_t vd, vint16m8_t vs, size_t vl);
vint32mf2_t __riscv_vnot_tu(vint32mf2_t vd, vint32mf2_t vs, size_t vl);
vint32m1_t __riscv_vnot_tu(vint32m1_t vd, vint32m1_t vs, size_t vl);
vint32m2_t __riscv_vnot_tu(vint32m2_t vd, vint32m2_t vs, size_t vl);
vint32m4_t __riscv_vnot_tu(vint32m4_t vd, vint32m4_t vs, size_t vl);
vint32m8_t __riscv_vnot_tu(vint32m8_t vd, vint32m8_t vs, size_t vl);
vint64m1_t __riscv_vnot_tu(vint64m1_t vd, vint64m1_t vs, size_t vl);
vint64m2_t __riscv_vnot_tu(vint64m2_t vd, vint64m2_t vs, size_t vl);
vint64m4_t __riscv_vnot_tu(vint64m4_t vd, vint64m4_t vs, size_t vl);
vint64m8_t __riscv_vnot_tu(vint64m8_t vd, vint64m8_t vs, size_t vl);
vuint8mf8_t __riscv_vnot_tu(vuint8mf8_t vd, vuint8mf8_t vs, size_t vl);
vuint8mf4_t __riscv_vnot_tu(vuint8mf4_t vd, vuint8mf4_t vs, size_t vl);
vuint8mf2_t __riscv_vnot_tu(vuint8mf2_t vd, vuint8mf2_t vs, size_t vl);
vuint8m1_t __riscv_vnot_tu(vuint8m1_t vd, vuint8m1_t vs, size_t vl);
vuint8m2_t __riscv_vnot_tu(vuint8m2_t vd, vuint8m2_t vs, size_t vl);
vuint8m4_t __riscv_vnot_tu(vuint8m4_t vd, vuint8m4_t vs, size_t vl);
vuint8m8_t __riscv_vnot_tu(vuint8m8_t vd, vuint8m8_t vs, size_t vl);
vuint16mf4_t __riscv_vnot_tu(vuint16mf4_t vd, vuint16mf4_t vs, size_t vl);
vuint16mf2_t __riscv_vnot_tu(vuint16mf2_t vd, vuint16mf2_t vs, size_t vl);
vuint16m1_t __riscv_vnot_tu(vuint16m1_t vd, vuint16m1_t vs, size_t vl);
vuint16m2_t __riscv_vnot_tu(vuint16m2_t vd, vuint16m2_t vs, size_t vl);
vuint16m4_t __riscv_vnot_tu(vuint16m4_t vd, vuint16m4_t vs, size_t vl);
vuint16m8_t __riscv_vnot_tu(vuint16m8_t vd, vuint16m8_t vs, size_t vl);
vuint32mf2_t __riscv_vnot_tu(vuint32mf2_t vd, vuint32mf2_t vs, size_t vl);
vuint32m1_t __riscv_vnot_tu(vuint32m1_t vd, vuint32m1_t vs, size_t vl);
vuint32m2_t __riscv_vnot_tu(vuint32m2_t vd, vuint32m2_t vs, size_t vl);
vuint32m4_t __riscv_vnot_tu(vuint32m4_t vd, vuint32m4_t vs, size_t vl);
vuint32m8_t __riscv_vnot_tu(vuint32m8_t vd, vuint32m8_t vs, size_t vl);
```

```
vuint64m1_t __riscv_vnot_tu(vuint64m1_t vd, vuint64m1_t vs, size_t vl);
vuint64m2_t __riscv_vnot_tu(vuint64m2_t vd, vuint64m2_t vs, size_t vl);
vuint64m4_t __riscv_vnot_tu(vuint64m4_t vd, vuint64m4_t vs, size_t vl);
vuint64m8_t __riscv_vnot_tu(vuint64m8_t vd, vuint64m8_t vs, size_t vl);
// masked functions
vint8mf8_t __riscv_vnot_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                            size_t vl);
vint8mf4_t __riscv_vnot_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
                            size_t vl);
vint8mf2_t __riscv_vnot_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                            size_t vl);
vint8m1_t __riscv_vnot_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vnot_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vnot_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vnot_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vnot_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs,
                             size_t vl);
vint16mf2_t __riscv_vnot_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs,
                             size_t vl);
vint16m1_t __riscv_vnot_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
                            size_t vl);
vint16m2_t __riscv_vnot_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                            size_t vl);
vint16m4_t __riscv_vnot_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                            size_t vl);
vint16m8_t __riscv_vnot_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                            size_t vl);
vint32mf2_t __riscv_vnot_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs,
                             size_t vl);
vint32m1_t __riscv_vnot_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                            size_t vl);
vint32m2_t __riscv_vnot_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                            size_t vl);
vint32m4_t __riscv_vnot_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                            size_t vl);
vint32m8_t __riscv_vnot_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                            size_t vl);
vint64m1_t __riscv_vnot_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                            size_t vl);
vint64m2_t __riscv_vnot_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
                            size_t vl);
vint64m4_t __riscv_vnot_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                            size_t vl);
vint64m8_t __riscv_vnot_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
                            size_t vl);
vuint8mf8_t __riscv_vnot_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs,
                             size_t vl);
vuint8mf4_t __riscv_vnot_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs,
                             size_t vl);
vuint8mf2_t __riscv_vnot_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs,
                             size_t vl);
vuint8m1_t __riscv_vnot_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs,
                            size_t vl);
vuint8m2_t __riscv_vnot_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs,
                            size_t vl);
vuint8m4_t __riscv_vnot_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs,
                            size_t vl);
vuint8m8_t __riscv_vnot_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs,
                            size_t vl);
vuint16mf4_t __riscv_vnot_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs,
                              size_t vl);
vuint16mf2_t __riscv_vnot_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs,
                              size_t vl);
vuint16m1_t __riscv_vnot_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs,
                             size_t vl);
vuint16m2_t __riscv_vnot_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs,
                             size_t vl);
```

```
vuint16m4_t __riscv_vnot_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs,
                             size_t vl);
vuint16m8_t __riscv_vnot_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs,
                             size_t vl);
vuint32mf2_t __riscv_vnot_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs,
                              size_t vl);
vuint32m1_t __riscv_vnot_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs,
                             size_t vl);
vuint32m2_t __riscv_vnot_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs,
                             size_t vl);
vuint32m4_t __riscv_vnot_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs,
                             size_t vl);
vuint32m8_t __riscv_vnot_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs,
                             size_t vl);
vuint64m1_t __riscv_vnot_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs,
                             size_t vl);
vuint64m2_t __riscv_vnot_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs,
                             size_t vl);
vuint64m4_t __riscv_vnot_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs,
                             size_t vl);
vuint64m8_t __riscv_vnot_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs,
                             size_t vl);
// masked functions
vint8mf8_t __riscv_vnot_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                             size_t vl);
vint8mf4_t __riscv_vnot_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
                             size_t vl);
vint8mf2_t __riscv_vnot_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                             size_t vl);
vint8m1_t __riscv_vnot_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vnot_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vnot_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vnot_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vnot_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs,
                              size_t vl);
vint16mf2_t __riscv_vnot_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs,
                              size_t vl);
vint16m1_t __riscv_vnot_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
                             size_t vl);
vint16m2_t __riscv_vnot_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                             size_t vl);
vint16m4_t __riscv_vnot_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                             size_t vl);
vint16m8_t __riscv_vnot_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                             size_t vl);
vint32mf2_t __riscv_vnot_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs,
                              size_t vl);
vint32m1_t __riscv_vnot_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                             size_t vl);
vint32m2_t __riscv_vnot_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                             size_t vl);
vint32m4_t __riscv_vnot_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                             size_t vl);
vint32m8_t __riscv_vnot_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                             size_t vl);
vint64m1_t __riscv_vnot_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                             size_t vl);
vint64m2_t __riscv_vnot_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
                             size_t vl);
vint64m4_t __riscv_vnot_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                             size_t vl);
vint64m8_t __riscv_vnot_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
                             size_t vl);
vuint8mf8_t __riscv_vnot_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs,
                              size_t vl);
vuint8mf4_t __riscv_vnot_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs,
                              size_t vl);
```

```
vuint8mf2_t __riscv_vnot_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs,
                              size_t vl);
vuint8m1_t __riscv_vnot_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs,
                             size_t vl);
vuint8m2_t __riscv_vnot_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs,
                             size_t vl);
vuint8m4_t __riscv_vnot_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs,
                             size_t vl);
vuint8m8_t __riscv_vnot_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs,
                             size_t vl);
vuint16mf4_t __riscv_vnot_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs,
                               size_t vl);
vuint16mf2_t __riscv_vnot_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs,
                               size_t vl);
vuint16m1_t __riscv_vnot_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs,
                              size_t vl);
vuint16m2_t __riscv_vnot_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs,
                              size_t vl);
vuint16m4_t __riscv_vnot_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs,
                              size_t vl);
vuint16m8_t __riscv_vnot_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs,
                              size_t vl);
vuint32mf2_t __riscv_vnot_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs,
                               size_t vl);
vuint32m1_t __riscv_vnot_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs,
                              size_t vl);
vuint32m2_t __riscv_vnot_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs,
                              size_t vl);
vuint32m4_t __riscv_vnot_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs,
                              size_t vl);
vuint32m8_t __riscv_vnot_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs,
                              size_t vl);
vuint64m1_t __riscv_vnot_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs,
                              size_t vl);
vuint64m2_t __riscv_vnot_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs,
                              size_t vl);
vuint64m4_t __riscv_vnot_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs,
                              size_t vl);
vuint64m8_t __riscv_vnot_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs,
                              size_t vl);
// masked functions
vint8mf8_t __riscv_vnot_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs,
                           size_t vl);
vint8mf4_t __riscv_vnot_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs,
                           size_t vl);
vint8mf2_t __riscv_vnot_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs,
                           size_t vl);
vint8m1_t __riscv_vnot_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs, size_t vl);
vint8m2_t __riscv_vnot_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs, size_t vl);
vint8m4_t __riscv_vnot_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs, size_t vl);
vint8m8_t __riscv_vnot_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs, size_t vl);
vint16mf4_t __riscv_vnot_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs,
                            size_t vl);
vint16mf2_t __riscv_vnot_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs,
                            size_t vl);
vint16m1_t __riscv_vnot_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs,
                           size_t vl);
vint16m2_t __riscv_vnot_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs,
                           size_t vl);
vint16m4_t __riscv_vnot_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs,
                           size_t vl);
vint16m8_t __riscv_vnot_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs,
                           size_t vl);
vint32mf2_t __riscv_vnot_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs,
                            size_t vl);
vint32m1_t __riscv_vnot_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs,
                           size_t vl);
```

```
vint32m2_t __riscv_vnot_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs,
                           size_t vl);
vint32m4_t __riscv_vnot_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs,
                           size_t vl);
vint32m8_t __riscv_vnot_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs,
                           size_t vl);
vint64m1_t __riscv_vnot_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs,
                           size_t vl);
vint64m2_t __riscv_vnot_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs,
                           size_t vl);
vint64m4_t __riscv_vnot_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs,
                           size_t vl);
vint64m8_t __riscv_vnot_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs,
                           size_t vl);
vuint8mf8_t __riscv_vnot_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs,
                            size_t vl);
vuint8mf4_t __riscv_vnot_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs,
                            size_t vl);
vuint8mf2_t __riscv_vnot_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs,
                            size_t vl);
vuint8m1_t __riscv_vnot_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs,
                           size_t vl);
vuint8m2_t __riscv_vnot_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs,
                           size_t vl);
vuint8m4_t __riscv_vnot_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs,
                           size_t vl);
vuint8m8_t __riscv_vnot_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs,
                           size_t vl);
vuint16mf4_t __riscv_vnot_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs,
                             size_t vl);
vuint16mf2_t __riscv_vnot_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs,
                             size_t vl);
vuint16m1_t __riscv_vnot_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs,
                            size_t vl);
vuint16m2_t __riscv_vnot_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs,
                            size_t vl);
vuint16m4_t __riscv_vnot_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs,
                            size_t vl);
vuint16m8_t __riscv_vnot_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs,
                            size_t vl);
vuint32mf2_t __riscv_vnot_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs,
                             size_t vl);
vuint32m1_t __riscv_vnot_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs,
                            size_t vl);
vuint32m2_t __riscv_vnot_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs,
                            size_t vl);
vuint32m4_t __riscv_vnot_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs,
                            size_t vl);
vuint32m8_t __riscv_vnot_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs,
                            size_t vl);
vuint64m1_t __riscv_vnot_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs,
                            size_t vl);
vuint64m2_t __riscv_vnot_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs,
                            size_t vl);
vuint64m4_t __riscv_vnot_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs,
                            size_t vl);
vuint64m8_t __riscv_vnot_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs,
                            size_t vl);
```

D.3.9. Vector Single-Width Bit Shift Intrinsics

```
vint8mf8_t __riscv_vsll_tu(vint8mf8_t vd, vint8mf8_t vs2, vuint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vsll_tu(vint8mf8_t vd, vint8mf8_t vs2, size_t rs1,
                           size_t vl);
```

```
vint8mf4_t __riscv_vsll_tu(vint8mf4_t vd, vint8mf4_t vs2, vuint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vsll_tu(vint8mf4_t vd, vint8mf4_t vs2, size_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vsll_tu(vint8mf2_t vd, vint8mf2_t vs2, vuint8mf2_t vs1,
                           size_t vl);
vint8mf2_t __riscv_vsll_tu(vint8mf2_t vd, vint8mf2_t vs2, size_t rs1,
                           size_t vl);
vint8m1_t __riscv_vsll_tu(vint8m1_t vd, vint8m1_t vs2, vuint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vsll_tu(vint8m1_t vd, vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vsll_tu(vint8m2_t vd, vint8m2_t vs2, vuint8m2_t vs1,
                          size_t vl);
vint8m2_t __riscv_vsll_tu(vint8m2_t vd, vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vsll_tu(vint8m4_t vd, vint8m4_t vs2, vuint8m4_t vs1,
                          size_t vl);
vint8m4_t __riscv_vsll_tu(vint8m4_t vd, vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vsll_tu(vint8m8_t vd, vint8m8_t vs2, vuint8m8_t vs1,
                          size_t vl);
vint8m8_t __riscv_vsll_tu(vint8m8_t vd, vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vsll_tu(vint16mf4_t vd, vint16mf4_t vs2, vuint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vsll_tu(vint16mf4_t vd, vint16mf4_t vs2, size_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vsll_tu(vint16mf2_t vd, vint16mf2_t vs2, vuint16mf2_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vsll_tu(vint16mf2_t vd, vint16mf2_t vs2, size_t rs1,
                            size_t vl);
vint16m1_t __riscv_vsll_tu(vint16m1_t vd, vint16m1_t vs2, vuint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vsll_tu(vint16m1_t vd, vint16m1_t vs2, size_t rs1,
                           size_t vl);
vint16m2_t __riscv_vsll_tu(vint16m2_t vd, vint16m2_t vs2, vuint16m2_t vs1,
                           size_t vl);
vint16m2_t __riscv_vsll_tu(vint16m2_t vd, vint16m2_t vs2, size_t rs1,
                           size_t vl);
vint16m4_t __riscv_vsll_tu(vint16m4_t vd, vint16m4_t vs2, vuint16m4_t vs1,
                           size_t vl);
vint16m4_t __riscv_vsll_tu(vint16m4_t vd, vint16m4_t vs2, size_t rs1,
                           size_t vl);
vint16m8_t __riscv_vsll_tu(vint16m8_t vd, vint16m8_t vs2, vuint16m8_t vs1,
                           size_t vl);
vint16m8_t __riscv_vsll_tu(vint16m8_t vd, vint16m8_t vs2, size_t rs1,
                           size_t vl);
vint32mf2_t __riscv_vsll_tu(vint32mf2_t vd, vint32mf2_t vs2, vuint32mf2_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vsll_tu(vint32mf2_t vd, vint32mf2_t vs2, size_t rs1,
                            size_t vl);
vint32m1_t __riscv_vsll_tu(vint32m1_t vd, vint32m1_t vs2, vuint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vsll_tu(vint32m1_t vd, vint32m1_t vs2, size_t rs1,
                           size_t vl);
vint32m2_t __riscv_vsll_tu(vint32m2_t vd, vint32m2_t vs2, vuint32m2_t vs1,
                           size_t vl);
vint32m2_t __riscv_vsll_tu(vint32m2_t vd, vint32m2_t vs2, size_t rs1,
                           size_t vl);
vint32m4_t __riscv_vsll_tu(vint32m4_t vd, vint32m4_t vs2, vuint32m4_t vs1,
                           size_t vl);
vint32m4_t __riscv_vsll_tu(vint32m4_t vd, vint32m4_t vs2, size_t rs1,
                           size_t vl);
vint32m8_t __riscv_vsll_tu(vint32m8_t vd, vint32m8_t vs2, vuint32m8_t vs1,
                           size_t vl);
vint32m8_t __riscv_vsll_tu(vint32m8_t vd, vint32m8_t vs2, size_t rs1,
                           size_t vl);
vint64m1_t __riscv_vsll_tu(vint64m1_t vd, vint64m1_t vs2, vuint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vsll_tu(vint64m1_t vd, vint64m1_t vs2, size_t rs1,
```

```
                           size_t vl);
vint64m2_t __riscv_vsll_tu(vint64m2_t vd, vint64m2_t vs2, vuint64m2_t vs1,
                           size_t vl);
vint64m2_t __riscv_vsll_tu(vint64m2_t vd, vint64m2_t vs2, size_t rs1,
                           size_t vl);
vint64m4_t __riscv_vsll_tu(vint64m4_t vd, vint64m4_t vs2, vuint64m4_t vs1,
                           size_t vl);
vint64m4_t __riscv_vsll_tu(vint64m4_t vd, vint64m4_t vs2, size_t rs1,
                           size_t vl);
vint64m8_t __riscv_vsll_tu(vint64m8_t vd, vint64m8_t vs2, vuint64m8_t vs1,
                           size_t vl);
vint64m8_t __riscv_vsll_tu(vint64m8_t vd, vint64m8_t vs2, size_t rs1,
                           size_t vl);
vint8mf8_t __riscv_vsra_tu(vint8mf8_t vd, vint8mf8_t vs2, vuint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vsra_tu(vint8mf8_t vd, vint8mf8_t vs2, size_t rs1,
                           size_t vl);
vint8mf4_t __riscv_vsra_tu(vint8mf4_t vd, vint8mf4_t vs2, vuint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vsra_tu(vint8mf4_t vd, vint8mf4_t vs2, size_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vsra_tu(vint8mf2_t vd, vint8mf2_t vs2, vuint8mf2_t vs1,
                           size_t vl);
vint8mf2_t __riscv_vsra_tu(vint8mf2_t vd, vint8mf2_t vs2, size_t rs1,
                           size_t vl);
vint8m1_t __riscv_vsra_tu(vint8m1_t vd, vint8m1_t vs2, vuint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vsra_tu(vint8m1_t vd, vint8m1_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vsra_tu(vint8m2_t vd, vint8m2_t vs2, vuint8m2_t vs1,
                          size_t vl);
vint8m2_t __riscv_vsra_tu(vint8m2_t vd, vint8m2_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vsra_tu(vint8m4_t vd, vint8m4_t vs2, vuint8m4_t vs1,
                          size_t vl);
vint8m4_t __riscv_vsra_tu(vint8m4_t vd, vint8m4_t vs2, size_t rs1, size_t vl);
vint8m8_t __riscv_vsra_tu(vint8m8_t vd, vint8m8_t vs2, vuint8m8_t vs1,
                          size_t vl);
vint8m8_t __riscv_vsra_tu(vint8m8_t vd, vint8m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vsra_tu(vint16mf4_t vd, vint16mf4_t vs2, vuint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vsra_tu(vint16mf4_t vd, vint16mf4_t vs2, size_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vsra_tu(vint16mf2_t vd, vint16mf2_t vs2, vuint16mf2_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vsra_tu(vint16mf2_t vd, vint16mf2_t vs2, size_t rs1,
                            size_t vl);
vint16m1_t __riscv_vsra_tu(vint16m1_t vd, vint16m1_t vs2, vuint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vsra_tu(vint16m1_t vd, vint16m1_t vs2, size_t rs1,
                           size_t vl);
vint16m2_t __riscv_vsra_tu(vint16m2_t vd, vint16m2_t vs2, vuint16m2_t vs1,
                           size_t vl);
vint16m2_t __riscv_vsra_tu(vint16m2_t vd, vint16m2_t vs2, size_t rs1,
                           size_t vl);
vint16m4_t __riscv_vsra_tu(vint16m4_t vd, vint16m4_t vs2, vuint16m4_t vs1,
                           size_t vl);
vint16m4_t __riscv_vsra_tu(vint16m4_t vd, vint16m4_t vs2, size_t rs1,
                           size_t vl);
vint16m8_t __riscv_vsra_tu(vint16m8_t vd, vint16m8_t vs2, vuint16m8_t vs1,
                           size_t vl);
vint16m8_t __riscv_vsra_tu(vint16m8_t vd, vint16m8_t vs2, size_t rs1,
                           size_t vl);
vint32mf2_t __riscv_vsra_tu(vint32mf2_t vd, vint32mf2_t vs2, vuint32mf2_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vsra_tu(vint32mf2_t vd, vint32mf2_t vs2, size_t rs1,
                            size_t vl);
vint32m1_t __riscv_vsra_tu(vint32m1_t vd, vint32m1_t vs2, vuint32m1_t vs1,
                           size_t vl);
```

```
vint32m1_t __riscv_vsra_tu(vint32m1_t vd, vint32m1_t vs2, size_t rs1,
                           size_t vl);
vint32m2_t __riscv_vsra_tu(vint32m2_t vd, vint32m2_t vs2, vuint32m2_t vs1,
                           size_t vl);
vint32m2_t __riscv_vsra_tu(vint32m2_t vd, vint32m2_t vs2, size_t rs1,
                           size_t vl);
vint32m4_t __riscv_vsra_tu(vint32m4_t vd, vint32m4_t vs2, vuint32m4_t vs1,
                           size_t vl);
vint32m4_t __riscv_vsra_tu(vint32m4_t vd, vint32m4_t vs2, size_t rs1,
                           size_t vl);
vint32m8_t __riscv_vsra_tu(vint32m8_t vd, vint32m8_t vs2, vuint32m8_t vs1,
                           size_t vl);
vint32m8_t __riscv_vsra_tu(vint32m8_t vd, vint32m8_t vs2, size_t rs1,
                           size_t vl);
vint64m1_t __riscv_vsra_tu(vint64m1_t vd, vint64m1_t vs2, vuint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vsra_tu(vint64m1_t vd, vint64m1_t vs2, size_t rs1,
                           size_t vl);
vint64m2_t __riscv_vsra_tu(vint64m2_t vd, vint64m2_t vs2, vuint64m2_t vs1,
                           size_t vl);
vint64m2_t __riscv_vsra_tu(vint64m2_t vd, vint64m2_t vs2, size_t rs1,
                           size_t vl);
vint64m4_t __riscv_vsra_tu(vint64m4_t vd, vint64m4_t vs2, vuint64m4_t vs1,
                           size_t vl);
vint64m4_t __riscv_vsra_tu(vint64m4_t vd, vint64m4_t vs2, size_t rs1,
                           size_t vl);
vint64m8_t __riscv_vsra_tu(vint64m8_t vd, vint64m8_t vs2, vuint64m8_t vs1,
                           size_t vl);
vint64m8_t __riscv_vsra_tu(vint64m8_t vd, vint64m8_t vs2, size_t rs1,
                           size_t vl);
vuint8mf8_t __riscv_vsll_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                            size_t vl);
vuint8mf8_t __riscv_vsll_tu(vuint8mf8_t vd, vuint8mf8_t vs2, size_t rs1,
                            size_t vl);
vuint8mf4_t __riscv_vsll_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                            size_t vl);
vuint8mf4_t __riscv_vsll_tu(vuint8mf4_t vd, vuint8mf4_t vs2, size_t rs1,
                            size_t vl);
vuint8mf2_t __riscv_vsll_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                            size_t vl);
vuint8mf2_t __riscv_vsll_tu(vuint8mf2_t vd, vuint8mf2_t vs2, size_t rs1,
                            size_t vl);
vuint8m1_t __riscv_vsll_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vsll_tu(vuint8m1_t vd, vuint8m1_t vs2, size_t rs1,
                           size_t vl);
vuint8m2_t __riscv_vsll_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                           size_t vl);
vuint8m2_t __riscv_vsll_tu(vuint8m2_t vd, vuint8m2_t vs2, size_t rs1,
                           size_t vl);
vuint8m4_t __riscv_vsll_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                           size_t vl);
vuint8m4_t __riscv_vsll_tu(vuint8m4_t vd, vuint8m4_t vs2, size_t rs1,
                           size_t vl);
vuint8m8_t __riscv_vsll_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                           size_t vl);
vuint8m8_t __riscv_vsll_tu(vuint8m8_t vd, vuint8m8_t vs2, size_t rs1,
                           size_t vl);
vuint16mf4_t __riscv_vsll_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsll_tu(vuint16mf4_t vd, vuint16mf4_t vs2, size_t rs1,
                             size_t vl);
vuint16mf2_t __riscv_vsll_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsll_tu(vuint16mf2_t vd, vuint16mf2_t vs2, size_t rs1,
                             size_t vl);
vuint16m1_t __riscv_vsll_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
```

```
                            size_t vl);
vuint16m1_t __riscv_vsll_tu(vuint16m1_t vd, vuint16m1_t vs2, size_t rs1,
                            size_t vl);
vuint16m2_t __riscv_vsll_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                            size_t vl);
vuint16m2_t __riscv_vsll_tu(vuint16m2_t vd, vuint16m2_t vs2, size_t rs1,
                            size_t vl);
vuint16m4_t __riscv_vsll_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                            size_t vl);
vuint16m4_t __riscv_vsll_tu(vuint16m4_t vd, vuint16m4_t vs2, size_t rs1,
                            size_t vl);
vuint16m8_t __riscv_vsll_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                            size_t vl);
vuint16m8_t __riscv_vsll_tu(vuint16m8_t vd, vuint16m8_t vs2, size_t rs1,
                            size_t vl);
vuint32mf2_t __riscv_vsll_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsll_tu(vuint32mf2_t vd, vuint32mf2_t vs2, size_t rs1,
                             size_t vl);
vuint32m1_t __riscv_vsll_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vsll_tu(vuint32m1_t vd, vuint32m1_t vs2, size_t rs1,
                            size_t vl);
vuint32m2_t __riscv_vsll_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                            size_t vl);
vuint32m2_t __riscv_vsll_tu(vuint32m2_t vd, vuint32m2_t vs2, size_t rs1,
                            size_t vl);
vuint32m4_t __riscv_vsll_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                            size_t vl);
vuint32m4_t __riscv_vsll_tu(vuint32m4_t vd, vuint32m4_t vs2, size_t rs1,
                            size_t vl);
vuint32m8_t __riscv_vsll_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                            size_t vl);
vuint32m8_t __riscv_vsll_tu(vuint32m8_t vd, vuint32m8_t vs2, size_t rs1,
                            size_t vl);
vuint64m1_t __riscv_vsll_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vsll_tu(vuint64m1_t vd, vuint64m1_t vs2, size_t rs1,
                            size_t vl);
vuint64m2_t __riscv_vsll_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                            size_t vl);
vuint64m2_t __riscv_vsll_tu(vuint64m2_t vd, vuint64m2_t vs2, size_t rs1,
                            size_t vl);
vuint64m4_t __riscv_vsll_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                            size_t vl);
vuint64m4_t __riscv_vsll_tu(vuint64m4_t vd, vuint64m4_t vs2, size_t rs1,
                            size_t vl);
vuint64m8_t __riscv_vsll_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                            size_t vl);
vuint64m8_t __riscv_vsll_tu(vuint64m8_t vd, vuint64m8_t vs2, size_t rs1,
                            size_t vl);
vuint8mf8_t __riscv_vsrl_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                            size_t vl);
vuint8mf8_t __riscv_vsrl_tu(vuint8mf8_t vd, vuint8mf8_t vs2, size_t rs1,
                            size_t vl);
vuint8mf4_t __riscv_vsrl_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                            size_t vl);
vuint8mf4_t __riscv_vsrl_tu(vuint8mf4_t vd, vuint8mf4_t vs2, size_t rs1,
                            size_t vl);
vuint8mf2_t __riscv_vsrl_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                            size_t vl);
vuint8mf2_t __riscv_vsrl_tu(vuint8mf2_t vd, vuint8mf2_t vs2, size_t rs1,
                            size_t vl);
vuint8m1_t __riscv_vsrl_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vsrl_tu(vuint8m1_t vd, vuint8m1_t vs2, size_t rs1,
                           size_t vl);
```

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vuint8m2_t __riscv_vsrl_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                           size_t vl);
vuint8m2_t __riscv_vsrl_tu(vuint8m2_t vd, vuint8m2_t vs2, size_t rs1,
                           size_t vl);
vuint8m4_t __riscv_vsrl_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                           size_t vl);
vuint8m4_t __riscv_vsrl_tu(vuint8m4_t vd, vuint8m4_t vs2, size_t rs1,
                           size_t vl);
vuint8m8_t __riscv_vsrl_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                           size_t vl);
vuint8m8_t __riscv_vsrl_tu(vuint8m8_t vd, vuint8m8_t vs2, size_t rs1,
                           size_t vl);
vuint16mf4_t __riscv_vsrl_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsrl_tu(vuint16mf4_t vd, vuint16mf4_t vs2, size_t rs1,
                             size_t vl);
vuint16mf2_t __riscv_vsrl_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsrl_tu(vuint16mf2_t vd, vuint16mf2_t vs2, size_t rs1,
                             size_t vl);
vuint16m1_t __riscv_vsrl_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vsrl_tu(vuint16m1_t vd, vuint16m1_t vs2, size_t rs1,
                            size_t vl);
vuint16m2_t __riscv_vsrl_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                            size_t vl);
vuint16m2_t __riscv_vsrl_tu(vuint16m2_t vd, vuint16m2_t vs2, size_t rs1,
                            size_t vl);
vuint16m4_t __riscv_vsrl_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                            size_t vl);
vuint16m4_t __riscv_vsrl_tu(vuint16m4_t vd, vuint16m4_t vs2, size_t rs1,
                            size_t vl);
vuint16m8_t __riscv_vsrl_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                            size_t vl);
vuint16m8_t __riscv_vsrl_tu(vuint16m8_t vd, vuint16m8_t vs2, size_t rs1,
                            size_t vl);
vuint32mf2_t __riscv_vsrl_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsrl_tu(vuint32mf2_t vd, vuint32mf2_t vs2, size_t rs1,
                             size_t vl);
vuint32m1_t __riscv_vsrl_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                            size_t vl);
vuint32m1_t __riscv_vsrl_tu(vuint32m1_t vd, vuint32m1_t vs2, size_t rs1,
                            size_t vl);
vuint32m2_t __riscv_vsrl_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                            size_t vl);
vuint32m2_t __riscv_vsrl_tu(vuint32m2_t vd, vuint32m2_t vs2, size_t rs1,
                            size_t vl);
vuint32m4_t __riscv_vsrl_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                            size_t vl);
vuint32m4_t __riscv_vsrl_tu(vuint32m4_t vd, vuint32m4_t vs2, size_t rs1,
                            size_t vl);
vuint32m8_t __riscv_vsrl_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                            size_t vl);
vuint32m8_t __riscv_vsrl_tu(vuint32m8_t vd, vuint32m8_t vs2, size_t rs1,
                            size_t vl);
vuint64m1_t __riscv_vsrl_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vsrl_tu(vuint64m1_t vd, vuint64m1_t vs2, size_t rs1,
                            size_t vl);
vuint64m2_t __riscv_vsrl_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                            size_t vl);
vuint64m2_t __riscv_vsrl_tu(vuint64m2_t vd, vuint64m2_t vs2, size_t rs1,
                            size_t vl);
vuint64m4_t __riscv_vsrl_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                            size_t vl);
vuint64m4_t __riscv_vsrl_tu(vuint64m4_t vd, vuint64m4_t vs2, size_t rs1,
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                            size_t vl);
vuint64m8_t __riscv_vsrl_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                            size_t vl);
vuint64m8_t __riscv_vsrl_tu(vuint64m8_t vd, vuint64m8_t vs2, size_t rs1,
                            size_t vl);
// masked functions
vint8mf8_t __riscv_vsll_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsll_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            size_t rs1, size_t vl);
vint8mf4_t __riscv_vsll_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsll_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            size_t rs1, size_t vl);
vint8mf2_t __riscv_vsll_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsll_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            size_t rs1, size_t vl);
vint8m1_t __riscv_vsll_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsll_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                           size_t vl);
vint8m2_t __riscv_vsll_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsll_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                           size_t vl);
vint8m4_t __riscv_vsll_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsll_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                           size_t vl);
vint8m8_t __riscv_vsll_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsll_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vsll_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsll_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             size_t rs1, size_t vl);
vint16mf2_t __riscv_vsll_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsll_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             size_t rs1, size_t vl);
vint16m1_t __riscv_vsll_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsll_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            size_t rs1, size_t vl);
vint16m2_t __riscv_vsll_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsll_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            size_t rs1, size_t vl);
vint16m4_t __riscv_vsll_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsll_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            size_t rs1, size_t vl);
vint16m8_t __riscv_vsll_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsll_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            size_t rs1, size_t vl);
vint32mf2_t __riscv_vsll_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsll_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             size_t rs1, size_t vl);
vint32m1_t __riscv_vsll_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsll_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            size_t rs1, size_t vl);
vint32m2_t __riscv_vsll_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
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                            vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsll_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            size_t rs1, size_t vl);
vint32m4_t __riscv_vsll_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsll_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            size_t rs1, size_t vl);
vint32m8_t __riscv_vsll_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsll_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            size_t rs1, size_t vl);
vint64m1_t __riscv_vsll_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsll_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            size_t rs1, size_t vl);
vint64m2_t __riscv_vsll_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsll_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            size_t rs1, size_t vl);
vint64m4_t __riscv_vsll_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsll_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            size_t rs1, size_t vl);
vint64m8_t __riscv_vsll_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsll_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            size_t rs1, size_t vl);
vint8mf8_t __riscv_vsra_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsra_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            size_t rs1, size_t vl);
vint8mf4_t __riscv_vsra_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsra_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            size_t rs1, size_t vl);
vint8mf2_t __riscv_vsra_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsra_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            size_t rs1, size_t vl);
vint8m1_t __riscv_vsra_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsra_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                           size_t vl);
vint8m2_t __riscv_vsra_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsra_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                           size_t vl);
vint8m4_t __riscv_vsra_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsra_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                           size_t vl);
vint8m8_t __riscv_vsra_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsra_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vsra_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsra_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             size_t rs1, size_t vl);
vint16mf2_t __riscv_vsra_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsra_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             size_t rs1, size_t vl);
vint16m1_t __riscv_vsra_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsra_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            size_t rs1, size_t vl);
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vint16m2_t __riscv_vsra_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsra_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            size_t rs1, size_t vl);
vint16m4_t __riscv_vsra_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsra_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            size_t rs1, size_t vl);
vint16m8_t __riscv_vsra_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsra_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            size_t rs1, size_t vl);
vint32mf2_t __riscv_vsra_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsra_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             size_t rs1, size_t vl);
vint32m1_t __riscv_vsra_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsra_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            size_t rs1, size_t vl);
vint32m2_t __riscv_vsra_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsra_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            size_t rs1, size_t vl);
vint32m4_t __riscv_vsra_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsra_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            size_t rs1, size_t vl);
vint32m8_t __riscv_vsra_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsra_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            size_t rs1, size_t vl);
vint64m1_t __riscv_vsra_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsra_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            size_t rs1, size_t vl);
vint64m2_t __riscv_vsra_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsra_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            size_t rs1, size_t vl);
vint64m4_t __riscv_vsra_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsra_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            size_t rs1, size_t vl);
vint64m8_t __riscv_vsra_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsra_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsll_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsll_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsll_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsll_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsll_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsll_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             size_t rs1, size_t vl);
vuint8m1_t __riscv_vsll_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsll_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            size_t rs1, size_t vl);
vuint8m2_t __riscv_vsll_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsll_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
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                            size_t rs1, size_t vl);
vuint8m4_t __riscv_vsll_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsll_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            size_t rs1, size_t vl);
vuint8m8_t __riscv_vsll_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsll_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsll_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsll_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsll_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsll_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              size_t rs1, size_t vl);
vuint16m1_t __riscv_vsll_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsll_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             size_t rs1, size_t vl);
vuint16m2_t __riscv_vsll_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsll_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             size_t rs1, size_t vl);
vuint16m4_t __riscv_vsll_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsll_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             size_t rs1, size_t vl);
vuint16m8_t __riscv_vsll_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsll_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsll_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsll_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              size_t rs1, size_t vl);
vuint32m1_t __riscv_vsll_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsll_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             size_t rs1, size_t vl);
vuint32m2_t __riscv_vsll_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsll_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             size_t rs1, size_t vl);
vuint32m4_t __riscv_vsll_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsll_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             size_t rs1, size_t vl);
vuint32m8_t __riscv_vsll_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsll_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             size_t rs1, size_t vl);
vuint64m1_t __riscv_vsll_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsll_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             size_t rs1, size_t vl);
vuint64m2_t __riscv_vsll_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsll_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             size_t rs1, size_t vl);
vuint64m4_t __riscv_vsll_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsll_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             size_t rs1, size_t vl);
vuint64m8_t __riscv_vsll_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
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vuint64m8_t __riscv_vsll_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsrl_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsrl_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsrl_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsrl_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsrl_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsrl_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             size_t rs1, size_t vl);
vuint8m1_t __riscv_vsrl_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsrl_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            size_t rs1, size_t vl);
vuint8m2_t __riscv_vsrl_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsrl_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            size_t rs1, size_t vl);
vuint8m4_t __riscv_vsrl_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsrl_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            size_t rs1, size_t vl);
vuint8m8_t __riscv_vsrl_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsrl_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsrl_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsrl_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsrl_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsrl_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              size_t rs1, size_t vl);
vuint16m1_t __riscv_vsrl_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsrl_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             size_t rs1, size_t vl);
vuint16m2_t __riscv_vsrl_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsrl_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             size_t rs1, size_t vl);
vuint16m4_t __riscv_vsrl_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsrl_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             size_t rs1, size_t vl);
vuint16m8_t __riscv_vsrl_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsrl_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsrl_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsrl_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              size_t rs1, size_t vl);
vuint32m1_t __riscv_vsrl_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsrl_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             size_t rs1, size_t vl);
vuint32m2_t __riscv_vsrl_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsrl_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             size_t rs1, size_t vl);
vuint32m4_t __riscv_vsrl_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
```

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                            vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsrl_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            size_t rs1, size_t vl);
vuint32m8_t __riscv_vsrl_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsrl_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            size_t rs1, size_t vl);
vuint64m1_t __riscv_vsrl_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsrl_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            size_t rs1, size_t vl);
vuint64m2_t __riscv_vsrl_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsrl_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            size_t rs1, size_t vl);
vuint64m4_t __riscv_vsrl_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsrl_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            size_t rs1, size_t vl);
vuint64m8_t __riscv_vsrl_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsrl_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsll_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsll_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            size_t rs1, size_t vl);
vint8mf4_t __riscv_vsll_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsll_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            size_t rs1, size_t vl);
vint8mf2_t __riscv_vsll_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsll_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            size_t rs1, size_t vl);
vint8m1_t __riscv_vsll_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsll_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           size_t rs1, size_t vl);
vint8m2_t __riscv_vsll_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsll_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           size_t rs1, size_t vl);
vint8m4_t __riscv_vsll_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsll_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           size_t rs1, size_t vl);
vint8m8_t __riscv_vsll_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsll_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           size_t rs1, size_t vl);
vint16mf4_t __riscv_vsll_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsll_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             size_t rs1, size_t vl);
vint16mf2_t __riscv_vsll_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsll_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             size_t rs1, size_t vl);
vint16m1_t __riscv_vsll_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsll_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            size_t rs1, size_t vl);
vint16m2_t __riscv_vsll_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsll_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
```

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                              size_t rs1, size_t vl);
vint16m4_t __riscv_vsll_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsll_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             size_t rs1, size_t vl);
vint16m8_t __riscv_vsll_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsll_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             size_t rs1, size_t vl);
vint32mf2_t __riscv_vsll_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsll_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              size_t rs1, size_t vl);
vint32m1_t __riscv_vsll_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsll_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             size_t rs1, size_t vl);
vint32m2_t __riscv_vsll_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsll_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             size_t rs1, size_t vl);
vint32m4_t __riscv_vsll_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsll_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             size_t rs1, size_t vl);
vint32m8_t __riscv_vsll_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsll_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             size_t rs1, size_t vl);
vint64m1_t __riscv_vsll_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsll_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             size_t rs1, size_t vl);
vint64m2_t __riscv_vsll_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsll_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             size_t rs1, size_t vl);
vint64m4_t __riscv_vsll_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsll_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             size_t rs1, size_t vl);
vint64m8_t __riscv_vsll_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsll_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             size_t rs1, size_t vl);
vint8mf8_t __riscv_vsra_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsra_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             size_t rs1, size_t vl);
vint8mf4_t __riscv_vsra_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsra_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             size_t rs1, size_t vl);
vint8mf2_t __riscv_vsra_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsra_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             size_t rs1, size_t vl);
vint8m1_t __riscv_vsra_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsra_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            size_t rs1, size_t vl);
vint8m2_t __riscv_vsra_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsra_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            size_t rs1, size_t vl);
vint8m4_t __riscv_vsra_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vuint8m4_t vs1, size_t vl);
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vint8m4_t __riscv_vsra_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            size_t rs1, size_t vl);
vint8m8_t __riscv_vsra_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsra_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            size_t rs1, size_t vl);
vint16mf4_t __riscv_vsra_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsra_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              size_t rs1, size_t vl);
vint16mf2_t __riscv_vsra_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsra_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              size_t rs1, size_t vl);
vint16m1_t __riscv_vsra_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsra_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             size_t rs1, size_t vl);
vint16m2_t __riscv_vsra_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsra_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             size_t rs1, size_t vl);
vint16m4_t __riscv_vsra_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsra_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             size_t rs1, size_t vl);
vint16m8_t __riscv_vsra_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsra_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             size_t rs1, size_t vl);
vint32mf2_t __riscv_vsra_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsra_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              size_t rs1, size_t vl);
vint32m1_t __riscv_vsra_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsra_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             size_t rs1, size_t vl);
vint32m2_t __riscv_vsra_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsra_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             size_t rs1, size_t vl);
vint32m4_t __riscv_vsra_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsra_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             size_t rs1, size_t vl);
vint32m8_t __riscv_vsra_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsra_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             size_t rs1, size_t vl);
vint64m1_t __riscv_vsra_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsra_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             size_t rs1, size_t vl);
vint64m2_t __riscv_vsra_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsra_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             size_t rs1, size_t vl);
vint64m4_t __riscv_vsra_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsra_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             size_t rs1, size_t vl);
vint64m8_t __riscv_vsra_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsra_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsll_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
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                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsll_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsll_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsll_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsll_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsll_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              size_t rs1, size_t vl);
vuint8m1_t __riscv_vsll_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsll_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             size_t rs1, size_t vl);
vuint8m2_t __riscv_vsll_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsll_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             size_t rs1, size_t vl);
vuint8m4_t __riscv_vsll_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsll_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             size_t rs1, size_t vl);
vuint8m8_t __riscv_vsll_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsll_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsll_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsll_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsll_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsll_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               size_t rs1, size_t vl);
vuint16m1_t __riscv_vsll_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsll_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              size_t rs1, size_t vl);
vuint16m2_t __riscv_vsll_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsll_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              size_t rs1, size_t vl);
vuint16m4_t __riscv_vsll_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsll_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              size_t rs1, size_t vl);
vuint16m8_t __riscv_vsll_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsll_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsll_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsll_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               size_t rs1, size_t vl);
vuint32m1_t __riscv_vsll_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsll_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              size_t rs1, size_t vl);
vuint32m2_t __riscv_vsll_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsll_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              size_t rs1, size_t vl);
vuint32m4_t __riscv_vsll_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsll_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              size_t rs1, size_t vl);
```

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vuint32m8_t __riscv_vsll_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsll_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              size_t rs1, size_t vl);
vuint64m1_t __riscv_vsll_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsll_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              size_t rs1, size_t vl);
vuint64m2_t __riscv_vsll_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsll_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              size_t rs1, size_t vl);
vuint64m4_t __riscv_vsll_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsll_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              size_t rs1, size_t vl);
vuint64m8_t __riscv_vsll_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsll_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsrl_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsrl_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsrl_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsrl_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsrl_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsrl_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              size_t rs1, size_t vl);
vuint8m1_t __riscv_vsrl_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsrl_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             size_t rs1, size_t vl);
vuint8m2_t __riscv_vsrl_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsrl_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             size_t rs1, size_t vl);
vuint8m4_t __riscv_vsrl_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsrl_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             size_t rs1, size_t vl);
vuint8m8_t __riscv_vsrl_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsrl_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsrl_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsrl_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsrl_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsrl_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               size_t rs1, size_t vl);
vuint16m1_t __riscv_vsrl_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsrl_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              size_t rs1, size_t vl);
vuint16m2_t __riscv_vsrl_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsrl_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              size_t rs1, size_t vl);
vuint16m4_t __riscv_vsrl_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsrl_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
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                              size_t rs1, size_t vl);
vuint16m8_t __riscv_vsrl_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsrl_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsrl_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsrl_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               size_t rs1, size_t vl);
vuint32m1_t __riscv_vsrl_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsrl_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              size_t rs1, size_t vl);
vuint32m2_t __riscv_vsrl_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsrl_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              size_t rs1, size_t vl);
vuint32m4_t __riscv_vsrl_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsrl_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              size_t rs1, size_t vl);
vuint32m8_t __riscv_vsrl_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsrl_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              size_t rs1, size_t vl);
vuint64m1_t __riscv_vsrl_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsrl_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              size_t rs1, size_t vl);
vuint64m2_t __riscv_vsrl_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsrl_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              size_t rs1, size_t vl);
vuint64m4_t __riscv_vsrl_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsrl_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              size_t rs1, size_t vl);
vuint64m8_t __riscv_vsrl_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsrl_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsll_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsll_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           size_t rs1, size_t vl);
vint8mf4_t __riscv_vsll_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsll_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           size_t rs1, size_t vl);
vint8mf2_t __riscv_vsll_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsll_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           size_t rs1, size_t vl);
vint8m1_t __riscv_vsll_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                          vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsll_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                          size_t vl);
vint8m2_t __riscv_vsll_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                          vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsll_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                          size_t vl);
vint8m4_t __riscv_vsll_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                          vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsll_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                          size_t vl);
vint8m8_t __riscv_vsll_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
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                          vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsll_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                          size_t vl);
vint16mf4_t __riscv_vsll_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsll_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            size_t rs1, size_t vl);
vint16mf2_t __riscv_vsll_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsll_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            size_t rs1, size_t vl);
vint16m1_t __riscv_vsll_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsll_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           size_t rs1, size_t vl);
vint16m2_t __riscv_vsll_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsll_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           size_t rs1, size_t vl);
vint16m4_t __riscv_vsll_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsll_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           size_t rs1, size_t vl);
vint16m8_t __riscv_vsll_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsll_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           size_t rs1, size_t vl);
vint32mf2_t __riscv_vsll_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsll_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            size_t rs1, size_t vl);
vint32m1_t __riscv_vsll_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsll_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           size_t rs1, size_t vl);
vint32m2_t __riscv_vsll_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsll_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           size_t rs1, size_t vl);
vint32m4_t __riscv_vsll_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsll_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           size_t rs1, size_t vl);
vint32m8_t __riscv_vsll_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsll_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           size_t rs1, size_t vl);
vint64m1_t __riscv_vsll_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsll_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           size_t rs1, size_t vl);
vint64m2_t __riscv_vsll_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsll_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           size_t rs1, size_t vl);
vint64m4_t __riscv_vsll_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsll_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           size_t rs1, size_t vl);
vint64m8_t __riscv_vsll_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsll_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           size_t rs1, size_t vl);
vint8mf8_t __riscv_vsra_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsra_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           size_t rs1, size_t vl);
```

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vint8mf4_t __riscv_vsra_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsra_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           size_t rs1, size_t vl);
vint8mf2_t __riscv_vsra_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsra_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           size_t rs1, size_t vl);
vint8m1_t __riscv_vsra_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                          vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsra_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                          size_t vl);
vint8m2_t __riscv_vsra_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                          vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsra_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                          size_t vl);
vint8m4_t __riscv_vsra_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                          vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsra_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                          size_t vl);
vint8m8_t __riscv_vsra_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                          vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsra_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                          size_t vl);
vint16mf4_t __riscv_vsra_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsra_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            size_t rs1, size_t vl);
vint16mf2_t __riscv_vsra_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsra_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            size_t rs1, size_t vl);
vint16m1_t __riscv_vsra_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsra_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           size_t rs1, size_t vl);
vint16m2_t __riscv_vsra_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsra_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           size_t rs1, size_t vl);
vint16m4_t __riscv_vsra_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsra_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           size_t rs1, size_t vl);
vint16m8_t __riscv_vsra_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsra_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           size_t rs1, size_t vl);
vint32mf2_t __riscv_vsra_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsra_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            size_t rs1, size_t vl);
vint32m1_t __riscv_vsra_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsra_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           size_t rs1, size_t vl);
vint32m2_t __riscv_vsra_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsra_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           size_t rs1, size_t vl);
vint32m4_t __riscv_vsra_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsra_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           size_t rs1, size_t vl);
vint32m8_t __riscv_vsra_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsra_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
```

```
                          size_t rs1, size_t vl);
vint64m1_t __riscv_vsra_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                          vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsra_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                          size_t rs1, size_t vl);
vint64m2_t __riscv_vsra_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                          vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsra_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                          size_t rs1, size_t vl);
vint64m4_t __riscv_vsra_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                          vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsra_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                          size_t rs1, size_t vl);
vint64m8_t __riscv_vsra_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsra_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsll_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                           vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsll_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                           size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsll_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                           vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsll_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                           size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsll_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                           vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsll_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                           size_t rs1, size_t vl);
vuint8m1_t __riscv_vsll_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                          vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsll_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                          size_t rs1, size_t vl);
vuint8m2_t __riscv_vsll_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                          vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsll_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                          size_t rs1, size_t vl);
vuint8m4_t __riscv_vsll_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                          vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsll_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                          size_t rs1, size_t vl);
vuint8m8_t __riscv_vsll_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                          vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsll_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                          size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsll_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                            vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsll_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                            size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsll_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                            vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsll_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                            size_t rs1, size_t vl);
vuint16m1_t __riscv_vsll_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                           vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsll_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                           size_t rs1, size_t vl);
vuint16m2_t __riscv_vsll_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                           vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsll_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                           size_t rs1, size_t vl);
vuint16m4_t __riscv_vsll_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                           vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsll_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                           size_t rs1, size_t vl);
vuint16m8_t __riscv_vsll_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                           vuint16m8_t vs1, size_t vl);
```

```
vuint16m8_t __riscv_vsll_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsll_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsll_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             size_t rs1, size_t vl);
vuint32m1_t __riscv_vsll_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsll_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            size_t rs1, size_t vl);
vuint32m2_t __riscv_vsll_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsll_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            size_t rs1, size_t vl);
vuint32m4_t __riscv_vsll_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsll_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            size_t rs1, size_t vl);
vuint32m8_t __riscv_vsll_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsll_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            size_t rs1, size_t vl);
vuint64m1_t __riscv_vsll_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsll_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            size_t rs1, size_t vl);
vuint64m2_t __riscv_vsll_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsll_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            size_t rs1, size_t vl);
vuint64m4_t __riscv_vsll_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsll_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            size_t rs1, size_t vl);
vuint64m8_t __riscv_vsll_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsll_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            size_t rs1, size_t vl);
vuint8mf8_t __riscv_vsrl_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsrl_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            size_t rs1, size_t vl);
vuint8mf4_t __riscv_vsrl_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsrl_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            size_t rs1, size_t vl);
vuint8mf2_t __riscv_vsrl_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsrl_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            size_t rs1, size_t vl);
vuint8m1_t __riscv_vsrl_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsrl_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           size_t rs1, size_t vl);
vuint8m2_t __riscv_vsrl_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsrl_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           size_t rs1, size_t vl);
vuint8m4_t __riscv_vsrl_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsrl_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           size_t rs1, size_t vl);
vuint8m8_t __riscv_vsrl_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsrl_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           size_t rs1, size_t vl);
vuint16mf4_t __riscv_vsrl_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
```

```
                            vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsrl_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             size_t rs1, size_t vl);
vuint16mf2_t __riscv_vsrl_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsrl_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             size_t rs1, size_t vl);
vuint16m1_t __riscv_vsrl_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsrl_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            size_t rs1, size_t vl);
vuint16m2_t __riscv_vsrl_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsrl_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            size_t rs1, size_t vl);
vuint16m4_t __riscv_vsrl_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsrl_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            size_t rs1, size_t vl);
vuint16m8_t __riscv_vsrl_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsrl_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            size_t rs1, size_t vl);
vuint32mf2_t __riscv_vsrl_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsrl_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             size_t rs1, size_t vl);
vuint32m1_t __riscv_vsrl_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsrl_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            size_t rs1, size_t vl);
vuint32m2_t __riscv_vsrl_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsrl_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            size_t rs1, size_t vl);
vuint32m4_t __riscv_vsrl_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsrl_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            size_t rs1, size_t vl);
vuint32m8_t __riscv_vsrl_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsrl_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            size_t rs1, size_t vl);
vuint64m1_t __riscv_vsrl_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsrl_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            size_t rs1, size_t vl);
vuint64m2_t __riscv_vsrl_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsrl_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            size_t rs1, size_t vl);
vuint64m4_t __riscv_vsrl_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsrl_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            size_t rs1, size_t vl);
vuint64m8_t __riscv_vsrl_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsrl_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            size_t rs1, size_t vl);
```

D.3.10. Vector Narrowing Integer Right Shift Intrinsics

```
vint8mf8_t __riscv_vnsra_tu(vint8mf8_t vd, vint16mf4_t vs2, vuint8mf8_t vs1,
                            size_t vl);
vint8mf8_t __riscv_vnsra_tu(vint8mf8_t vd, vint16mf4_t vs2, size_t rs1,
```

```
                            size_t vl);
vint8mf4_t __riscv_vnsra_tu(vint8mf4_t vd, vint16mf2_t vs2, vuint8mf4_t vs1,
                            size_t vl);
vint8mf4_t __riscv_vnsra_tu(vint8mf4_t vd, vint16mf2_t vs2, size_t rs1,
                            size_t vl);
vint8mf2_t __riscv_vnsra_tu(vint8mf2_t vd, vint16m1_t vs2, vuint8mf2_t vs1,
                            size_t vl);
vint8mf2_t __riscv_vnsra_tu(vint8mf2_t vd, vint16m1_t vs2, size_t rs1,
                            size_t vl);
vint8m1_t __riscv_vnsra_tu(vint8m1_t vd, vint16m2_t vs2, vuint8m1_t vs1,
                           size_t vl);
vint8m1_t __riscv_vnsra_tu(vint8m1_t vd, vint16m2_t vs2, size_t rs1, size_t vl);
vint8m2_t __riscv_vnsra_tu(vint8m2_t vd, vint16m4_t vs2, vuint8m2_t vs1,
                           size_t vl);
vint8m2_t __riscv_vnsra_tu(vint8m2_t vd, vint16m4_t vs2, size_t rs1, size_t vl);
vint8m4_t __riscv_vnsra_tu(vint8m4_t vd, vint16m8_t vs2, vuint8m4_t vs1,
                           size_t vl);
vint8m4_t __riscv_vnsra_tu(vint8m4_t vd, vint16m8_t vs2, size_t rs1, size_t vl);
vint16mf4_t __riscv_vnsra_tu(vint16mf4_t vd, vint32mf2_t vs2, vuint16mf4_t vs1,
                             size_t vl);
vint16mf4_t __riscv_vnsra_tu(vint16mf4_t vd, vint32mf2_t vs2, size_t rs1,
                             size_t vl);
vint16mf2_t __riscv_vnsra_tu(vint16mf2_t vd, vint32m1_t vs2, vuint16mf2_t vs1,
                             size_t vl);
vint16mf2_t __riscv_vnsra_tu(vint16mf2_t vd, vint32m1_t vs2, size_t rs1,
                             size_t vl);
vint16m1_t __riscv_vnsra_tu(vint16m1_t vd, vint32m2_t vs2, vuint16m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vnsra_tu(vint16m1_t vd, vint32m2_t vs2, size_t rs1,
                            size_t vl);
vint16m2_t __riscv_vnsra_tu(vint16m2_t vd, vint32m4_t vs2, vuint16m2_t vs1,
                            size_t vl);
vint16m2_t __riscv_vnsra_tu(vint16m2_t vd, vint32m4_t vs2, size_t rs1,
                            size_t vl);
vint16m4_t __riscv_vnsra_tu(vint16m4_t vd, vint32m8_t vs2, vuint16m4_t vs1,
                            size_t vl);
vint16m4_t __riscv_vnsra_tu(vint16m4_t vd, vint32m8_t vs2, size_t rs1,
                            size_t vl);
vint32mf2_t __riscv_vnsra_tu(vint32mf2_t vd, vint64m1_t vs2, vuint32mf2_t vs1,
                             size_t vl);
vint32mf2_t __riscv_vnsra_tu(vint32mf2_t vd, vint64m1_t vs2, size_t rs1,
                             size_t vl);
vint32m1_t __riscv_vnsra_tu(vint32m1_t vd, vint64m2_t vs2, vuint32m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vnsra_tu(vint32m1_t vd, vint64m2_t vs2, size_t rs1,
                            size_t vl);
vint32m2_t __riscv_vnsra_tu(vint32m2_t vd, vint64m4_t vs2, vuint32m2_t vs1,
                            size_t vl);
vint32m2_t __riscv_vnsra_tu(vint32m2_t vd, vint64m4_t vs2, size_t rs1,
                            size_t vl);
vint32m4_t __riscv_vnsra_tu(vint32m4_t vd, vint64m8_t vs2, vuint32m4_t vs1,
                            size_t vl);
vint32m4_t __riscv_vnsra_tu(vint32m4_t vd, vint64m8_t vs2, size_t rs1,
                            size_t vl);
vuint8mf8_t __riscv_vnsrl_tu(vuint8mf8_t vd, vuint16mf4_t vs2, vuint8mf8_t vs1,
                             size_t vl);
vuint8mf8_t __riscv_vnsrl_tu(vuint8mf8_t vd, vuint16mf4_t vs2, size_t rs1,
                             size_t vl);
vuint8mf4_t __riscv_vnsrl_tu(vuint8mf4_t vd, vuint16mf2_t vs2, vuint8mf4_t vs1,
                             size_t vl);
vuint8mf4_t __riscv_vnsrl_tu(vuint8mf4_t vd, vuint16mf2_t vs2, size_t rs1,
                             size_t vl);
vuint8mf2_t __riscv_vnsrl_tu(vuint8mf2_t vd, vuint16m1_t vs2, vuint8mf2_t vs1,
                             size_t vl);
vuint8mf2_t __riscv_vnsrl_tu(vuint8mf2_t vd, vuint16m1_t vs2, size_t rs1,
                             size_t vl);
vuint8m1_t __riscv_vnsrl_tu(vuint8m1_t vd, vuint16m2_t vs2, vuint8m1_t vs1,
```

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                            size_t vl);
vuint8m1_t __riscv_vnsrl_tu(vuint8m1_t vd, vuint16m2_t vs2, size_t rs1,
                            size_t vl);
vuint8m2_t __riscv_vnsrl_tu(vuint8m2_t vd, vuint16m4_t vs2, vuint8m2_t vs1,
                            size_t vl);
vuint8m2_t __riscv_vnsrl_tu(vuint8m2_t vd, vuint16m4_t vs2, size_t rs1,
                            size_t vl);
vuint8m4_t __riscv_vnsrl_tu(vuint8m4_t vd, vuint16m8_t vs2, vuint8m4_t vs1,
                            size_t vl);
vuint8m4_t __riscv_vnsrl_tu(vuint8m4_t vd, vuint16m8_t vs2, size_t rs1,
                            size_t vl);
vuint16mf4_t __riscv_vnsrl_tu(vuint16mf4_t vd, vuint32mf2_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vnsrl_tu(vuint16mf4_t vd, vuint32mf2_t vs2, size_t rs1,
                              size_t vl);
vuint16mf2_t __riscv_vnsrl_tu(vuint16mf2_t vd, vuint32m1_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_tu(vuint16mf2_t vd, vuint32m1_t vs2, size_t rs1,
                              size_t vl);
vuint16m1_t __riscv_vnsrl_tu(vuint16m1_t vd, vuint32m2_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vnsrl_tu(vuint16m1_t vd, vuint32m2_t vs2, size_t rs1,
                             size_t vl);
vuint16m2_t __riscv_vnsrl_tu(vuint16m2_t vd, vuint32m4_t vs2, vuint16m2_t vs1,
                             size_t vl);
vuint16m2_t __riscv_vnsrl_tu(vuint16m2_t vd, vuint32m4_t vs2, size_t rs1,
                             size_t vl);
vuint16m4_t __riscv_vnsrl_tu(vuint16m4_t vd, vuint32m8_t vs2, vuint16m4_t vs1,
                             size_t vl);
vuint16m4_t __riscv_vnsrl_tu(vuint16m4_t vd, vuint32m8_t vs2, size_t rs1,
                             size_t vl);
vuint32mf2_t __riscv_vnsrl_tu(vuint32mf2_t vd, vuint64m1_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_tu(vuint32mf2_t vd, vuint64m1_t vs2, size_t rs1,
                              size_t vl);
vuint32m1_t __riscv_vnsrl_tu(vuint32m1_t vd, vuint64m2_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vnsrl_tu(vuint32m1_t vd, vuint64m2_t vs2, size_t rs1,
                             size_t vl);
vuint32m2_t __riscv_vnsrl_tu(vuint32m2_t vd, vuint64m4_t vs2, vuint32m2_t vs1,
                             size_t vl);
vuint32m2_t __riscv_vnsrl_tu(vuint32m2_t vd, vuint64m4_t vs2, size_t rs1,
                             size_t vl);
vuint32m4_t __riscv_vnsrl_tu(vuint32m4_t vd, vuint64m8_t vs2, vuint32m4_t vs1,
                             size_t vl);
vuint32m4_t __riscv_vnsrl_tu(vuint32m4_t vd, vuint64m8_t vs2, size_t rs1,
                             size_t vl);
// masked functions
vint8mf8_t __riscv_vnsra_tum(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vnsra_tum(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                             size_t rs1, size_t vl);
vint8mf4_t __riscv_vnsra_tum(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vnsra_tum(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                             size_t rs1, size_t vl);
vint8mf2_t __riscv_vnsra_tum(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vnsra_tum(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                             size_t rs1, size_t vl);
vint8m1_t __riscv_vnsra_tum(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                            vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vnsra_tum(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                            size_t rs1, size_t vl);
vint8m2_t __riscv_vnsra_tum(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                            vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vnsra_tum(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
```

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                            size_t rs1, size_t vl);
vint8m4_t __riscv_vnsra_tum(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                            vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vnsra_tum(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                            size_t rs1, size_t vl);
vint16mf4_t __riscv_vnsra_tum(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vnsra_tum(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                              size_t rs1, size_t vl);
vint16mf2_t __riscv_vnsra_tum(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vnsra_tum(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                              size_t rs1, size_t vl);
vint16m1_t __riscv_vnsra_tum(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                             vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vnsra_tum(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                             size_t rs1, size_t vl);
vint16m2_t __riscv_vnsra_tum(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                             vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vnsra_tum(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                             size_t rs1, size_t vl);
vint16m4_t __riscv_vnsra_tum(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                             vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vnsra_tum(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                             size_t rs1, size_t vl);
vint32mf2_t __riscv_vnsra_tum(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vnsra_tum(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                              size_t rs1, size_t vl);
vint32m1_t __riscv_vnsra_tum(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                             vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vnsra_tum(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                             size_t rs1, size_t vl);
vint32m2_t __riscv_vnsra_tum(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                             vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vnsra_tum(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                             size_t rs1, size_t vl);
vint32m4_t __riscv_vnsra_tum(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                             vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vnsra_tum(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                             size_t rs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_tum(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_tum(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                              size_t rs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_tum(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_tum(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                              size_t rs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_tum(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_tum(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                              size_t rs1, size_t vl);
vuint8m1_t __riscv_vnsrl_tum(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vnsrl_tum(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                             size_t rs1, size_t vl);
vuint8m2_t __riscv_vnsrl_tum(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vnsrl_tum(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                             size_t rs1, size_t vl);
vuint8m4_t __riscv_vnsrl_tum(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vnsrl_tum(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                             size_t rs1, size_t vl);
vuint16mf4_t __riscv_vnsrl_tum(vbool64_t vm, vuint16mf4_t vd, vuint32mf2_t vs2,
                               vuint16mf4_t vs1, size_t vl);
```

```
vuint16mf4_t __riscv_vnsrl_tum(vbool64_t vm, vuint16mf4_t vd, vuint32mf2_t vs2,
                               size_t rs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_tum(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_tum(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                               size_t rs1, size_t vl);
vuint16m1_t __riscv_vnsrl_tum(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vnsrl_tum(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                              size_t rs1, size_t vl);
vuint16m2_t __riscv_vnsrl_tum(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vnsrl_tum(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                              size_t rs1, size_t vl);
vuint16m4_t __riscv_vnsrl_tum(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vnsrl_tum(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                              size_t rs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_tum(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_tum(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                               size_t rs1, size_t vl);
vuint32m1_t __riscv_vnsrl_tum(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vnsrl_tum(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                              size_t rs1, size_t vl);
vuint32m2_t __riscv_vnsrl_tum(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vnsrl_tum(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                              size_t rs1, size_t vl);
vuint32m4_t __riscv_vnsrl_tum(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vnsrl_tum(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                              size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vnsra_tumu(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vnsra_tumu(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                              size_t rs1, size_t vl);
vint8mf4_t __riscv_vnsra_tumu(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vnsra_tumu(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                              size_t rs1, size_t vl);
vint8mf2_t __riscv_vnsra_tumu(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vnsra_tumu(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                              size_t rs1, size_t vl);
vint8m1_t __riscv_vnsra_tumu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                             vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vnsra_tumu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                             size_t rs1, size_t vl);
vint8m2_t __riscv_vnsra_tumu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                             vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vnsra_tumu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                             size_t rs1, size_t vl);
vint8m4_t __riscv_vnsra_tumu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                             vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vnsra_tumu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                             size_t rs1, size_t vl);
vint16mf4_t __riscv_vnsra_tumu(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vnsra_tumu(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                               size_t rs1, size_t vl);
vint16mf2_t __riscv_vnsra_tumu(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vnsra_tumu(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                               size_t rs1, size_t vl);
```

```
vint16m1_t __riscv_vnsra_tumu(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                              vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vnsra_tumu(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                              size_t rs1, size_t vl);
vint16m2_t __riscv_vnsra_tumu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                              vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vnsra_tumu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                              size_t rs1, size_t vl);
vint16m4_t __riscv_vnsra_tumu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                              vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vnsra_tumu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                              size_t rs1, size_t vl);
vint32mf2_t __riscv_vnsra_tumu(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vnsra_tumu(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                               size_t rs1, size_t vl);
vint32m1_t __riscv_vnsra_tumu(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                              vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vnsra_tumu(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                              size_t rs1, size_t vl);
vint32m2_t __riscv_vnsra_tumu(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                              vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vnsra_tumu(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                              size_t rs1, size_t vl);
vint32m4_t __riscv_vnsra_tumu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                              vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vnsra_tumu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                              size_t rs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_tumu(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_tumu(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                               size_t rs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_tumu(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_tumu(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                               size_t rs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_tumu(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_tumu(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                               size_t rs1, size_t vl);
vuint8m1_t __riscv_vnsrl_tumu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vnsrl_tumu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                              size_t rs1, size_t vl);
vuint8m2_t __riscv_vnsrl_tumu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                              vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vnsrl_tumu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                              size_t rs1, size_t vl);
vuint8m4_t __riscv_vnsrl_tumu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                              vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vnsrl_tumu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                              size_t rs1, size_t vl);
vuint16mf4_t __riscv_vnsrl_tumu(vbool64_t vm, vuint16mf4_t vd, vuint32mf2_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vnsrl_tumu(vbool64_t vm, vuint16mf4_t vd, vuint32mf2_t vs2,
                                size_t rs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_tumu(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_tumu(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                                size_t rs1, size_t vl);
vuint16m1_t __riscv_vnsrl_tumu(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vnsrl_tumu(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                               size_t rs1, size_t vl);
vuint16m2_t __riscv_vnsrl_tumu(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                               vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vnsrl_tumu(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
```

```
                                size_t rs1, size_t vl);
vuint16m4_t __riscv_vnsrl_tumu(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                               vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vnsrl_tumu(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                               size_t rs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_tumu(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_tumu(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                                size_t rs1, size_t vl);
vuint32m1_t __riscv_vnsrl_tumu(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vnsrl_tumu(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                               size_t rs1, size_t vl);
vuint32m2_t __riscv_vnsrl_tumu(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                               vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vnsrl_tumu(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                               size_t rs1, size_t vl);
vuint32m4_t __riscv_vnsrl_tumu(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                               vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vnsrl_tumu(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                               size_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vnsra_mu(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vnsra_mu(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                            size_t rs1, size_t vl);
vint8mf4_t __riscv_vnsra_mu(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vnsra_mu(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                            size_t rs1, size_t vl);
vint8mf2_t __riscv_vnsra_mu(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vnsra_mu(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                            size_t rs1, size_t vl);
vint8m1_t __riscv_vnsra_mu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                           vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vnsra_mu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                           size_t rs1, size_t vl);
vint8m2_t __riscv_vnsra_mu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                           vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vnsra_mu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                           size_t rs1, size_t vl);
vint8m4_t __riscv_vnsra_mu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                           vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vnsra_mu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                           size_t rs1, size_t vl);
vint16mf4_t __riscv_vnsra_mu(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vnsra_mu(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                             size_t rs1, size_t vl);
vint16mf2_t __riscv_vnsra_mu(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vnsra_mu(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                             size_t rs1, size_t vl);
vint16m1_t __riscv_vnsra_mu(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                            vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vnsra_mu(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                            size_t rs1, size_t vl);
vint16m2_t __riscv_vnsra_mu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                            vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vnsra_mu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                            size_t rs1, size_t vl);
vint16m4_t __riscv_vnsra_mu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                            vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vnsra_mu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                            size_t rs1, size_t vl);
vint32mf2_t __riscv_vnsra_mu(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
```

```
                              vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vnsra_mu(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                             size_t rs1, size_t vl);
vint32m1_t __riscv_vnsra_mu(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                            vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vnsra_mu(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                            size_t rs1, size_t vl);
vint32m2_t __riscv_vnsra_mu(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                            vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vnsra_mu(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                            size_t rs1, size_t vl);
vint32m4_t __riscv_vnsra_mu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                            vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vnsra_mu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                            size_t rs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_mu(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vnsrl_mu(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                             size_t rs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_mu(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vnsrl_mu(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                             size_t rs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_mu(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vnsrl_mu(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                             size_t rs1, size_t vl);
vuint8m1_t __riscv_vnsrl_mu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vnsrl_mu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                            size_t rs1, size_t vl);
vuint8m2_t __riscv_vnsrl_mu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vnsrl_mu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                            size_t rs1, size_t vl);
vuint8m4_t __riscv_vnsrl_mu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vnsrl_mu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                            size_t rs1, size_t vl);
vuint16mf4_t __riscv_vnsrl_mu(vbool64_t vm, vuint16mf4_t vd, vuint32mf2_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vnsrl_mu(vbool64_t vm, vuint16mf4_t vd, vuint32mf2_t vs2,
                              size_t rs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_mu(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vnsrl_mu(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                              size_t rs1, size_t vl);
vuint16m1_t __riscv_vnsrl_mu(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vnsrl_mu(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                             size_t rs1, size_t vl);
vuint16m2_t __riscv_vnsrl_mu(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                             vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vnsrl_mu(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                             size_t rs1, size_t vl);
vuint16m4_t __riscv_vnsrl_mu(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vnsrl_mu(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                             size_t rs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_mu(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vnsrl_mu(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                              size_t rs1, size_t vl);
vuint32m1_t __riscv_vnsrl_mu(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vnsrl_mu(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                             size_t rs1, size_t vl);
```

```
vuint32m2_t __riscv_vnsrl_mu(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vnsrl_mu(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                             size_t rs1, size_t vl);
vuint32m4_t __riscv_vnsrl_mu(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                             vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vnsrl_mu(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                             size_t rs1, size_t vl);
```

D.3.11. Vector Integer Narrowing Intrinsics

```
vint8mf8_t __riscv_vncvt_x_tu(vint8mf8_t vd, vint16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vncvt_x_tu(vint8mf4_t vd, vint16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vncvt_x_tu(vint8mf2_t vd, vint16m1_t vs2, size_t vl);
vint8m1_t __riscv_vncvt_x_tu(vint8m1_t vd, vint16m2_t vs2, size_t vl);
vint8m2_t __riscv_vncvt_x_tu(vint8m2_t vd, vint16m4_t vs2, size_t vl);
vint8m4_t __riscv_vncvt_x_tu(vint8m4_t vd, vint16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vncvt_x_tu(vuint8mf8_t vd, vuint16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vncvt_x_tu(vuint8mf4_t vd, vuint16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vncvt_x_tu(vuint8mf2_t vd, vuint16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vncvt_x_tu(vuint8m1_t vd, vuint16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vncvt_x_tu(vuint8m2_t vd, vuint16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vncvt_x_tu(vuint8m4_t vd, vuint16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vncvt_x_tu(vint16mf4_t vd, vint32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vncvt_x_tu(vint16mf2_t vd, vint32m1_t vs2, size_t vl);
vint16m1_t __riscv_vncvt_x_tu(vint16m1_t vd, vint32m2_t vs2, size_t vl);
vint16m2_t __riscv_vncvt_x_tu(vint16m2_t vd, vint32m4_t vs2, size_t vl);
vint16m4_t __riscv_vncvt_x_tu(vint16m4_t vd, vint32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vncvt_x_tu(vuint16mf4_t vd, vuint32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vncvt_x_tu(vuint16mf2_t vd, vuint32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vncvt_x_tu(vuint16m1_t vd, vuint32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vncvt_x_tu(vuint16m2_t vd, vuint32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vncvt_x_tu(vuint16m4_t vd, vuint32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vncvt_x_tu(vint32mf2_t vd, vint64m1_t vs2, size_t vl);
vint32m1_t __riscv_vncvt_x_tu(vint32m1_t vd, vint64m2_t vs2, size_t vl);
vint32m2_t __riscv_vncvt_x_tu(vint32m2_t vd, vint64m4_t vs2, size_t vl);
vint32m4_t __riscv_vncvt_x_tu(vint32m4_t vd, vint64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vncvt_x_tu(vuint32mf2_t vd, vuint64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vncvt_x_tu(vuint32m1_t vd, vuint64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vncvt_x_tu(vuint32m2_t vd, vuint64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vncvt_x_tu(vuint32m4_t vd, vuint64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vncvt_x_tum(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                               size_t vl);
vint8mf4_t __riscv_vncvt_x_tum(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                               size_t vl);
vint8mf2_t __riscv_vncvt_x_tum(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                               size_t vl);
vint8m1_t __riscv_vncvt_x_tum(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                              size_t vl);
vint8m2_t __riscv_vncvt_x_tum(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                              size_t vl);
vint8m4_t __riscv_vncvt_x_tum(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                              size_t vl);
vuint8mf8_t __riscv_vncvt_x_tum(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                                size_t vl);
vuint8mf4_t __riscv_vncvt_x_tum(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                                size_t vl);
vuint8mf2_t __riscv_vncvt_x_tum(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                                size_t vl);
vuint8m1_t __riscv_vncvt_x_tum(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                               size_t vl);
vuint8m2_t __riscv_vncvt_x_tum(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                               size_t vl);
vuint8m4_t __riscv_vncvt_x_tum(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
```

```
                                size_t vl);
vint16mf4_t __riscv_vncvt_x_tum(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                                size_t vl);
vint16mf2_t __riscv_vncvt_x_tum(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                                size_t vl);
vint16m1_t __riscv_vncvt_x_tum(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                               size_t vl);
vint16m2_t __riscv_vncvt_x_tum(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                               size_t vl);
vint16m4_t __riscv_vncvt_x_tum(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                               size_t vl);
vuint16mf4_t __riscv_vncvt_x_tum(vbool64_t vm, vuint16mf4_t vd,
                                 vuint32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vncvt_x_tum(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                                 size_t vl);
vuint16m1_t __riscv_vncvt_x_tum(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                                size_t vl);
vuint16m2_t __riscv_vncvt_x_tum(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                                size_t vl);
vuint16m4_t __riscv_vncvt_x_tum(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                                size_t vl);
vint32mf2_t __riscv_vncvt_x_tum(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                                size_t vl);
vint32m1_t __riscv_vncvt_x_tum(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                               size_t vl);
vint32m2_t __riscv_vncvt_x_tum(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                               size_t vl);
vint32m4_t __riscv_vncvt_x_tum(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                               size_t vl);
vuint32mf2_t __riscv_vncvt_x_tum(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                                 size_t vl);
vuint32m1_t __riscv_vncvt_x_tum(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                                size_t vl);
vuint32m2_t __riscv_vncvt_x_tum(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                                size_t vl);
vuint32m4_t __riscv_vncvt_x_tum(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                                size_t vl);
// masked functions
vint8mf8_t __riscv_vncvt_x_tumu(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                                size_t vl);
vint8mf4_t __riscv_vncvt_x_tumu(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                                size_t vl);
vint8mf2_t __riscv_vncvt_x_tumu(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                                size_t vl);
vint8m1_t __riscv_vncvt_x_tumu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                               size_t vl);
vint8m2_t __riscv_vncvt_x_tumu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                               size_t vl);
vint8m4_t __riscv_vncvt_x_tumu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                               size_t vl);
vuint8mf8_t __riscv_vncvt_x_tumu(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                                 size_t vl);
vuint8mf4_t __riscv_vncvt_x_tumu(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                                 size_t vl);
vuint8mf2_t __riscv_vncvt_x_tumu(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                                 size_t vl);
vuint8m1_t __riscv_vncvt_x_tumu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                                size_t vl);
vuint8m2_t __riscv_vncvt_x_tumu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                                size_t vl);
vuint8m4_t __riscv_vncvt_x_tumu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                                size_t vl);
vint16mf4_t __riscv_vncvt_x_tumu(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                                 size_t vl);
vint16mf2_t __riscv_vncvt_x_tumu(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                                 size_t vl);
vint16m1_t __riscv_vncvt_x_tumu(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
```

```
                                size_t vl);
vint16m2_t __riscv_vncvt_x_tumu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                                size_t vl);
vint16m4_t __riscv_vncvt_x_tumu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                                size_t vl);
vuint16mf4_t __riscv_vncvt_x_tumu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vncvt_x_tumu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vncvt_x_tumu(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                                 size_t vl);
vuint16m2_t __riscv_vncvt_x_tumu(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                                 size_t vl);
vuint16m4_t __riscv_vncvt_x_tumu(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                                 size_t vl);
vint32mf2_t __riscv_vncvt_x_tumu(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                                 size_t vl);
vint32m1_t __riscv_vncvt_x_tumu(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                                size_t vl);
vint32m2_t __riscv_vncvt_x_tumu(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                                size_t vl);
vint32m4_t __riscv_vncvt_x_tumu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                                size_t vl);
vuint32mf2_t __riscv_vncvt_x_tumu(vbool64_t vm, vuint32mf2_t vd,
                                  vuint64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vncvt_x_tumu(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                                 size_t vl);
vuint32m2_t __riscv_vncvt_x_tumu(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                                 size_t vl);
vuint32m4_t __riscv_vncvt_x_tumu(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                                 size_t vl);
// masked functions
vint8mf8_t __riscv_vncvt_x_mu(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                              size_t vl);
vint8mf4_t __riscv_vncvt_x_mu(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                              size_t vl);
vint8mf2_t __riscv_vncvt_x_mu(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                              size_t vl);
vint8m1_t __riscv_vncvt_x_mu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                             size_t vl);
vint8m2_t __riscv_vncvt_x_mu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                             size_t vl);
vint8m4_t __riscv_vncvt_x_mu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                             size_t vl);
vuint8mf8_t __riscv_vncvt_x_mu(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                               size_t vl);
vuint8mf4_t __riscv_vncvt_x_mu(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                               size_t vl);
vuint8mf2_t __riscv_vncvt_x_mu(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                               size_t vl);
vuint8m1_t __riscv_vncvt_x_mu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                              size_t vl);
vuint8m2_t __riscv_vncvt_x_mu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                              size_t vl);
vuint8m4_t __riscv_vncvt_x_mu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                              size_t vl);
vint16mf4_t __riscv_vncvt_x_mu(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                               size_t vl);
vint16mf2_t __riscv_vncvt_x_mu(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                               size_t vl);
vint16m1_t __riscv_vncvt_x_mu(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                              size_t vl);
vint16m2_t __riscv_vncvt_x_mu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                              size_t vl);
vint16m4_t __riscv_vncvt_x_mu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                              size_t vl);
vuint16mf4_t __riscv_vncvt_x_mu(vbool64_t vm, vuint16mf4_t vd, vuint32mf2_t vs2,
```

```
                                size_t vl);
vuint16mf2_t __riscv_vncvt_x_mu(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                                size_t vl);
vuint16m1_t __riscv_vncvt_x_mu(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                               size_t vl);
vuint16m2_t __riscv_vncvt_x_mu(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                               size_t vl);
vuint16m4_t __riscv_vncvt_x_mu(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                               size_t vl);
vint32mf2_t __riscv_vncvt_x_mu(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                               size_t vl);
vint32m1_t __riscv_vncvt_x_mu(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                              size_t vl);
vint32m2_t __riscv_vncvt_x_mu(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                              size_t vl);
vint32m4_t __riscv_vncvt_x_mu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                              size_t vl);
vuint32mf2_t __riscv_vncvt_x_mu(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                                size_t vl);
vuint32m1_t __riscv_vncvt_x_mu(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                               size_t vl);
vuint32m2_t __riscv_vncvt_x_mu(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                               size_t vl);
vuint32m4_t __riscv_vncvt_x_mu(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                               size_t vl);
```

D.3.12. Vector Integer Compare Intrinsics

```
// masked functions
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vbool2_t __riscv_vmseq_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmseq_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vbool1_t __riscv_vmseq_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmseq_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                           vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                           int16_t rs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                           vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                           int16_t rs1, size_t vl);
```

```
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                          vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2, int16_t rs1,
                          size_t vl);
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                          vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2, int16_t rs1,
                          size_t vl);
vbool2_t __riscv_vmseq_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                          vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmseq_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2, int16_t rs1,
                          size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           int32_t rs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                          vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2, int32_t rs1,
                          size_t vl);
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                          vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2, int32_t rs1,
                          size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                           vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                           int64_t rs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                           vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                           int64_t rs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                          vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2, int64_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2, int8_t rs1,
```

```
                          size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vbool2_t __riscv_vmsne_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsne_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vbool1_t __riscv_vmsne_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsne_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                           vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                           int16_t rs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                           vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                           int16_t rs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                          vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2, int16_t rs1,
                          size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                          vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2, int16_t rs1,
                          size_t vl);
vbool2_t __riscv_vmsne_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                          vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsne_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2, int16_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           int32_t rs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                          vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2, int32_t rs1,
                          size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                          vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2, int32_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                           vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                           int64_t rs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                           vint64m4_t vs1, size_t vl);
```

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vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                           int64_t rs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                          vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2, int64_t rs1,
                          size_t vl);
vbool64_t __riscv_vmslt_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmslt_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vbool32_t __riscv_vmslt_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmslt_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vbool16_t __riscv_vmslt_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmslt_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vbool8_t __riscv_vmslt_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmslt_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vbool4_t __riscv_vmslt_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmslt_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vbool2_t __riscv_vmslt_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmslt_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vbool1_t __riscv_vmslt_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmslt_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vbool64_t __riscv_vmslt_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                           vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmslt_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                           int16_t rs1, size_t vl);
vbool32_t __riscv_vmslt_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                           vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmslt_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                           int16_t rs1, size_t vl);
vbool16_t __riscv_vmslt_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmslt_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vbool8_t __riscv_vmslt_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                          vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmslt_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2, int16_t rs1,
                          size_t vl);
vbool4_t __riscv_vmslt_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                          vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmslt_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2, int16_t rs1,
                          size_t vl);
vbool2_t __riscv_vmslt_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                          vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmslt_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2, int16_t rs1,
                          size_t vl);
vbool64_t __riscv_vmslt_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmslt_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           int32_t rs1, size_t vl);
vbool32_t __riscv_vmslt_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmslt_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vbool16_t __riscv_vmslt_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
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                          vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmslt_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
                          int32_t rs1, size_t vl);
vbool8_t __riscv_vmslt_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                         vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmslt_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2, int32_t rs1,
                         size_t vl);
vbool4_t __riscv_vmslt_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                         vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmslt_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2, int32_t rs1,
                         size_t vl);
vbool64_t __riscv_vmslt_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                          vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmslt_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                          int64_t rs1, size_t vl);
vbool32_t __riscv_vmslt_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                          vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmslt_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                          int64_t rs1, size_t vl);
vbool16_t __riscv_vmslt_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                          vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmslt_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                          int64_t rs1, size_t vl);
vbool8_t __riscv_vmslt_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                         vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmslt_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2, int64_t rs1,
                         size_t vl);
vbool64_t __riscv_vmsle_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                          vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsle_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                          int8_t rs1, size_t vl);
vbool32_t __riscv_vmsle_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                          vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsle_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                          int8_t rs1, size_t vl);
vbool16_t __riscv_vmsle_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                          vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsle_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                          int8_t rs1, size_t vl);
vbool8_t __riscv_vmsle_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                         vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsle_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2, int8_t rs1,
                         size_t vl);
vbool4_t __riscv_vmsle_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                         vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsle_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2, int8_t rs1,
                         size_t vl);
vbool2_t __riscv_vmsle_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                         vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsle_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2, int8_t rs1,
                         size_t vl);
vbool1_t __riscv_vmsle_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                         vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsle_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2, int8_t rs1,
                         size_t vl);
vbool64_t __riscv_vmsle_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                          vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsle_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                          int16_t rs1, size_t vl);
vbool32_t __riscv_vmsle_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                          vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsle_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                          int16_t rs1, size_t vl);
vbool16_t __riscv_vmsle_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                          vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsle_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                          int16_t rs1, size_t vl);
```

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vbool8_t __riscv_vmsle_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                          vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsle_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2, int16_t rs1,
                          size_t vl);
vbool4_t __riscv_vmsle_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                          vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsle_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2, int16_t rs1,
                          size_t vl);
vbool2_t __riscv_vmsle_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                          vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsle_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2, int16_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsle_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsle_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           int32_t rs1, size_t vl);
vbool32_t __riscv_vmsle_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsle_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vbool16_t __riscv_vmsle_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsle_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vbool8_t __riscv_vmsle_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                          vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsle_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2, int32_t rs1,
                          size_t vl);
vbool4_t __riscv_vmsle_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                          vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsle_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2, int32_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsle_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsle_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vbool32_t __riscv_vmsle_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                           vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsle_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                           int64_t rs1, size_t vl);
vbool16_t __riscv_vmsle_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                           vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsle_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                           int64_t rs1, size_t vl);
vbool8_t __riscv_vmsle_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                          vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsle_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2, int64_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsgt_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsgt_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsgt_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vbool4_t __riscv_vmsgt_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgt_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2, int8_t rs1,
```

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                          size_t vl);
vbool2_t __riscv_vmsgt_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgt_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vbool1_t __riscv_vmsgt_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgt_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsgt_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                           vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsgt_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                           int16_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                           vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsgt_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                           int16_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                          vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2, int16_t rs1,
                          size_t vl);
vbool4_t __riscv_vmsgt_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                          vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgt_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2, int16_t rs1,
                          size_t vl);
vbool2_t __riscv_vmsgt_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                          vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgt_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2, int16_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsgt_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsgt_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           int32_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsgt_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
                          vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgt_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2, int32_t rs1,
                          size_t vl);
vbool4_t __riscv_vmsgt_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                          vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgt_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2, int32_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsgt_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsgt_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vbool32_t __riscv_vmsgt_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                           vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsgt_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                           int64_t rs1, size_t vl);
vbool16_t __riscv_vmsgt_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                           vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsgt_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                           int64_t rs1, size_t vl);
vbool8_t __riscv_vmsgt_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                          vint64m8_t vs1, size_t vl);
```

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vbool8_t __riscv_vmsgt_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2, int64_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsge_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsge_mu(vbool64_t vm, vbool64_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vbool32_t __riscv_vmsge_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsge_mu(vbool32_t vm, vbool32_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vbool16_t __riscv_vmsge_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsge_mu(vbool16_t vm, vbool16_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vbool8_t __riscv_vmsge_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsge_mu(vbool8_t vm, vbool8_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vbool4_t __riscv_vmsge_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsge_mu(vbool4_t vm, vbool4_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vbool2_t __riscv_vmsge_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsge_mu(vbool2_t vm, vbool2_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vbool1_t __riscv_vmsge_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsge_mu(vbool1_t vm, vbool1_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsge_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                           vint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsge_mu(vbool64_t vm, vbool64_t vd, vint16mf4_t vs2,
                           int16_t rs1, size_t vl);
vbool32_t __riscv_vmsge_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                           vint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsge_mu(vbool32_t vm, vbool32_t vd, vint16mf2_t vs2,
                           int16_t rs1, size_t vl);
vbool16_t __riscv_vmsge_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsge_mu(vbool16_t vm, vbool16_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vbool8_t __riscv_vmsge_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2,
                          vint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsge_mu(vbool8_t vm, vbool8_t vd, vint16m2_t vs2, int16_t rs1,
                          size_t vl);
vbool4_t __riscv_vmsge_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2,
                          vint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsge_mu(vbool4_t vm, vbool4_t vd, vint16m4_t vs2, int16_t rs1,
                          size_t vl);
vbool2_t __riscv_vmsge_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2,
                          vint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsge_mu(vbool2_t vm, vbool2_t vd, vint16m8_t vs2, int16_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsge_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           vint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsge_mu(vbool64_t vm, vbool64_t vd, vint32mf2_t vs2,
                           int32_t rs1, size_t vl);
vbool32_t __riscv_vmsge_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsge_mu(vbool32_t vm, vbool32_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vbool16_t __riscv_vmsge_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsge_mu(vbool16_t vm, vbool16_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vbool8_t __riscv_vmsge_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2,
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                          vint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsge_mu(vbool8_t vm, vbool8_t vd, vint32m4_t vs2, int32_t rs1,
                          size_t vl);
vbool4_t __riscv_vmsge_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2,
                          vint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsge_mu(vbool4_t vm, vbool4_t vd, vint32m8_t vs2, int32_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsge_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsge_mu(vbool64_t vm, vbool64_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vbool32_t __riscv_vmsge_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                           vint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsge_mu(vbool32_t vm, vbool32_t vd, vint64m2_t vs2,
                           int64_t rs1, size_t vl);
vbool16_t __riscv_vmsge_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                           vint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsge_mu(vbool16_t vm, vbool16_t vd, vint64m4_t vs2,
                           int64_t rs1, size_t vl);
vbool8_t __riscv_vmsge_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2,
                          vint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsge_mu(vbool8_t vm, vbool8_t vd, vint64m8_t vs2, int64_t rs1,
                          size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                           vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                           uint8_t rs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                           vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                           uint8_t rs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                           vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                           uint8_t rs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                          vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2, uint8_t rs1,
                          size_t vl);
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                          vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2, uint8_t rs1,
                          size_t vl);
vbool2_t __riscv_vmseq_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                          vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmseq_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2, uint8_t rs1,
                          size_t vl);
vbool1_t __riscv_vmseq_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                          vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmseq_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2, uint8_t rs1,
                          size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                           vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                           uint16_t rs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                           vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                           uint16_t rs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                           vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                           uint16_t rs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                          vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                          uint16_t rs1, size_t vl);
```

```
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                          vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                          uint16_t rs1, size_t vl);
vbool2_t __riscv_vmseq_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                          vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmseq_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                          uint16_t rs1, size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                           vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                           uint32_t rs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                           vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                           uint32_t rs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                           vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                           uint32_t rs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                          vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                          uint32_t rs1, size_t vl);
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                          vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmseq_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                          uint32_t rs1, size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
                           vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmseq_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
                           uint64_t rs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                           vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmseq_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                           uint64_t rs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                           vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmseq_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                           uint64_t rs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                          vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmseq_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                          uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                           vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                           uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                           vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                           uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                           vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                           uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                          vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2, uint8_t rs1,
                          size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                          vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2, uint8_t rs1,
                          size_t vl);
vbool2_t __riscv_vmsne_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                          vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsne_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2, uint8_t rs1,
```

```
                          size_t vl);
vbool1_t __riscv_vmsne_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                          vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsne_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2, uint8_t rs1,
                          size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                           vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                           uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                           vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                           uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                           vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                           uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                          vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                          uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                          vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                          uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsne_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                          vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsne_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                          uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                           vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                           uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                           vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                           uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                           vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                           uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                          vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                          uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                          vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsne_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                          uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
                           vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsne_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
                           uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                           vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsne_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                           uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                           vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsne_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                           uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                          vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsne_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                          uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsltu_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
```

```
vbool64_t __riscv_vmsltu_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                            uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsltu_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsltu_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                            uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsltu_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsltu_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                            uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsltu_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsltu_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                           uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsltu_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsltu_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                           uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsltu_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsltu_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                           uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsltu_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsltu_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                           uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsltu_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                            vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsltu_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                            uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsltu_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                            vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsltu_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                            uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsltu_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsltu_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                            uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsltu_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                           vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsltu_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                           uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsltu_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                           vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsltu_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                           uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsltu_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                           vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsltu_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                           uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsltu_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                            vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsltu_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                            uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsltu_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsltu_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                            uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsltu_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsltu_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                            uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsltu_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                           vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsltu_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                           uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsltu_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
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                          vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsltu_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                          uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsltu_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
                           vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsltu_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
                           uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsltu_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                           vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsltu_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                           uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsltu_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                           vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsltu_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                           uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsltu_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                          vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsltu_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                          uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                           vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsleu_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                           uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsleu_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                           vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsleu_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                           uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsleu_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                           vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsleu_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                           uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                          vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsleu_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                          uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsleu_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                          vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsleu_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                          uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsleu_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                          vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsleu_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                          uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsleu_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                          vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsleu_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                          uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                           vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsleu_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                           uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsleu_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                           vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsleu_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                           uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsleu_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                           vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsleu_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                           uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                          vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsleu_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                          uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsleu_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                          vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsleu_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                          uint16_t rs1, size_t vl);
```

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vbool2_t __riscv_vmsleu_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                           vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsleu_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                           uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                            vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsleu_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                            uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsleu_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsleu_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                            uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsleu_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsleu_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                            uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                           vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsleu_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                           uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsleu_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                           vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsleu_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                           uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsleu_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsleu_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
                            uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsleu_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsleu_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                            uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsleu_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsleu_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                            uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsleu_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                           vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsleu_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                           uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                            uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                            uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsgtu_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                            uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                           uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                           uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsgtu_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgtu_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                           uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsgtu_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgtu_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
```

```
                           uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                            vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                            uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                            vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                            uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsgtu_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                            uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                           vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                           uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                           vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                           uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsgtu_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                           vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgtu_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                           uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                            vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                            uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                            uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsgtu_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                            uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                           vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                           uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsgtu_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                           vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgtu_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                           uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsgtu_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsgtu_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
                            uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsgtu_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsgtu_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                            uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsgtu_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsgtu_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                            uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsgtu_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                           vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsgtu_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                           uint64_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu_mu(vbool64_t vm, vbool64_t vd, vuint8mf8_t vs2,
                            uint8_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
```

```
vbool32_t __riscv_vmsgeu_mu(vbool32_t vm, vbool32_t vd, vuint8mf4_t vs2,
                            uint8_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vbool16_t __riscv_vmsgeu_mu(vbool16_t vm, vbool16_t vd, vuint8mf2_t vs2,
                            uint8_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu_mu(vbool8_t vm, vbool8_t vd, vuint8m1_t vs2,
                           uint8_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu_mu(vbool4_t vm, vbool4_t vd, vuint8m2_t vs2,
                           uint8_t rs1, size_t vl);
vbool2_t __riscv_vmsgeu_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vbool2_t __riscv_vmsgeu_mu(vbool2_t vm, vbool2_t vd, vuint8m4_t vs2,
                           uint8_t rs1, size_t vl);
vbool1_t __riscv_vmsgeu_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vbool1_t __riscv_vmsgeu_mu(vbool1_t vm, vbool1_t vd, vuint8m8_t vs2,
                           uint8_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                            vuint16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu_mu(vbool64_t vm, vbool64_t vd, vuint16mf4_t vs2,
                            uint16_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                            vuint16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmsgeu_mu(vbool32_t vm, vbool32_t vd, vuint16mf2_t vs2,
                            uint16_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vbool16_t __riscv_vmsgeu_mu(vbool16_t vm, vbool16_t vd, vuint16m1_t vs2,
                            uint16_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                           vuint16m2_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu_mu(vbool8_t vm, vbool8_t vd, vuint16m2_t vs2,
                           uint16_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                           vuint16m4_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu_mu(vbool4_t vm, vbool4_t vd, vuint16m4_t vs2,
                           uint16_t rs1, size_t vl);
vbool2_t __riscv_vmsgeu_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                           vuint16m8_t vs1, size_t vl);
vbool2_t __riscv_vmsgeu_mu(vbool2_t vm, vbool2_t vd, vuint16m8_t vs2,
                           uint16_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                            vuint32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu_mu(vbool64_t vm, vbool64_t vd, vuint32mf2_t vs2,
                            uint32_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vbool32_t __riscv_vmsgeu_mu(vbool32_t vm, vbool32_t vd, vuint32m1_t vs2,
                            uint32_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vbool16_t __riscv_vmsgeu_mu(vbool16_t vm, vbool16_t vd, vuint32m2_t vs2,
                            uint32_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                           vuint32m4_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu_mu(vbool8_t vm, vbool8_t vd, vuint32m4_t vs2,
                           uint32_t rs1, size_t vl);
vbool4_t __riscv_vmsgeu_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                           vuint32m8_t vs1, size_t vl);
vbool4_t __riscv_vmsgeu_mu(vbool4_t vm, vbool4_t vd, vuint32m8_t vs2,
                           uint32_t rs1, size_t vl);
vbool64_t __riscv_vmsgeu_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
```

```
                            vuint64m1_t vs1, size_t vl);
vbool64_t __riscv_vmsgeu_mu(vbool64_t vm, vbool64_t vd, vuint64m1_t vs2,
                            uint64_t rs1, size_t vl);
vbool32_t __riscv_vmsgeu_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vbool32_t __riscv_vmsgeu_mu(vbool32_t vm, vbool32_t vd, vuint64m2_t vs2,
                            uint64_t rs1, size_t vl);
vbool16_t __riscv_vmsgeu_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vbool16_t __riscv_vmsgeu_mu(vbool16_t vm, vbool16_t vd, vuint64m4_t vs2,
                            uint64_t rs1, size_t vl);
vbool8_t __riscv_vmsgeu_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                           vuint64m8_t vs1, size_t vl);
vbool8_t __riscv_vmsgeu_mu(vbool8_t vm, vbool8_t vd, vuint64m8_t vs2,
                           uint64_t rs1, size_t vl);
```

D.3.13. Vector Integer Min/Max Intrinsics

```
vint8mf8_t __riscv_vmin_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vmin_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                           size_t vl);
vint8mf4_t __riscv_vmin_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vmin_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vmin_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                           size_t vl);
vint8mf2_t __riscv_vmin_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                           size_t vl);
vint8m1_t __riscv_vmin_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vmin_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmin_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                          size_t vl);
vint8m2_t __riscv_vmin_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmin_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                          size_t vl);
vint8m4_t __riscv_vmin_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmin_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                          size_t vl);
vint8m8_t __riscv_vmin_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmin_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vmin_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vmin_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vmin_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint16m1_t __riscv_vmin_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vmin_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                           size_t vl);
vint16m2_t __riscv_vmin_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                           size_t vl);
vint16m2_t __riscv_vmin_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                           size_t vl);
vint16m4_t __riscv_vmin_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                           size_t vl);
vint16m4_t __riscv_vmin_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                           size_t vl);
vint16m8_t __riscv_vmin_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                           size_t vl);
vint16m8_t __riscv_vmin_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
```

```
                           size_t vl);
vint32mf2_t __riscv_vmin_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vmin_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                            size_t vl);
vint32m1_t __riscv_vmin_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vmin_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                           size_t vl);
vint32m2_t __riscv_vmin_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                           size_t vl);
vint32m2_t __riscv_vmin_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                           size_t vl);
vint32m4_t __riscv_vmin_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                           size_t vl);
vint32m4_t __riscv_vmin_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                           size_t vl);
vint32m8_t __riscv_vmin_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                           size_t vl);
vint32m8_t __riscv_vmin_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                           size_t vl);
vint64m1_t __riscv_vmin_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vmin_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                           size_t vl);
vint64m2_t __riscv_vmin_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                           size_t vl);
vint64m2_t __riscv_vmin_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                           size_t vl);
vint64m4_t __riscv_vmin_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                           size_t vl);
vint64m4_t __riscv_vmin_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                           size_t vl);
vint64m8_t __riscv_vmin_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                           size_t vl);
vint64m8_t __riscv_vmin_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                           size_t vl);
vint8mf8_t __riscv_vmax_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vmax_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                           size_t vl);
vint8mf4_t __riscv_vmax_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vmax_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vmax_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                           size_t vl);
vint8mf2_t __riscv_vmax_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                           size_t vl);
vint8m1_t __riscv_vmax_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vmax_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmax_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                          size_t vl);
vint8m2_t __riscv_vmax_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmax_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                          size_t vl);
vint8m4_t __riscv_vmax_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmax_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                          size_t vl);
vint8m8_t __riscv_vmax_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmax_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vmax_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vmax_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
```

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vint16mf2_t __riscv_vmax_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint16m1_t __riscv_vmax_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vmax_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                           size_t vl);
vint16m2_t __riscv_vmax_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                           size_t vl);
vint16m2_t __riscv_vmax_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                           size_t vl);
vint16m4_t __riscv_vmax_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                           size_t vl);
vint16m4_t __riscv_vmax_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                           size_t vl);
vint16m8_t __riscv_vmax_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                           size_t vl);
vint16m8_t __riscv_vmax_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                           size_t vl);
vint32mf2_t __riscv_vmax_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vmax_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                            size_t vl);
vint32m1_t __riscv_vmax_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vmax_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                           size_t vl);
vint32m2_t __riscv_vmax_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                           size_t vl);
vint32m2_t __riscv_vmax_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                           size_t vl);
vint32m4_t __riscv_vmax_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                           size_t vl);
vint32m4_t __riscv_vmax_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                           size_t vl);
vint32m8_t __riscv_vmax_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                           size_t vl);
vint32m8_t __riscv_vmax_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                           size_t vl);
vint64m1_t __riscv_vmax_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vmax_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                           size_t vl);
vint64m2_t __riscv_vmax_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                           size_t vl);
vint64m2_t __riscv_vmax_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                           size_t vl);
vint64m4_t __riscv_vmax_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                           size_t vl);
vint64m4_t __riscv_vmax_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                           size_t vl);
vint64m8_t __riscv_vmax_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                           size_t vl);
vint64m8_t __riscv_vmax_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                           size_t vl);
vuint8mf8_t __riscv_vminu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                             size_t vl);
vuint8mf8_t __riscv_vminu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                             size_t vl);
vuint8mf4_t __riscv_vminu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                             size_t vl);
vuint8mf4_t __riscv_vminu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                             size_t vl);
vuint8mf2_t __riscv_vminu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                             size_t vl);
vuint8mf2_t __riscv_vminu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m1_t __riscv_vminu_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
```

```
                            size_t vl);
vuint8m1_t __riscv_vminu_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m2_t __riscv_vminu_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                            size_t vl);
vuint8m2_t __riscv_vminu_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m4_t __riscv_vminu_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                            size_t vl);
vuint8m4_t __riscv_vminu_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m8_t __riscv_vminu_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                            size_t vl);
vuint8m8_t __riscv_vminu_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                            size_t vl);
vuint16mf4_t __riscv_vminu_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vminu_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                              size_t vl);
vuint16mf2_t __riscv_vminu_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vminu_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m1_t __riscv_vminu_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vminu_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m2_t __riscv_vminu_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                             size_t vl);
vuint16m2_t __riscv_vminu_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m4_t __riscv_vminu_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                             size_t vl);
vuint16m4_t __riscv_vminu_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m8_t __riscv_vminu_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                             size_t vl);
vuint16m8_t __riscv_vminu_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                             size_t vl);
vuint32mf2_t __riscv_vminu_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vminu_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m1_t __riscv_vminu_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vminu_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m2_t __riscv_vminu_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                             size_t vl);
vuint32m2_t __riscv_vminu_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m4_t __riscv_vminu_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                             size_t vl);
vuint32m4_t __riscv_vminu_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m8_t __riscv_vminu_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                             size_t vl);
vuint32m8_t __riscv_vminu_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                             size_t vl);
vuint64m1_t __riscv_vminu_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vminu_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                             size_t vl);
vuint64m2_t __riscv_vminu_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                             size_t vl);
vuint64m2_t __riscv_vminu_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                             size_t vl);
```

```
vuint64m4_t __riscv_vminu_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                             size_t vl);
vuint64m4_t __riscv_vminu_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                             size_t vl);
vuint64m8_t __riscv_vminu_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                             size_t vl);
vuint64m8_t __riscv_vminu_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                             size_t vl);
vuint8mf8_t __riscv_vmaxu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                             size_t vl);
vuint8mf8_t __riscv_vmaxu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                             size_t vl);
vuint8mf4_t __riscv_vmaxu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                             size_t vl);
vuint8mf4_t __riscv_vmaxu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                             size_t vl);
vuint8mf2_t __riscv_vmaxu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                             size_t vl);
vuint8mf2_t __riscv_vmaxu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m1_t __riscv_vmaxu_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vmaxu_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m2_t __riscv_vmaxu_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                            size_t vl);
vuint8m2_t __riscv_vmaxu_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m4_t __riscv_vmaxu_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                            size_t vl);
vuint8m4_t __riscv_vmaxu_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m8_t __riscv_vmaxu_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                            size_t vl);
vuint8m8_t __riscv_vmaxu_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                            size_t vl);
vuint16mf4_t __riscv_vmaxu_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                              size_t vl);
vuint16mf2_t __riscv_vmaxu_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m1_t __riscv_vmaxu_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vmaxu_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m2_t __riscv_vmaxu_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                             size_t vl);
vuint16m2_t __riscv_vmaxu_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m4_t __riscv_vmaxu_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                             size_t vl);
vuint16m4_t __riscv_vmaxu_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m8_t __riscv_vmaxu_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                             size_t vl);
vuint16m8_t __riscv_vmaxu_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                             size_t vl);
vuint32mf2_t __riscv_vmaxu_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m1_t __riscv_vmaxu_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vmaxu_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
```

```
                              size_t vl);
vuint32m2_t __riscv_vmaxu_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                              size_t vl);
vuint32m2_t __riscv_vmaxu_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m4_t __riscv_vmaxu_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                              size_t vl);
vuint32m4_t __riscv_vmaxu_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m8_t __riscv_vmaxu_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                              size_t vl);
vuint32m8_t __riscv_vmaxu_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m1_t __riscv_vmaxu_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vmaxu_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m2_t __riscv_vmaxu_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                              size_t vl);
vuint64m2_t __riscv_vmaxu_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m4_t __riscv_vmaxu_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                              size_t vl);
vuint64m4_t __riscv_vmaxu_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m8_t __riscv_vmaxu_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                              size_t vl);
vuint64m8_t __riscv_vmaxu_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                              size_t vl);
// masked functions
vint8mf8_t __riscv_vmin_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmin_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmin_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmin_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmin_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmin_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vmin_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmin_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           size_t vl);
vint8m2_t __riscv_vmin_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmin_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vmin_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmin_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           size_t vl);
vint8m8_t __riscv_vmin_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmin_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vmin_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmin_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmin_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmin_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vmin_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
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                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmin_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vmin_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmin_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vmin_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmin_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vmin_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmin_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmin_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmin_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vmin_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmin_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vmin_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmin_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vmin_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmin_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vmin_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmin_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vmin_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmin_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vmin_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmin_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vmin_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmin_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vmin_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmin_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmax_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmax_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmax_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmax_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmax_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmax_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vmax_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmax_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           size_t vl);
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vint8m2_t __riscv_vmax_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmax_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vmax_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmax_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           size_t vl);
vint8m8_t __riscv_vmax_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmax_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vmax_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmax_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmax_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmax_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vmax_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmax_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vmax_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmax_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vmax_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmax_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vmax_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmax_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmax_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmax_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vmax_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmax_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vmax_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmax_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vmax_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmax_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vmax_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmax_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vmax_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmax_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vmax_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmax_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vmax_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmax_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
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                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vmax_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmax_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vminu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vminu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vminu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vminu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vminu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vminu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vminu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vminu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vminu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vminu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vminu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vminu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vminu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vminu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vminu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vminu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vminu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vminu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vminu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vminu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vminu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vminu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vminu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vminu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vminu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vminu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vminu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vminu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vminu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vminu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vminu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
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vuint32m2_t __riscv_vminu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vminu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vminu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vminu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vminu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vminu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vminu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vminu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vminu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vminu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vminu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vminu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vminu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmaxu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmaxu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmaxu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmaxu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmaxu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmaxu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmaxu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmaxu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmaxu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmaxu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmaxu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
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                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmaxu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmaxu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmaxu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmaxu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmaxu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmaxu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmaxu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmaxu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmaxu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmaxu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmaxu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmaxu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmaxu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmaxu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmaxu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmaxu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmaxu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmaxu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmaxu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmaxu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmaxu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vmin_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmin_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmin_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmin_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmin_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmin_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vmin_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmin_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vmin_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmin_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
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                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vmin_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmin_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vmin_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmin_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmin_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmin_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmin_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmin_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vmin_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmin_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vmin_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmin_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vmin_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmin_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vmin_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmin_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmin_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmin_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vmin_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmin_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vmin_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmin_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vmin_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmin_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, size_t vl);
vint32m8_t __riscv_vmin_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmin_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, size_t vl);
vint64m1_t __riscv_vmin_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmin_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, size_t vl);
vint64m2_t __riscv_vmin_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmin_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, size_t vl);
vint64m4_t __riscv_vmin_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmin_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, size_t vl);
vint64m8_t __riscv_vmin_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, size_t vl);
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vint64m8_t __riscv_vmin_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmax_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmax_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmax_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmax_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmax_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmax_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vmax_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmax_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vmax_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmax_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vmax_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmax_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vmax_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmax_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmax_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmax_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmax_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmax_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vmax_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmax_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vmax_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmax_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vmax_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmax_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vmax_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmax_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmax_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmax_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vmax_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmax_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vmax_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmax_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vmax_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
```

```
                              vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmax_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              int32_t rs1, size_t vl);
vint32m8_t __riscv_vmax_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmax_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              int32_t rs1, size_t vl);
vint64m1_t __riscv_vmax_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmax_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              int64_t rs1, size_t vl);
vint64m2_t __riscv_vmax_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmax_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              int64_t rs1, size_t vl);
vint64m4_t __riscv_vmax_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmax_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              int64_t rs1, size_t vl);
vint64m8_t __riscv_vmax_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmax_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vminu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vminu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vminu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vminu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vminu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vminu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vminu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vminu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vminu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vminu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vminu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vminu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vminu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vminu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vminu_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vminu_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vminu_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vminu_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vminu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vminu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vminu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vminu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               uint16_t rs1, size_t vl);
```

```
vuint16m4_t __riscv_vminu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vminu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vminu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vminu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vminu_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vminu_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vminu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vminu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vminu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vminu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vminu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vminu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vminu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vminu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vminu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vminu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vminu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vminu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vminu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vminu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vminu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vminu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmaxu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmaxu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmaxu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmaxu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmaxu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmaxu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
```

```
                              uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmaxu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmaxu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmaxu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmaxu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmaxu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmaxu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmaxu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmaxu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmaxu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmaxu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmaxu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmaxu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmaxu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmaxu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmaxu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmaxu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmaxu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmaxu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmaxu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmaxu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmaxu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmaxu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmaxu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmaxu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmaxu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmaxu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vmin_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
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                          vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmin_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                          int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmin_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                          vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmin_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                          int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmin_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                          vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmin_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                          int8_t rs1, size_t vl);
vint8m1_t __riscv_vmin_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmin_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                         size_t vl);
vint8m2_t __riscv_vmin_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                         vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmin_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                         size_t vl);
vint8m4_t __riscv_vmin_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                         vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmin_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                         size_t vl);
vint8m8_t __riscv_vmin_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                         vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmin_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                         size_t vl);
vint16mf4_t __riscv_vmin_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                           vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmin_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                           int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmin_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                           vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmin_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                           int16_t rs1, size_t vl);
vint16m1_t __riscv_vmin_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                          vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmin_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                          int16_t rs1, size_t vl);
vint16m2_t __riscv_vmin_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                          vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmin_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                          int16_t rs1, size_t vl);
vint16m4_t __riscv_vmin_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                          vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmin_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                          int16_t rs1, size_t vl);
vint16m8_t __riscv_vmin_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                          vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmin_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                          int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmin_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                           vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmin_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                           int32_t rs1, size_t vl);
vint32m1_t __riscv_vmin_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmin_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                          int32_t rs1, size_t vl);
vint32m2_t __riscv_vmin_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                          vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmin_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                          int32_t rs1, size_t vl);
vint32m4_t __riscv_vmin_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                          vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmin_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                          int32_t rs1, size_t vl);
```

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vint32m8_t __riscv_vmin_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmin_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           int32_t rs1, size_t vl);
vint64m1_t __riscv_vmin_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmin_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vint64m2_t __riscv_vmin_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmin_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           int64_t rs1, size_t vl);
vint64m4_t __riscv_vmin_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmin_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           int64_t rs1, size_t vl);
vint64m8_t __riscv_vmin_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmin_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmax_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmax_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmax_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmax_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmax_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmax_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vint8m1_t __riscv_vmax_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmax_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vint8m2_t __riscv_vmax_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmax_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vint8m4_t __riscv_vmax_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmax_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vint8m8_t __riscv_vmax_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmax_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vint16mf4_t __riscv_vmax_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmax_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmax_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmax_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            int16_t rs1, size_t vl);
vint16m1_t __riscv_vmax_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmax_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vint16m2_t __riscv_vmax_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmax_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           int16_t rs1, size_t vl);
vint16m4_t __riscv_vmax_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmax_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
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                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vmax_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmax_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmax_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmax_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            int32_t rs1, size_t vl);
vint32m1_t __riscv_vmax_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmax_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vint32m2_t __riscv_vmax_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmax_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vint32m4_t __riscv_vmax_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmax_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           int32_t rs1, size_t vl);
vint32m8_t __riscv_vmax_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmax_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           int32_t rs1, size_t vl);
vint64m1_t __riscv_vmax_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmax_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vint64m2_t __riscv_vmax_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmax_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           int64_t rs1, size_t vl);
vint64m4_t __riscv_vmax_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmax_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           int64_t rs1, size_t vl);
vint64m8_t __riscv_vmax_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmax_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vminu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vminu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vminu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vminu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vminu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vminu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vminu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vminu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vminu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vminu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vminu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vminu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vminu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
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vuint8m8_t __riscv_vminu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vminu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vminu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vminu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vminu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vminu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vminu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vminu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vminu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vminu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vminu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vminu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vminu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vminu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vminu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vminu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vminu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vminu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vminu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vminu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vminu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vminu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vminu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vminu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vminu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vminu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vminu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vminu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vminu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vminu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vminu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmaxu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
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                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmaxu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmaxu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmaxu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmaxu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmaxu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmaxu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmaxu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmaxu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmaxu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmaxu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmaxu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmaxu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmaxu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmaxu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmaxu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmaxu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmaxu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmaxu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmaxu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmaxu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmaxu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmaxu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmaxu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmaxu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmaxu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmaxu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmaxu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmaxu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmaxu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
```

```
vuint64m1_t __riscv_vmaxu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmaxu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmaxu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmaxu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmaxu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmaxu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmaxu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmaxu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             uint64_t rs1, size_t vl);
```

D.3.14. Vector Single-Width Integer Multiply Intrinsics

```
vint8mf8_t __riscv_vmul_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vmul_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                           size_t vl);
vint8mf4_t __riscv_vmul_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vmul_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vmul_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                           size_t vl);
vint8mf2_t __riscv_vmul_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                           size_t vl);
vint8m1_t __riscv_vmul_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vmul_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmul_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                          size_t vl);
vint8m2_t __riscv_vmul_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmul_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                          size_t vl);
vint8m4_t __riscv_vmul_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmul_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                          size_t vl);
vint8m8_t __riscv_vmul_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmul_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vmul_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vmul_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vmul_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint16m1_t __riscv_vmul_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vmul_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                           size_t vl);
vint16m2_t __riscv_vmul_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                           size_t vl);
vint16m2_t __riscv_vmul_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                           size_t vl);
vint16m4_t __riscv_vmul_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                           size_t vl);
vint16m4_t __riscv_vmul_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                           size_t vl);
vint16m8_t __riscv_vmul_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                           size_t vl);
```

```
vint16m8_t __riscv_vmul_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                           size_t vl);
vint32mf2_t __riscv_vmul_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vmul_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                            size_t vl);
vint32m1_t __riscv_vmul_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vmul_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                           size_t vl);
vint32m2_t __riscv_vmul_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                           size_t vl);
vint32m2_t __riscv_vmul_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                           size_t vl);
vint32m4_t __riscv_vmul_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                           size_t vl);
vint32m4_t __riscv_vmul_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                           size_t vl);
vint32m8_t __riscv_vmul_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                           size_t vl);
vint32m8_t __riscv_vmul_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                           size_t vl);
vint64m1_t __riscv_vmul_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vmul_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                           size_t vl);
vint64m2_t __riscv_vmul_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                           size_t vl);
vint64m2_t __riscv_vmul_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                           size_t vl);
vint64m4_t __riscv_vmul_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                           size_t vl);
vint64m4_t __riscv_vmul_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                           size_t vl);
vint64m8_t __riscv_vmul_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                           size_t vl);
vint64m8_t __riscv_vmul_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                           size_t vl);
vint8mf8_t __riscv_vmulh_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                            size_t vl);
vint8mf8_t __riscv_vmulh_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                            size_t vl);
vint8mf4_t __riscv_vmulh_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                            size_t vl);
vint8mf4_t __riscv_vmulh_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                            size_t vl);
vint8mf2_t __riscv_vmulh_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                            size_t vl);
vint8mf2_t __riscv_vmulh_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                            size_t vl);
vint8m1_t __riscv_vmulh_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                           size_t vl);
vint8m1_t __riscv_vmulh_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmulh_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                           size_t vl);
vint8m2_t __riscv_vmulh_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmulh_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                           size_t vl);
vint8m4_t __riscv_vmulh_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmulh_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                           size_t vl);
vint8m8_t __riscv_vmulh_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulh_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                             size_t vl);
vint16mf4_t __riscv_vmulh_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                             size_t vl);
vint16mf2_t __riscv_vmulh_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
```

```
                              size_t vl);
vint16mf2_t __riscv_vmulh_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                             size_t vl);
vint16m1_t __riscv_vmulh_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vmulh_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                            size_t vl);
vint16m2_t __riscv_vmulh_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                            size_t vl);
vint16m2_t __riscv_vmulh_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                            size_t vl);
vint16m4_t __riscv_vmulh_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                            size_t vl);
vint16m4_t __riscv_vmulh_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                            size_t vl);
vint16m8_t __riscv_vmulh_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                            size_t vl);
vint16m8_t __riscv_vmulh_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                            size_t vl);
vint32mf2_t __riscv_vmulh_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                             size_t vl);
vint32mf2_t __riscv_vmulh_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                             size_t vl);
vint32m1_t __riscv_vmulh_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vmulh_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                            size_t vl);
vint32m2_t __riscv_vmulh_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                            size_t vl);
vint32m2_t __riscv_vmulh_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                            size_t vl);
vint32m4_t __riscv_vmulh_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                            size_t vl);
vint32m4_t __riscv_vmulh_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                            size_t vl);
vint32m8_t __riscv_vmulh_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                            size_t vl);
vint32m8_t __riscv_vmulh_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                            size_t vl);
vint64m1_t __riscv_vmulh_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                            size_t vl);
vint64m1_t __riscv_vmulh_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                            size_t vl);
vint64m2_t __riscv_vmulh_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                            size_t vl);
vint64m2_t __riscv_vmulh_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                            size_t vl);
vint64m4_t __riscv_vmulh_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                            size_t vl);
vint64m4_t __riscv_vmulh_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                            size_t vl);
vint64m8_t __riscv_vmulh_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                            size_t vl);
vint64m8_t __riscv_vmulh_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                            size_t vl);
vint8mf8_t __riscv_vmulhsu_tu(vint8mf8_t vd, vint8mf8_t vs2, vuint8mf8_t vs1,
                              size_t vl);
vint8mf8_t __riscv_vmulhsu_tu(vint8mf8_t vd, vint8mf8_t vs2, uint8_t rs1,
                              size_t vl);
vint8mf4_t __riscv_vmulhsu_tu(vint8mf4_t vd, vint8mf4_t vs2, vuint8mf4_t vs1,
                              size_t vl);
vint8mf4_t __riscv_vmulhsu_tu(vint8mf4_t vd, vint8mf4_t vs2, uint8_t rs1,
                              size_t vl);
vint8mf2_t __riscv_vmulhsu_tu(vint8mf2_t vd, vint8mf2_t vs2, vuint8mf2_t vs1,
                              size_t vl);
vint8mf2_t __riscv_vmulhsu_tu(vint8mf2_t vd, vint8mf2_t vs2, uint8_t rs1,
                              size_t vl);
```

```
vint8m1_t __riscv_vmulhsu_tu(vint8m1_t vd, vint8m1_t vs2, vuint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vmulhsu_tu(vint8m1_t vd, vint8m1_t vs2, uint8_t rs1,
                             size_t vl);
vint8m2_t __riscv_vmulhsu_tu(vint8m2_t vd, vint8m2_t vs2, vuint8m2_t vs1,
                             size_t vl);
vint8m2_t __riscv_vmulhsu_tu(vint8m2_t vd, vint8m2_t vs2, uint8_t rs1,
                             size_t vl);
vint8m4_t __riscv_vmulhsu_tu(vint8m4_t vd, vint8m4_t vs2, vuint8m4_t vs1,
                             size_t vl);
vint8m4_t __riscv_vmulhsu_tu(vint8m4_t vd, vint8m4_t vs2, uint8_t rs1,
                             size_t vl);
vint8m8_t __riscv_vmulhsu_tu(vint8m8_t vd, vint8m8_t vs2, vuint8m8_t vs1,
                             size_t vl);
vint8m8_t __riscv_vmulhsu_tu(vint8m8_t vd, vint8m8_t vs2, uint8_t rs1,
                             size_t vl);
vint16mf4_t __riscv_vmulhsu_tu(vint16mf4_t vd, vint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_tu(vint16mf4_t vd, vint16mf4_t vs2, uint16_t rs1,
                               size_t vl);
vint16mf2_t __riscv_vmulhsu_tu(vint16mf2_t vd, vint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_tu(vint16mf2_t vd, vint16mf2_t vs2, uint16_t rs1,
                               size_t vl);
vint16m1_t __riscv_vmulhsu_tu(vint16m1_t vd, vint16m1_t vs2, vuint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vmulhsu_tu(vint16m1_t vd, vint16m1_t vs2, uint16_t rs1,
                              size_t vl);
vint16m2_t __riscv_vmulhsu_tu(vint16m2_t vd, vint16m2_t vs2, vuint16m2_t vs1,
                              size_t vl);
vint16m2_t __riscv_vmulhsu_tu(vint16m2_t vd, vint16m2_t vs2, uint16_t rs1,
                              size_t vl);
vint16m4_t __riscv_vmulhsu_tu(vint16m4_t vd, vint16m4_t vs2, vuint16m4_t vs1,
                              size_t vl);
vint16m4_t __riscv_vmulhsu_tu(vint16m4_t vd, vint16m4_t vs2, uint16_t rs1,
                              size_t vl);
vint16m8_t __riscv_vmulhsu_tu(vint16m8_t vd, vint16m8_t vs2, vuint16m8_t vs1,
                              size_t vl);
vint16m8_t __riscv_vmulhsu_tu(vint16m8_t vd, vint16m8_t vs2, uint16_t rs1,
                              size_t vl);
vint32mf2_t __riscv_vmulhsu_tu(vint32mf2_t vd, vint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_tu(vint32mf2_t vd, vint32mf2_t vs2, uint32_t rs1,
                               size_t vl);
vint32m1_t __riscv_vmulhsu_tu(vint32m1_t vd, vint32m1_t vs2, vuint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vmulhsu_tu(vint32m1_t vd, vint32m1_t vs2, uint32_t rs1,
                              size_t vl);
vint32m2_t __riscv_vmulhsu_tu(vint32m2_t vd, vint32m2_t vs2, vuint32m2_t vs1,
                              size_t vl);
vint32m2_t __riscv_vmulhsu_tu(vint32m2_t vd, vint32m2_t vs2, uint32_t rs1,
                              size_t vl);
vint32m4_t __riscv_vmulhsu_tu(vint32m4_t vd, vint32m4_t vs2, vuint32m4_t vs1,
                              size_t vl);
vint32m4_t __riscv_vmulhsu_tu(vint32m4_t vd, vint32m4_t vs2, uint32_t rs1,
                              size_t vl);
vint32m8_t __riscv_vmulhsu_tu(vint32m8_t vd, vint32m8_t vs2, vuint32m8_t vs1,
                              size_t vl);
vint32m8_t __riscv_vmulhsu_tu(vint32m8_t vd, vint32m8_t vs2, uint32_t rs1,
                              size_t vl);
vint64m1_t __riscv_vmulhsu_tu(vint64m1_t vd, vint64m1_t vs2, vuint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vmulhsu_tu(vint64m1_t vd, vint64m1_t vs2, uint64_t rs1,
                              size_t vl);
vint64m2_t __riscv_vmulhsu_tu(vint64m2_t vd, vint64m2_t vs2, vuint64m2_t vs1,
                              size_t vl);
vint64m2_t __riscv_vmulhsu_tu(vint64m2_t vd, vint64m2_t vs2, uint64_t rs1,
```

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                              size_t vl);
vint64m4_t __riscv_vmulhsu_tu(vint64m4_t vd, vint64m4_t vs2, vuint64m4_t vs1,
                              size_t vl);
vint64m4_t __riscv_vmulhsu_tu(vint64m4_t vd, vint64m4_t vs2, uint64_t rs1,
                              size_t vl);
vint64m8_t __riscv_vmulhsu_tu(vint64m8_t vd, vint64m8_t vs2, vuint64m8_t vs1,
                              size_t vl);
vint64m8_t __riscv_vmulhsu_tu(vint64m8_t vd, vint64m8_t vs2, uint64_t rs1,
                              size_t vl);
vuint8mf8_t __riscv_vmul_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                            size_t vl);
vuint8mf8_t __riscv_vmul_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                            size_t vl);
vuint8mf4_t __riscv_vmul_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                            size_t vl);
vuint8mf4_t __riscv_vmul_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                            size_t vl);
vuint8mf2_t __riscv_vmul_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                            size_t vl);
vuint8mf2_t __riscv_vmul_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m1_t __riscv_vmul_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                           size_t vl);
vuint8m1_t __riscv_vmul_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m2_t __riscv_vmul_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                           size_t vl);
vuint8m2_t __riscv_vmul_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m4_t __riscv_vmul_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                           size_t vl);
vuint8m4_t __riscv_vmul_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                           size_t vl);
vuint8m8_t __riscv_vmul_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                           size_t vl);
vuint8m8_t __riscv_vmul_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                           size_t vl);
vuint16mf4_t __riscv_vmul_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmul_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                             size_t vl);
vuint16mf2_t __riscv_vmul_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmul_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m1_t __riscv_vmul_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                            size_t vl);
vuint16m1_t __riscv_vmul_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m2_t __riscv_vmul_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                            size_t vl);
vuint16m2_t __riscv_vmul_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m4_t __riscv_vmul_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                            size_t vl);
vuint16m4_t __riscv_vmul_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                            size_t vl);
vuint16m8_t __riscv_vmul_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                            size_t vl);
vuint16m8_t __riscv_vmul_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                            size_t vl);
vuint32mf2_t __riscv_vmul_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmul_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m1_t __riscv_vmul_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                            size_t vl);
```

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vuint32m1_t __riscv_vmul_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m2_t __riscv_vmul_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                            size_t vl);
vuint32m2_t __riscv_vmul_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m4_t __riscv_vmul_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                            size_t vl);
vuint32m4_t __riscv_vmul_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                            size_t vl);
vuint32m8_t __riscv_vmul_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                            size_t vl);
vuint32m8_t __riscv_vmul_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                            size_t vl);
vuint64m1_t __riscv_vmul_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                            size_t vl);
vuint64m1_t __riscv_vmul_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m2_t __riscv_vmul_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                            size_t vl);
vuint64m2_t __riscv_vmul_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m4_t __riscv_vmul_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                            size_t vl);
vuint64m4_t __riscv_vmul_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                            size_t vl);
vuint64m8_t __riscv_vmul_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                            size_t vl);
vuint64m8_t __riscv_vmul_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                            size_t vl);
vuint8mf8_t __riscv_vmulhu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                              size_t vl);
vuint8mf8_t __riscv_vmulhu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                              size_t vl);
vuint8mf4_t __riscv_vmulhu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                              size_t vl);
vuint8mf4_t __riscv_vmulhu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                              size_t vl);
vuint8mf2_t __riscv_vmulhu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                              size_t vl);
vuint8mf2_t __riscv_vmulhu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                              size_t vl);
vuint8m1_t __riscv_vmulhu_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vmulhu_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m2_t __riscv_vmulhu_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                             size_t vl);
vuint8m2_t __riscv_vmulhu_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m4_t __riscv_vmulhu_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                             size_t vl);
vuint8m4_t __riscv_vmulhu_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m8_t __riscv_vmulhu_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                             size_t vl);
vuint8m8_t __riscv_vmulhu_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                             size_t vl);
vuint16mf4_t __riscv_vmulhu_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                               size_t vl);
vuint16mf2_t __riscv_vmulhu_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmulhu_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                               size_t vl);
vuint16m1_t __riscv_vmulhu_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
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                              size_t vl);
vuint16m1_t __riscv_vmulhu_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m2_t __riscv_vmulhu_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                              size_t vl);
vuint16m2_t __riscv_vmulhu_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m4_t __riscv_vmulhu_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                              size_t vl);
vuint16m4_t __riscv_vmulhu_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m8_t __riscv_vmulhu_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                              size_t vl);
vuint16m8_t __riscv_vmulhu_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                              size_t vl);
vuint32mf2_t __riscv_vmulhu_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmulhu_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                               size_t vl);
vuint32m1_t __riscv_vmulhu_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vmulhu_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m2_t __riscv_vmulhu_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                              size_t vl);
vuint32m2_t __riscv_vmulhu_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m4_t __riscv_vmulhu_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                              size_t vl);
vuint32m4_t __riscv_vmulhu_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m8_t __riscv_vmulhu_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                              size_t vl);
vuint32m8_t __riscv_vmulhu_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m1_t __riscv_vmulhu_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vmulhu_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m2_t __riscv_vmulhu_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                              size_t vl);
vuint64m2_t __riscv_vmulhu_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m4_t __riscv_vmulhu_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                              size_t vl);
vuint64m4_t __riscv_vmulhu_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m8_t __riscv_vmulhu_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                              size_t vl);
vuint64m8_t __riscv_vmulhu_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                              size_t vl);
// masked functions
vint8mf8_t __riscv_vmul_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmul_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmul_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmul_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmul_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmul_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vmul_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmul_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
```

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                            size_t vl);
vint8m2_t __riscv_vmul_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmul_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vmul_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmul_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           size_t vl);
vint8m8_t __riscv_vmul_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmul_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vmul_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmul_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmul_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmul_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vmul_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmul_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vmul_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmul_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vmul_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmul_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vmul_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmul_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmul_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmul_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vmul_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmul_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vmul_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmul_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vmul_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmul_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vmul_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmul_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vmul_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmul_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vmul_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmul_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vmul_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
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vint64m4_t __riscv_vmul_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vmul_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmul_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulh_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulh_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulh_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulh_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulh_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulh_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vmulh_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulh_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vmulh_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulh_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vmulh_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulh_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vmulh_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulh_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulh_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulh_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulh_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulh_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vmulh_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulh_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vmulh_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulh_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vmulh_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulh_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vmulh_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulh_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulh_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulh_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vmulh_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulh_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vmulh_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
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                              vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulh_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              int32_t rs1, size_t vl);
vint32m4_t __riscv_vmulh_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulh_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              int32_t rs1, size_t vl);
vint32m8_t __riscv_vmulh_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulh_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              int32_t rs1, size_t vl);
vint64m1_t __riscv_vmulh_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulh_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              int64_t rs1, size_t vl);
vint64m2_t __riscv_vmulh_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulh_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              int64_t rs1, size_t vl);
vint64m4_t __riscv_vmulh_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulh_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              int64_t rs1, size_t vl);
vint64m8_t __riscv_vmulh_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulh_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vint8m1_t __riscv_vmulhsu_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulhsu_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vint8m2_t __riscv_vmulhsu_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulhsu_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vint8m4_t __riscv_vmulhsu_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulhsu_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                              uint8_t rs1, size_t vl);
vint8m8_t __riscv_vmulhsu_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                              vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulhsu_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                              uint8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vint16m1_t __riscv_vmulhsu_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulhsu_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               uint16_t rs1, size_t vl);
```

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vint16m2_t __riscv_vmulhsu_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulhsu_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               uint16_t rs1, size_t vl);
vint16m4_t __riscv_vmulhsu_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulhsu_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vint16m8_t __riscv_vmulhsu_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulhsu_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               uint16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vint32m1_t __riscv_vmulhsu_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulhsu_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vint32m2_t __riscv_vmulhsu_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulhsu_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vint32m4_t __riscv_vmulhsu_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulhsu_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               uint32_t rs1, size_t vl);
vint32m8_t __riscv_vmulhsu_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulhsu_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               uint32_t rs1, size_t vl);
vint64m1_t __riscv_vmulhsu_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulhsu_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               uint64_t rs1, size_t vl);
vint64m2_t __riscv_vmulhsu_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulhsu_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               uint64_t rs1, size_t vl);
vint64m4_t __riscv_vmulhsu_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulhsu_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               uint64_t rs1, size_t vl);
vint64m8_t __riscv_vmulhsu_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                               vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulhsu_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                               uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmul_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmul_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmul_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmul_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmul_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmul_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmul_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmul_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmul_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmul_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
```

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                            uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmul_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmul_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmul_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmul_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmul_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmul_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmul_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmul_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmul_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmul_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmul_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmul_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmul_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmul_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmul_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmul_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmul_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmul_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmul_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmul_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmul_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmul_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmul_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmul_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmul_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmul_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmul_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmul_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmul_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmul_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmul_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmul_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmul_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
```

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vuint64m8_t __riscv_vmul_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmulhu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmulhu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmulhu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmulhu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmulhu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmulhu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmulhu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmulhu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmulhu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmulhu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmulhu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmulhu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmulhu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmulhu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmulhu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmulhu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmulhu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmulhu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmulhu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmulhu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmulhu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmulhu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmulhu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmulhu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmulhu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
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                                vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmulhu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmulhu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmulhu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmulhu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmulhu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmulhu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmulhu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmulhu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmulhu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmulhu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmulhu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vmul_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmul_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmul_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmul_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmul_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmul_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vmul_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmul_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vmul_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmul_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vmul_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmul_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vmul_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmul_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmul_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmul_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmul_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmul_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vmul_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmul_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vmul_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmul_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
```

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                              int16_t rs1, size_t vl);
vint16m4_t __riscv_vmul_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmul_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vmul_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmul_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmul_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmul_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vmul_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmul_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vmul_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmul_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vmul_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmul_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, size_t vl);
vint32m8_t __riscv_vmul_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmul_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, size_t vl);
vint64m1_t __riscv_vmul_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmul_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, size_t vl);
vint64m2_t __riscv_vmul_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmul_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, size_t vl);
vint64m4_t __riscv_vmul_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmul_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, size_t vl);
vint64m8_t __riscv_vmul_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmul_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulh_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulh_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulh_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulh_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulh_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulh_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              int8_t rs1, size_t vl);
vint8m1_t __riscv_vmulh_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulh_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             int8_t rs1, size_t vl);
vint8m2_t __riscv_vmulh_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulh_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             int8_t rs1, size_t vl);
vint8m4_t __riscv_vmulh_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             vint8m4_t vs1, size_t vl);
```

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vint8m4_t __riscv_vmulh_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             int8_t rs1, size_t vl);
vint8m8_t __riscv_vmulh_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulh_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulh_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulh_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulh_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulh_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               int16_t rs1, size_t vl);
vint16m1_t __riscv_vmulh_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulh_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              int16_t rs1, size_t vl);
vint16m2_t __riscv_vmulh_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulh_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              int16_t rs1, size_t vl);
vint16m4_t __riscv_vmulh_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulh_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              int16_t rs1, size_t vl);
vint16m8_t __riscv_vmulh_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                              vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulh_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                              int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulh_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulh_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               int32_t rs1, size_t vl);
vint32m1_t __riscv_vmulh_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulh_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              int32_t rs1, size_t vl);
vint32m2_t __riscv_vmulh_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulh_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              int32_t rs1, size_t vl);
vint32m4_t __riscv_vmulh_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulh_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              int32_t rs1, size_t vl);
vint32m8_t __riscv_vmulh_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulh_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              int32_t rs1, size_t vl);
vint64m1_t __riscv_vmulh_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulh_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              int64_t rs1, size_t vl);
vint64m2_t __riscv_vmulh_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulh_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              int64_t rs1, size_t vl);
vint64m4_t __riscv_vmulh_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulh_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              int64_t rs1, size_t vl);
vint64m8_t __riscv_vmulh_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulh_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
```

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                                vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                uint8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                uint8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                uint8_t rs1, size_t vl);
vint8m1_t __riscv_vmulhsu_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                               vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulhsu_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                               uint8_t rs1, size_t vl);
vint8m2_t __riscv_vmulhsu_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                               vuint8m2_t vs1, size_t vl);
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                               uint8_t rs1, size_t vl);
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                               vuint8m4_t vs1, size_t vl);
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                               uint8_t rs1, size_t vl);
vint8m8_t __riscv_vmulhsu_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                               vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulhsu_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                               uint8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                 vuint16mf4_t vs1, size_t vl);
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                                 uint16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                 vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                 uint16_t rs1, size_t vl);
vint16m1_t __riscv_vmulhsu_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulhsu_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                uint16_t rs1, size_t vl);
vint16m2_t __riscv_vmulhsu_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                vuint16m2_t vs1, size_t vl);
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                                uint16_t rs1, size_t vl);
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                                vuint16m4_t vs1, size_t vl);
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                                uint16_t rs1, size_t vl);
vint16m8_t __riscv_vmulhsu_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulhsu_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                uint16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 uint32_t rs1, size_t vl);
vint32m1_t __riscv_vmulhsu_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulhsu_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                uint32_t rs1, size_t vl);
vint32m2_t __riscv_vmulhsu_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulhsu_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                uint32_t rs1, size_t vl);
vint32m4_t __riscv_vmulhsu_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulhsu_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                uint32_t rs1, size_t vl);
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vint32m8_t __riscv_vmulhsu_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulhsu_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                uint32_t rs1, size_t vl);
vint64m1_t __riscv_vmulhsu_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulhsu_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                uint64_t rs1, size_t vl);
vint64m2_t __riscv_vmulhsu_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulhsu_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                uint64_t rs1, size_t vl);
vint64m4_t __riscv_vmulhsu_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulhsu_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                uint64_t rs1, size_t vl);
vint64m8_t __riscv_vmulhsu_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulhsu_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmul_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmul_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmul_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmul_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmul_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmul_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmul_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmul_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmul_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmul_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmul_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmul_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmul_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmul_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmul_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmul_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmul_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmul_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmul_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmul_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmul_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmul_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmul_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmul_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
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                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmul_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmul_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmul_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmul_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmul_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmul_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmul_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmul_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmul_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmul_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmul_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmul_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmul_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmul_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmul_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmul_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmul_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmul_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmul_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmul_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmulhu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmulhu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmulhu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmulhu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmulhu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmulhu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmulhu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               vuint8m8_t vs1, size_t vl);
```

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vuint8m8_t __riscv_vmulhu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmulhu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmulhu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmulhu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmulhu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmulhu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmulhu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmulhu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmulhu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmulhu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmulhu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmulhu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmulhu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmulhu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmulhu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmulhu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmulhu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmulhu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmulhu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmulhu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmulhu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmulhu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmulhu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmulhu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmulhu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmulhu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmulhu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmulhu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmulhu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vmul_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmul_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
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vint8mf4_t __riscv_vmul_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmul_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmul_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmul_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vint8m1_t __riscv_vmul_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmul_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vint8m2_t __riscv_vmul_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmul_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vint8m4_t __riscv_vmul_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmul_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vint8m8_t __riscv_vmul_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmul_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vint16mf4_t __riscv_vmul_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmul_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmul_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmul_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            int16_t rs1, size_t vl);
vint16m1_t __riscv_vmul_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmul_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vint16m2_t __riscv_vmul_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmul_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           int16_t rs1, size_t vl);
vint16m4_t __riscv_vmul_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmul_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           int16_t rs1, size_t vl);
vint16m8_t __riscv_vmul_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmul_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmul_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmul_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            int32_t rs1, size_t vl);
vint32m1_t __riscv_vmul_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmul_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vint32m2_t __riscv_vmul_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmul_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vint32m4_t __riscv_vmul_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmul_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           int32_t rs1, size_t vl);
vint32m8_t __riscv_vmul_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmul_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
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                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vmul_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmul_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vint64m2_t __riscv_vmul_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmul_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           int64_t rs1, size_t vl);
vint64m4_t __riscv_vmul_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmul_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           int64_t rs1, size_t vl);
vint64m8_t __riscv_vmul_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmul_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulh_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulh_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulh_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulh_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulh_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulh_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vmulh_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulh_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           size_t vl);
vint8m2_t __riscv_vmulh_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulh_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vmulh_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulh_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           size_t vl);
vint8m8_t __riscv_vmulh_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulh_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vmulh_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulh_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulh_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulh_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vmulh_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulh_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vmulh_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulh_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vmulh_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulh_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vmulh_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
```

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vint16m8_t __riscv_vmulh_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulh_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulh_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vmulh_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulh_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vmulh_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulh_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vmulh_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulh_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vmulh_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulh_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vmulh_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulh_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vmulh_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulh_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vmulh_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulh_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vmulh_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulh_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmulhsu_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmulhsu_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmulhsu_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vint8m1_t __riscv_vmulhsu_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmulhsu_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vint8m2_t __riscv_vmulhsu_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmulhsu_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vint8m4_t __riscv_vmulhsu_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmulhsu_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vint8m8_t __riscv_vmulhsu_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmulhsu_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
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                                vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmulhsu_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vmulhsu_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vint16m1_t __riscv_vmulhsu_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmulhsu_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               uint16_t rs1, size_t vl);
vint16m2_t __riscv_vmulhsu_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmulhsu_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               uint16_t rs1, size_t vl);
vint16m4_t __riscv_vmulhsu_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmulhsu_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vint16m8_t __riscv_vmulhsu_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmulhsu_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               uint16_t rs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmulhsu_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vint32m1_t __riscv_vmulhsu_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmulhsu_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vint32m2_t __riscv_vmulhsu_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmulhsu_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vint32m4_t __riscv_vmulhsu_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmulhsu_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               uint32_t rs1, size_t vl);
vint32m8_t __riscv_vmulhsu_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmulhsu_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               uint32_t rs1, size_t vl);
vint64m1_t __riscv_vmulhsu_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmulhsu_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               uint64_t rs1, size_t vl);
vint64m2_t __riscv_vmulhsu_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmulhsu_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               uint64_t rs1, size_t vl);
vint64m4_t __riscv_vmulhsu_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmulhsu_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               uint64_t rs1, size_t vl);
vint64m8_t __riscv_vmulhsu_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                               vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmulhsu_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                               uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmul_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmul_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                            uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmul_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmul_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                            uint8_t rs1, size_t vl);
```

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vuint8mf2_t __riscv_vmul_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmul_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmul_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmul_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmul_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmul_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmul_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmul_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                           uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmul_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmul_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                           uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmul_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmul_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmul_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmul_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmul_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmul_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmul_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmul_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmul_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmul_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                            uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmul_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmul_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                            uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmul_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmul_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmul_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmul_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmul_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmul_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmul_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmul_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                            uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmul_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmul_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                            uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmul_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                            vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmul_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
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                            uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmul_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmul_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmul_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmul_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                            uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmul_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmul_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                            uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmulhu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmulhu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmulhu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmulhu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmulhu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmulhu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmulhu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmulhu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmulhu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmulhu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmulhu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmulhu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmulhu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmulhu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmulhu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmulhu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmulhu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmulhu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmulhu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmulhu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmulhu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmulhu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmulhu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
```

```
vuint32mf2_t __riscv_vmulhu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmulhu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmulhu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmulhu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmulhu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmulhu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmulhu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmulhu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmulhu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmulhu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmulhu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmulhu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmulhu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmulhu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmulhu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmulhu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmulhu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
```

D.3.15. Vector Integer Divide Intrinsics

```
vint8mf8_t __riscv_vdiv_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vdiv_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                           size_t vl);
vint8mf4_t __riscv_vdiv_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vdiv_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vdiv_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                           size_t vl);
vint8mf2_t __riscv_vdiv_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                           size_t vl);
vint8m1_t __riscv_vdiv_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vdiv_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vdiv_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                          size_t vl);
vint8m2_t __riscv_vdiv_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vdiv_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                          size_t vl);
vint8m4_t __riscv_vdiv_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vdiv_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                          size_t vl);
vint8m8_t __riscv_vdiv_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vdiv_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vdiv_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                            size_t vl);
```

```
vint16mf2_t __riscv_vdiv_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vdiv_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint16m1_t __riscv_vdiv_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vdiv_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                           size_t vl);
vint16m2_t __riscv_vdiv_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                           size_t vl);
vint16m2_t __riscv_vdiv_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                           size_t vl);
vint16m4_t __riscv_vdiv_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                           size_t vl);
vint16m4_t __riscv_vdiv_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                           size_t vl);
vint16m8_t __riscv_vdiv_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                           size_t vl);
vint16m8_t __riscv_vdiv_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                           size_t vl);
vint32mf2_t __riscv_vdiv_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vdiv_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                            size_t vl);
vint32m1_t __riscv_vdiv_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vdiv_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                           size_t vl);
vint32m2_t __riscv_vdiv_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                           size_t vl);
vint32m2_t __riscv_vdiv_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                           size_t vl);
vint32m4_t __riscv_vdiv_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                           size_t vl);
vint32m4_t __riscv_vdiv_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                           size_t vl);
vint32m8_t __riscv_vdiv_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                           size_t vl);
vint32m8_t __riscv_vdiv_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                           size_t vl);
vint64m1_t __riscv_vdiv_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vdiv_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                           size_t vl);
vint64m2_t __riscv_vdiv_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                           size_t vl);
vint64m2_t __riscv_vdiv_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                           size_t vl);
vint64m4_t __riscv_vdiv_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                           size_t vl);
vint64m4_t __riscv_vdiv_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                           size_t vl);
vint64m8_t __riscv_vdiv_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                           size_t vl);
vint64m8_t __riscv_vdiv_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                           size_t vl);
vint8mf8_t __riscv_vrem_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                           size_t vl);
vint8mf8_t __riscv_vrem_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                           size_t vl);
vint8mf4_t __riscv_vrem_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                           size_t vl);
vint8mf4_t __riscv_vrem_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                           size_t vl);
vint8mf2_t __riscv_vrem_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                           size_t vl);
vint8mf2_t __riscv_vrem_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
```

```
                           size_t vl);
vint8m1_t __riscv_vrem_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                          size_t vl);
vint8m1_t __riscv_vrem_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vrem_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                          size_t vl);
vint8m2_t __riscv_vrem_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vrem_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                          size_t vl);
vint8m4_t __riscv_vrem_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vrem_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                          size_t vl);
vint8m8_t __riscv_vrem_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrem_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                            size_t vl);
vint16mf4_t __riscv_vrem_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                            size_t vl);
vint16mf2_t __riscv_vrem_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint16mf2_t __riscv_vrem_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint16m1_t __riscv_vrem_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                           size_t vl);
vint16m1_t __riscv_vrem_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                           size_t vl);
vint16m2_t __riscv_vrem_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                           size_t vl);
vint16m2_t __riscv_vrem_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                           size_t vl);
vint16m4_t __riscv_vrem_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                           size_t vl);
vint16m4_t __riscv_vrem_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                           size_t vl);
vint16m8_t __riscv_vrem_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                           size_t vl);
vint16m8_t __riscv_vrem_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                           size_t vl);
vint32mf2_t __riscv_vrem_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint32mf2_t __riscv_vrem_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                            size_t vl);
vint32m1_t __riscv_vrem_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                           size_t vl);
vint32m1_t __riscv_vrem_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                           size_t vl);
vint32m2_t __riscv_vrem_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                           size_t vl);
vint32m2_t __riscv_vrem_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                           size_t vl);
vint32m4_t __riscv_vrem_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                           size_t vl);
vint32m4_t __riscv_vrem_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                           size_t vl);
vint32m8_t __riscv_vrem_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                           size_t vl);
vint32m8_t __riscv_vrem_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                           size_t vl);
vint64m1_t __riscv_vrem_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                           size_t vl);
vint64m1_t __riscv_vrem_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                           size_t vl);
vint64m2_t __riscv_vrem_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                           size_t vl);
vint64m2_t __riscv_vrem_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                           size_t vl);
vint64m4_t __riscv_vrem_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                           size_t vl);
```

```
vint64m4_t __riscv_vrem_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                           size_t vl);
vint64m8_t __riscv_vrem_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                           size_t vl);
vint64m8_t __riscv_vrem_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                           size_t vl);
vuint8mf8_t __riscv_vdivu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                             size_t vl);
vuint8mf8_t __riscv_vdivu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                             size_t vl);
vuint8mf4_t __riscv_vdivu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                             size_t vl);
vuint8mf4_t __riscv_vdivu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                             size_t vl);
vuint8mf2_t __riscv_vdivu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                             size_t vl);
vuint8mf2_t __riscv_vdivu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m1_t __riscv_vdivu_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                            size_t vl);
vuint8m1_t __riscv_vdivu_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m2_t __riscv_vdivu_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                            size_t vl);
vuint8m2_t __riscv_vdivu_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m4_t __riscv_vdivu_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                            size_t vl);
vuint8m4_t __riscv_vdivu_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                            size_t vl);
vuint8m8_t __riscv_vdivu_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                            size_t vl);
vuint8m8_t __riscv_vdivu_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                            size_t vl);
vuint16mf4_t __riscv_vdivu_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vdivu_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                              size_t vl);
vuint16mf2_t __riscv_vdivu_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vdivu_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m1_t __riscv_vdivu_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vdivu_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m2_t __riscv_vdivu_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                             size_t vl);
vuint16m2_t __riscv_vdivu_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m4_t __riscv_vdivu_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                             size_t vl);
vuint16m4_t __riscv_vdivu_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m8_t __riscv_vdivu_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                             size_t vl);
vuint16m8_t __riscv_vdivu_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                             size_t vl);
vuint32mf2_t __riscv_vdivu_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vdivu_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m1_t __riscv_vdivu_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vdivu_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m2_t __riscv_vdivu_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
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                              size_t vl);
vuint32m2_t __riscv_vdivu_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m4_t __riscv_vdivu_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                              size_t vl);
vuint32m4_t __riscv_vdivu_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m8_t __riscv_vdivu_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                              size_t vl);
vuint32m8_t __riscv_vdivu_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m1_t __riscv_vdivu_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vdivu_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m2_t __riscv_vdivu_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                              size_t vl);
vuint64m2_t __riscv_vdivu_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m4_t __riscv_vdivu_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                              size_t vl);
vuint64m4_t __riscv_vdivu_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m8_t __riscv_vdivu_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                              size_t vl);
vuint64m8_t __riscv_vdivu_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                              size_t vl);
vuint8mf8_t __riscv_vremu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                              size_t vl);
vuint8mf8_t __riscv_vremu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                              size_t vl);
vuint8mf4_t __riscv_vremu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                              size_t vl);
vuint8mf4_t __riscv_vremu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                              size_t vl);
vuint8mf2_t __riscv_vremu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                              size_t vl);
vuint8mf2_t __riscv_vremu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                              size_t vl);
vuint8m1_t __riscv_vremu_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vremu_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m2_t __riscv_vremu_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                             size_t vl);
vuint8m2_t __riscv_vremu_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m4_t __riscv_vremu_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                             size_t vl);
vuint8m4_t __riscv_vremu_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m8_t __riscv_vremu_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                             size_t vl);
vuint8m8_t __riscv_vremu_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                             size_t vl);
vuint16mf4_t __riscv_vremu_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vremu_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                              size_t vl);
vuint16mf2_t __riscv_vremu_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vremu_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m1_t __riscv_vremu_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vremu_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                              size_t vl);
```

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vuint16m2_t __riscv_vremu_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                             size_t vl);
vuint16m2_t __riscv_vremu_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m4_t __riscv_vremu_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                             size_t vl);
vuint16m4_t __riscv_vremu_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                             size_t vl);
vuint16m8_t __riscv_vremu_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                             size_t vl);
vuint16m8_t __riscv_vremu_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                             size_t vl);
vuint32mf2_t __riscv_vremu_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vremu_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m1_t __riscv_vremu_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                             size_t vl);
vuint32m1_t __riscv_vremu_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m2_t __riscv_vremu_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                             size_t vl);
vuint32m2_t __riscv_vremu_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m4_t __riscv_vremu_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                             size_t vl);
vuint32m4_t __riscv_vremu_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                             size_t vl);
vuint32m8_t __riscv_vremu_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                             size_t vl);
vuint32m8_t __riscv_vremu_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                             size_t vl);
vuint64m1_t __riscv_vremu_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                             size_t vl);
vuint64m1_t __riscv_vremu_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                             size_t vl);
vuint64m2_t __riscv_vremu_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                             size_t vl);
vuint64m2_t __riscv_vremu_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                             size_t vl);
vuint64m4_t __riscv_vremu_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                             size_t vl);
vuint64m4_t __riscv_vremu_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                             size_t vl);
vuint64m8_t __riscv_vremu_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                             size_t vl);
vuint64m8_t __riscv_vremu_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                             size_t vl);
// masked functions
vint8mf8_t __riscv_vdiv_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vdiv_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vdiv_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vdiv_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vdiv_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vdiv_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vdiv_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vdiv_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           size_t vl);
vint8m2_t __riscv_vdiv_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, size_t vl);
```

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vint8m2_t __riscv_vdiv_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vdiv_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vdiv_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           size_t vl);
vint8m8_t __riscv_vdiv_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vdiv_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vdiv_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vdiv_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vdiv_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vdiv_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vdiv_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vdiv_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vdiv_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vdiv_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vdiv_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vdiv_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vdiv_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vdiv_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vdiv_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vdiv_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vdiv_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vdiv_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vdiv_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vdiv_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vdiv_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vdiv_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vdiv_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vdiv_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vdiv_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vdiv_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vdiv_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vdiv_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vdiv_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vdiv_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vdiv_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
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                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vdiv_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrem_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrem_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrem_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrem_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrem_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrem_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vrem_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrem_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           size_t vl);
vint8m2_t __riscv_vrem_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrem_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vrem_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrem_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           size_t vl);
vint8m8_t __riscv_vrem_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrem_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vrem_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrem_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrem_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrem_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vrem_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrem_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vrem_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrem_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vrem_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrem_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vrem_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrem_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrem_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrem_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vrem_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrem_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vrem_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrem_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
```

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vint32m4_t __riscv_vrem_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrem_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vrem_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrem_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vrem_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrem_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vrem_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrem_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vrem_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrem_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vrem_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrem_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vdivu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vdivu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vdivu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vdivu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vdivu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vdivu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vdivu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vdivu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vdivu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vdivu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vdivu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vdivu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vdivu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vdivu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vdivu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vdivu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vdivu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vdivu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vdivu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vdivu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vdivu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vdivu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
```

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                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vdivu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vdivu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vdivu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vdivu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vdivu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vdivu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vdivu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vdivu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vdivu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vdivu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vdivu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vdivu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vdivu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vdivu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vdivu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vdivu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vdivu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vdivu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vdivu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vdivu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vdivu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vdivu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vremu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vremu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vremu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vremu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vremu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vremu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vremu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vremu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vremu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vremu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vremu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
```

```
vuint8m4_t __riscv_vremu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vremu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vremu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vremu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vremu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vremu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vremu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vremu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vremu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vremu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vremu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vremu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vremu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vremu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vremu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vremu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vremu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vremu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vremu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vremu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vremu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vremu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vremu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vremu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vremu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vremu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vremu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vremu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vremu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vremu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vremu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vremu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vremu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
// masked functions
```

```
vint8mf8_t __riscv_vdiv_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vdiv_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vdiv_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vdiv_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vdiv_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vdiv_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vdiv_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vdiv_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vdiv_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vdiv_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vdiv_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vdiv_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vdiv_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vdiv_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vdiv_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vdiv_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vdiv_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vdiv_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vdiv_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vdiv_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vdiv_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vdiv_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vdiv_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vdiv_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vdiv_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vdiv_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vdiv_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vdiv_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vdiv_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vdiv_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vdiv_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vdiv_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vdiv_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vdiv_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
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                              int32_t rs1, size_t vl);
vint32m8_t __riscv_vdiv_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vdiv_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, size_t vl);
vint64m1_t __riscv_vdiv_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vdiv_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, size_t vl);
vint64m2_t __riscv_vdiv_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vdiv_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, size_t vl);
vint64m4_t __riscv_vdiv_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vdiv_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, size_t vl);
vint64m8_t __riscv_vdiv_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vdiv_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrem_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrem_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrem_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrem_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrem_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrem_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vrem_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrem_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vrem_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrem_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vrem_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrem_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vrem_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrem_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vrem_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrem_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrem_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrem_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vrem_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrem_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vrem_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrem_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vrem_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
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vint16m4_t __riscv_vrem_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vrem_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrem_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrem_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrem_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vrem_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrem_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vrem_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrem_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vrem_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrem_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, size_t vl);
vint32m8_t __riscv_vrem_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrem_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, size_t vl);
vint64m1_t __riscv_vrem_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrem_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, size_t vl);
vint64m2_t __riscv_vrem_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrem_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, size_t vl);
vint64m4_t __riscv_vrem_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrem_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, size_t vl);
vint64m8_t __riscv_vrem_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrem_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vdivu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vdivu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vdivu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vdivu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vdivu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vdivu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vdivu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vdivu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vdivu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vdivu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vdivu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vdivu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vdivu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
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                              vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vdivu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vdivu_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vdivu_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vdivu_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vdivu_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vdivu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vdivu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vdivu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vdivu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vdivu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vdivu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vdivu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vdivu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vdivu_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vdivu_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vdivu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vdivu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vdivu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vdivu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vdivu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vdivu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vdivu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vdivu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vdivu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vdivu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vdivu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vdivu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vdivu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vdivu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vdivu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vdivu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vremu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vremu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
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vuint8mf4_t __riscv_vremu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vremu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vremu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vremu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vremu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vremu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vremu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vremu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vremu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vremu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vremu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vremu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vremu_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vremu_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vremu_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vremu_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vremu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vremu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vremu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vremu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vremu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vremu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vremu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vremu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vremu_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vremu_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vremu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vremu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vremu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vremu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vremu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vremu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vremu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vremu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
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                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vremu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vremu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vremu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vremu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vremu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vremu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vremu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vremu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vdiv_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vdiv_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                           int8_t rs1, size_t vl);
vint8mf4_t __riscv_vdiv_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vdiv_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                           int8_t rs1, size_t vl);
vint8mf2_t __riscv_vdiv_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vdiv_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                           int8_t rs1, size_t vl);
vint8m1_t __riscv_vdiv_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                          vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vdiv_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                          size_t vl);
vint8m2_t __riscv_vdiv_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                          vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vdiv_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                          size_t vl);
vint8m4_t __riscv_vdiv_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                          vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vdiv_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                          size_t vl);
vint8m8_t __riscv_vdiv_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                          vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vdiv_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                          size_t vl);
vint16mf4_t __riscv_vdiv_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vdiv_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            int16_t rs1, size_t vl);
vint16mf2_t __riscv_vdiv_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vdiv_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            int16_t rs1, size_t vl);
vint16m1_t __riscv_vdiv_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vdiv_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vint16m2_t __riscv_vdiv_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vdiv_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           int16_t rs1, size_t vl);
vint16m4_t __riscv_vdiv_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vdiv_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           int16_t rs1, size_t vl);
vint16m8_t __riscv_vdiv_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
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                          vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vdiv_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                          int16_t rs1, size_t vl);
vint32mf2_t __riscv_vdiv_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                           vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vdiv_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                           int32_t rs1, size_t vl);
vint32m1_t __riscv_vdiv_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                          vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vdiv_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                          int32_t rs1, size_t vl);
vint32m2_t __riscv_vdiv_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                          vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vdiv_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                          int32_t rs1, size_t vl);
vint32m4_t __riscv_vdiv_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                          vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vdiv_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                          int32_t rs1, size_t vl);
vint32m8_t __riscv_vdiv_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                          vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vdiv_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                          int32_t rs1, size_t vl);
vint64m1_t __riscv_vdiv_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                          vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vdiv_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                          int64_t rs1, size_t vl);
vint64m2_t __riscv_vdiv_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                          vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vdiv_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                          int64_t rs1, size_t vl);
vint64m4_t __riscv_vdiv_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                          vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vdiv_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                          int64_t rs1, size_t vl);
vint64m8_t __riscv_vdiv_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vdiv_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                          int64_t rs1, size_t vl);
vint8mf8_t __riscv_vrem_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                          vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrem_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                          int8_t rs1, size_t vl);
vint8mf4_t __riscv_vrem_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                          vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrem_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                          int8_t rs1, size_t vl);
vint8mf2_t __riscv_vrem_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                          vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrem_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                          int8_t rs1, size_t vl);
vint8m1_t __riscv_vrem_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                         vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrem_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                         size_t vl);
vint8m2_t __riscv_vrem_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                         vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrem_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                         size_t vl);
vint8m4_t __riscv_vrem_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                         vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrem_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                         size_t vl);
vint8m8_t __riscv_vrem_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                         vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrem_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                         size_t vl);
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vint16mf4_t __riscv_vrem_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrem_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                            int16_t rs1, size_t vl);
vint16mf2_t __riscv_vrem_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrem_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                            int16_t rs1, size_t vl);
vint16m1_t __riscv_vrem_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrem_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                           int16_t rs1, size_t vl);
vint16m2_t __riscv_vrem_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrem_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                           int16_t rs1, size_t vl);
vint16m4_t __riscv_vrem_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrem_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                           int16_t rs1, size_t vl);
vint16m8_t __riscv_vrem_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrem_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                           int16_t rs1, size_t vl);
vint32mf2_t __riscv_vrem_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrem_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                            int32_t rs1, size_t vl);
vint32m1_t __riscv_vrem_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrem_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                           int32_t rs1, size_t vl);
vint32m2_t __riscv_vrem_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrem_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                           int32_t rs1, size_t vl);
vint32m4_t __riscv_vrem_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrem_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                           int32_t rs1, size_t vl);
vint32m8_t __riscv_vrem_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrem_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                           int32_t rs1, size_t vl);
vint64m1_t __riscv_vrem_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrem_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                           int64_t rs1, size_t vl);
vint64m2_t __riscv_vrem_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrem_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                           int64_t rs1, size_t vl);
vint64m4_t __riscv_vrem_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrem_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                           int64_t rs1, size_t vl);
vint64m8_t __riscv_vrem_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrem_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                           int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vdivu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vdivu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vdivu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vdivu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
```

```
                            uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vdivu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vdivu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vdivu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vdivu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vdivu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vdivu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vdivu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vdivu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vdivu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vdivu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vdivu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vdivu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vdivu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vdivu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vdivu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vdivu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vdivu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vdivu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vdivu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vdivu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vdivu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vdivu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vdivu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vdivu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vdivu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vdivu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vdivu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vdivu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vdivu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vdivu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vdivu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vdivu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vdivu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
```

```
vuint64m1_t __riscv_vdivu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vdivu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vdivu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vdivu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vdivu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vdivu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vdivu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vremu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vremu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vremu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vremu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vremu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vremu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vremu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vremu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vremu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vremu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vremu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vremu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vremu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vremu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vremu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vremu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vremu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vremu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vremu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vremu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vremu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vremu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vremu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vremu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vremu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vremu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vremu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
```

```
                              vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vremu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vremu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vremu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vremu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vremu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vremu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vremu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vremu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vremu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vremu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vremu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vremu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vremu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vremu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vremu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vremu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vremu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             uint64_t rs1, size_t vl);
```

D.3.16. Vector Widening Integer Multiply Intrinsics

```
vint16mf4_t __riscv_vwmul_tu(vint16mf4_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                             size_t vl);
vint16mf4_t __riscv_vwmul_tu(vint16mf4_t vd, vint8mf8_t vs2, int8_t rs1,
                             size_t vl);
vint16mf2_t __riscv_vwmul_tu(vint16mf2_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                             size_t vl);
vint16mf2_t __riscv_vwmul_tu(vint16mf2_t vd, vint8mf4_t vs2, int8_t rs1,
                             size_t vl);
vint16m1_t __riscv_vwmul_tu(vint16m1_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                            size_t vl);
vint16m1_t __riscv_vwmul_tu(vint16m1_t vd, vint8mf2_t vs2, int8_t rs1,
                            size_t vl);
vint16m2_t __riscv_vwmul_tu(vint16m2_t vd, vint8m1_t vs2, vint8m1_t vs1,
                            size_t vl);
vint16m2_t __riscv_vwmul_tu(vint16m2_t vd, vint8m1_t vs2, int8_t rs1,
                            size_t vl);
vint16m4_t __riscv_vwmul_tu(vint16m4_t vd, vint8m2_t vs2, vint8m2_t vs1,
                            size_t vl);
vint16m4_t __riscv_vwmul_tu(vint16m4_t vd, vint8m2_t vs2, int8_t rs1,
                            size_t vl);
vint16m8_t __riscv_vwmul_tu(vint16m8_t vd, vint8m4_t vs2, vint8m4_t vs1,
                            size_t vl);
vint16m8_t __riscv_vwmul_tu(vint16m8_t vd, vint8m4_t vs2, int8_t rs1,
                            size_t vl);
vint32mf2_t __riscv_vwmul_tu(vint32mf2_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                             size_t vl);
vint32mf2_t __riscv_vwmul_tu(vint32mf2_t vd, vint16mf4_t vs2, int16_t rs1,
```

```
                              size_t vl);
vint32m1_t __riscv_vwmul_tu(vint32m1_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                            size_t vl);
vint32m1_t __riscv_vwmul_tu(vint32m1_t vd, vint16mf2_t vs2, int16_t rs1,
                            size_t vl);
vint32m2_t __riscv_vwmul_tu(vint32m2_t vd, vint16m1_t vs2, vint16m1_t vs1,
                            size_t vl);
vint32m2_t __riscv_vwmul_tu(vint32m2_t vd, vint16m1_t vs2, int16_t rs1,
                            size_t vl);
vint32m4_t __riscv_vwmul_tu(vint32m4_t vd, vint16m2_t vs2, vint16m2_t vs1,
                            size_t vl);
vint32m4_t __riscv_vwmul_tu(vint32m4_t vd, vint16m2_t vs2, int16_t rs1,
                            size_t vl);
vint32m8_t __riscv_vwmul_tu(vint32m8_t vd, vint16m4_t vs2, vint16m4_t vs1,
                            size_t vl);
vint32m8_t __riscv_vwmul_tu(vint32m8_t vd, vint16m4_t vs2, int16_t rs1,
                            size_t vl);
vint64m1_t __riscv_vwmul_tu(vint64m1_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                            size_t vl);
vint64m1_t __riscv_vwmul_tu(vint64m1_t vd, vint32mf2_t vs2, int32_t rs1,
                            size_t vl);
vint64m2_t __riscv_vwmul_tu(vint64m2_t vd, vint32m1_t vs2, vint32m1_t vs1,
                            size_t vl);
vint64m2_t __riscv_vwmul_tu(vint64m2_t vd, vint32m1_t vs2, int32_t rs1,
                            size_t vl);
vint64m4_t __riscv_vwmul_tu(vint64m4_t vd, vint32m2_t vs2, vint32m2_t vs1,
                            size_t vl);
vint64m4_t __riscv_vwmul_tu(vint64m4_t vd, vint32m2_t vs2, int32_t rs1,
                            size_t vl);
vint64m8_t __riscv_vwmul_tu(vint64m8_t vd, vint32m4_t vs2, vint32m4_t vs1,
                            size_t vl);
vint64m8_t __riscv_vwmul_tu(vint64m8_t vd, vint32m4_t vs2, int32_t rs1,
                            size_t vl);
vint16mf4_t __riscv_vwmulsu_tu(vint16mf4_t vd, vint8mf8_t vs2, vuint8mf8_t vs1,
                               size_t vl);
vint16mf4_t __riscv_vwmulsu_tu(vint16mf4_t vd, vint8mf8_t vs2, uint8_t rs1,
                               size_t vl);
vint16mf2_t __riscv_vwmulsu_tu(vint16mf2_t vd, vint8mf4_t vs2, vuint8mf4_t vs1,
                               size_t vl);
vint16mf2_t __riscv_vwmulsu_tu(vint16mf2_t vd, vint8mf4_t vs2, uint8_t rs1,
                               size_t vl);
vint16m1_t __riscv_vwmulsu_tu(vint16m1_t vd, vint8mf2_t vs2, vuint8mf2_t vs1,
                              size_t vl);
vint16m1_t __riscv_vwmulsu_tu(vint16m1_t vd, vint8mf2_t vs2, uint8_t rs1,
                              size_t vl);
vint16m2_t __riscv_vwmulsu_tu(vint16m2_t vd, vint8m1_t vs2, vuint8m1_t vs1,
                              size_t vl);
vint16m2_t __riscv_vwmulsu_tu(vint16m2_t vd, vint8m1_t vs2, uint8_t rs1,
                              size_t vl);
vint16m4_t __riscv_vwmulsu_tu(vint16m4_t vd, vint8m2_t vs2, vuint8m2_t vs1,
                              size_t vl);
vint16m4_t __riscv_vwmulsu_tu(vint16m4_t vd, vint8m2_t vs2, uint8_t rs1,
                              size_t vl);
vint16m8_t __riscv_vwmulsu_tu(vint16m8_t vd, vint8m4_t vs2, vuint8m4_t vs1,
                              size_t vl);
vint16m8_t __riscv_vwmulsu_tu(vint16m8_t vd, vint8m4_t vs2, uint8_t rs1,
                              size_t vl);
vint32mf2_t __riscv_vwmulsu_tu(vint32mf2_t vd, vint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_tu(vint32mf2_t vd, vint16mf4_t vs2, uint16_t rs1,
                               size_t vl);
vint32m1_t __riscv_vwmulsu_tu(vint32m1_t vd, vint16mf2_t vs2, vuint16mf2_t vs1,
                              size_t vl);
vint32m1_t __riscv_vwmulsu_tu(vint32m1_t vd, vint16mf2_t vs2, uint16_t rs1,
                              size_t vl);
vint32m2_t __riscv_vwmulsu_tu(vint32m2_t vd, vint16m1_t vs2, vuint16m1_t vs1,
                              size_t vl);
```

```
vint32m2_t __riscv_vwmulsu_tu(vint32m2_t vd, vint16m1_t vs2, uint16_t rs1,
                              size_t vl);
vint32m4_t __riscv_vwmulsu_tu(vint32m4_t vd, vint16m2_t vs2, vuint16m2_t vs1,
                              size_t vl);
vint32m4_t __riscv_vwmulsu_tu(vint32m4_t vd, vint16m2_t vs2, uint16_t rs1,
                              size_t vl);
vint32m8_t __riscv_vwmulsu_tu(vint32m8_t vd, vint16m4_t vs2, vuint16m4_t vs1,
                              size_t vl);
vint32m8_t __riscv_vwmulsu_tu(vint32m8_t vd, vint16m4_t vs2, uint16_t rs1,
                              size_t vl);
vint64m1_t __riscv_vwmulsu_tu(vint64m1_t vd, vint32mf2_t vs2, vuint32mf2_t vs1,
                              size_t vl);
vint64m1_t __riscv_vwmulsu_tu(vint64m1_t vd, vint32mf2_t vs2, uint32_t rs1,
                              size_t vl);
vint64m2_t __riscv_vwmulsu_tu(vint64m2_t vd, vint32m1_t vs2, vuint32m1_t vs1,
                              size_t vl);
vint64m2_t __riscv_vwmulsu_tu(vint64m2_t vd, vint32m1_t vs2, uint32_t rs1,
                              size_t vl);
vint64m4_t __riscv_vwmulsu_tu(vint64m4_t vd, vint32m2_t vs2, vuint32m2_t vs1,
                              size_t vl);
vint64m4_t __riscv_vwmulsu_tu(vint64m4_t vd, vint32m2_t vs2, uint32_t rs1,
                              size_t vl);
vint64m8_t __riscv_vwmulsu_tu(vint64m8_t vd, vint32m4_t vs2, vuint32m4_t vs1,
                              size_t vl);
vint64m8_t __riscv_vwmulsu_tu(vint64m8_t vd, vint32m4_t vs2, uint32_t rs1,
                              size_t vl);
vuint16mf4_t __riscv_vwmulu_tu(vuint16mf4_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_tu(vuint16mf4_t vd, vuint8mf8_t vs2, uint8_t rs1,
                               size_t vl);
vuint16mf2_t __riscv_vwmulu_tu(vuint16mf2_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_tu(vuint16mf2_t vd, vuint8mf4_t vs2, uint8_t rs1,
                               size_t vl);
vuint16m1_t __riscv_vwmulu_tu(vuint16m1_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vwmulu_tu(vuint16m1_t vd, vuint8mf2_t vs2, uint8_t rs1,
                              size_t vl);
vuint16m2_t __riscv_vwmulu_tu(vuint16m2_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint16m2_t __riscv_vwmulu_tu(vuint16m2_t vd, vuint8m1_t vs2, uint8_t rs1,
                              size_t vl);
vuint16m4_t __riscv_vwmulu_tu(vuint16m4_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                              size_t vl);
vuint16m4_t __riscv_vwmulu_tu(vuint16m4_t vd, vuint8m2_t vs2, uint8_t rs1,
                              size_t vl);
vuint16m8_t __riscv_vwmulu_tu(vuint16m8_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                              size_t vl);
vuint16m8_t __riscv_vwmulu_tu(vuint16m8_t vd, vuint8m4_t vs2, uint8_t rs1,
                              size_t vl);
vuint32mf2_t __riscv_vwmulu_tu(vuint32mf2_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_tu(vuint32mf2_t vd, vuint16mf4_t vs2, uint16_t rs1,
                               size_t vl);
vuint32m1_t __riscv_vwmulu_tu(vuint32m1_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwmulu_tu(vuint32m1_t vd, vuint16mf2_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m2_t __riscv_vwmulu_tu(vuint32m2_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint32m2_t __riscv_vwmulu_tu(vuint32m2_t vd, vuint16m1_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m4_t __riscv_vwmulu_tu(vuint32m4_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                              size_t vl);
vuint32m4_t __riscv_vwmulu_tu(vuint32m4_t vd, vuint16m2_t vs2, uint16_t rs1,
                              size_t vl);
vuint32m8_t __riscv_vwmulu_tu(vuint32m8_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
```

```
                              size_t vl);
vuint32m8_t __riscv_vwmulu_tu(vuint32m8_t vd, vuint16m4_t vs2, uint16_t rs1,
                              size_t vl);
vuint64m1_t __riscv_vwmulu_tu(vuint64m1_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwmulu_tu(vuint64m1_t vd, vuint32mf2_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m2_t __riscv_vwmulu_tu(vuint64m2_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint64m2_t __riscv_vwmulu_tu(vuint64m2_t vd, vuint32m1_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m4_t __riscv_vwmulu_tu(vuint64m4_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                              size_t vl);
vuint64m4_t __riscv_vwmulu_tu(vuint64m4_t vd, vuint32m2_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m8_t __riscv_vwmulu_tu(vuint64m8_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                              size_t vl);
vuint64m8_t __riscv_vwmulu_tu(vuint64m8_t vd, vuint32m4_t vs2, uint32_t rs1,
                              size_t vl);
// masked functions
vint16mf4_t __riscv_vwmul_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                              vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmul_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                              int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmul_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                              vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmul_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                              int8_t rs1, size_t vl);
vint16m1_t __riscv_vwmul_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmul_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint16m2_t __riscv_vwmul_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                             vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmul_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                             int8_t rs1, size_t vl);
vint16m4_t __riscv_vwmul_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                             vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmul_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                             int8_t rs1, size_t vl);
vint16m8_t __riscv_vwmul_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                             vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmul_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                             int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmul_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmul_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint32m1_t __riscv_vwmul_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmul_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint32m2_t __riscv_vwmul_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmul_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint32m4_t __riscv_vwmul_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmul_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint32m8_t __riscv_vwmul_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmul_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint64m1_t __riscv_vwmul_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmul_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
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                              int32_t rs1, size_t vl);
vint64m2_t __riscv_vwmul_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmul_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint64m4_t __riscv_vwmul_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmul_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint64m8_t __riscv_vwmul_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmul_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                             int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                vuint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                uint8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmulsu_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                vuint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmulsu_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                uint8_t rs1, size_t vl);
vint16m1_t __riscv_vwmulsu_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmulsu_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vint16m2_t __riscv_vwmulsu_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                               vuint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmulsu_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                               uint8_t rs1, size_t vl);
vint16m4_t __riscv_vwmulsu_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                               vuint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmulsu_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                               uint8_t rs1, size_t vl);
vint16m8_t __riscv_vwmulsu_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                               vuint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmulsu_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                               uint8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vint32m1_t __riscv_vwmulsu_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmulsu_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vint32m2_t __riscv_vwmulsu_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmulsu_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                               uint16_t rs1, size_t vl);
vint32m4_t __riscv_vwmulsu_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmulsu_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                               uint16_t rs1, size_t vl);
vint32m8_t __riscv_vwmulsu_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmulsu_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vint64m1_t __riscv_vwmulsu_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmulsu_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vint64m2_t __riscv_vwmulsu_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmulsu_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vint64m4_t __riscv_vwmulsu_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
```

```
vint64m4_t __riscv_vwmulsu_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vint64m8_t __riscv_vwmulsu_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                               vuint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmulsu_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                               uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_tum(vbool64_t vm, vuint16mf4_t vd, vuint8mf8_t vs2,
                                vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_tum(vbool64_t vm, vuint16mf4_t vd, vuint8mf8_t vs2,
                                uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_tum(vbool32_t vm, vuint16mf2_t vd, vuint8mf4_t vs2,
                                vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_tum(vbool32_t vm, vuint16mf2_t vd, vuint8mf4_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwmulu_tum(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwmulu_tum(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwmulu_tum(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwmulu_tum(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                               uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwmulu_tum(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                               vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwmulu_tum(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                               uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwmulu_tum(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                               vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwmulu_tum(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                               uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_tum(vbool64_t vm, vuint32mf2_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_tum(vbool64_t vm, vuint32mf2_t vd, vuint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwmulu_tum(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwmulu_tum(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwmulu_tum(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwmulu_tum(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                               uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwmulu_tum(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwmulu_tum(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                               uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwmulu_tum(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwmulu_tum(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwmulu_tum(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwmulu_tum(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwmulu_tum(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwmulu_tum(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwmulu_tum(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwmulu_tum(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwmulu_tum(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                               vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwmulu_tum(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                               uint32_t rs1, size_t vl);
// masked functions
```

```
vint16mf4_t __riscv_vwmul_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                               vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmul_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                               int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmul_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                               vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmul_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                               int8_t rs1, size_t vl);
vint16m1_t __riscv_vwmul_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                              vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmul_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                              int8_t rs1, size_t vl);
vint16m2_t __riscv_vwmul_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                              vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmul_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                              int8_t rs1, size_t vl);
vint16m4_t __riscv_vwmul_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                              vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmul_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                              int8_t rs1, size_t vl);
vint16m8_t __riscv_vwmul_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                              vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmul_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                              int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmul_tumu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                               vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmul_tumu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                               int16_t rs1, size_t vl);
vint32m1_t __riscv_vwmul_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmul_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint32m2_t __riscv_vwmul_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                              vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmul_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                              int16_t rs1, size_t vl);
vint32m4_t __riscv_vwmul_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                              vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmul_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                              int16_t rs1, size_t vl);
vint32m8_t __riscv_vwmul_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                              vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmul_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                              int16_t rs1, size_t vl);
vint64m1_t __riscv_vwmul_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmul_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint64m2_t __riscv_vwmul_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                              vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmul_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                              int32_t rs1, size_t vl);
vint64m4_t __riscv_vwmul_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                              vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmul_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                              int32_t rs1, size_t vl);
vint64m8_t __riscv_vwmul_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                              vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmul_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                              int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                 vuint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                                 uint8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmulsu_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                                 vuint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmulsu_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
```

```
                                uint8_t rs1, size_t vl);
vint16m1_t __riscv_vwmulsu_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmulsu_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                uint8_t rs1, size_t vl);
vint16m2_t __riscv_vwmulsu_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                vuint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmulsu_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                                uint8_t rs1, size_t vl);
vint16m4_t __riscv_vwmulsu_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                vuint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmulsu_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                                uint8_t rs1, size_t vl);
vint16m8_t __riscv_vwmulsu_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                vuint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmulsu_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                                uint8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_tumu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                 vuint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_tumu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                                 uint16_t rs1, size_t vl);
vint32m1_t __riscv_vwmulsu_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmulsu_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vint32m2_t __riscv_vwmulsu_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmulsu_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                                uint16_t rs1, size_t vl);
vint32m4_t __riscv_vwmulsu_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                vuint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmulsu_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                                uint16_t rs1, size_t vl);
vint32m8_t __riscv_vwmulsu_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                vuint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmulsu_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                                uint16_t rs1, size_t vl);
vint64m1_t __riscv_vwmulsu_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmulsu_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vint64m2_t __riscv_vwmulsu_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmulsu_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                                uint32_t rs1, size_t vl);
vint64m4_t __riscv_vwmulsu_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                vuint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmulsu_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                                uint32_t rs1, size_t vl);
vint64m8_t __riscv_vwmulsu_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                vuint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmulsu_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                                uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_tumu(vbool64_t vm, vuint16mf4_t vd, vuint8mf8_t vs2,
                                 vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_tumu(vbool64_t vm, vuint16mf4_t vd, vuint8mf8_t vs2,
                                 uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_tumu(vbool32_t vm, vuint16mf2_t vd, vuint8mf4_t vs2,
                                 vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_tumu(vbool32_t vm, vuint16mf2_t vd, vuint8mf4_t vs2,
                                 uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwmulu_tumu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwmulu_tumu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwmulu_tumu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                vuint8m1_t vs1, size_t vl);
```

```
vuint16m2_t __riscv_vwmulu_tumu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwmulu_tumu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwmulu_tumu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                                uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwmulu_tumu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwmulu_tumu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                                uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwmulu_tumu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwmulu_tumu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwmulu_tumu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint32m2_t __riscv_vwmulu_tumu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwmulu_tumu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwmulu_tumu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                                uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwmulu_tumu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwmulu_tumu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                                uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwmulu_tumu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwmulu_tumu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwmulu_tumu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwmulu_tumu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                                uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwmulu_tumu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwmulu_tumu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                                uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwmulu_tumu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwmulu_tumu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                                uint32_t rs1, size_t vl);
// masked functions
vint16mf4_t __riscv_vwmul_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmul_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmul_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmul_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint16m1_t __riscv_vwmul_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmul_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint16m2_t __riscv_vwmul_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmul_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint16m4_t __riscv_vwmul_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmul_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
```

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vint16m8_t __riscv_vwmul_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmul_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmul_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmul_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint32m1_t __riscv_vwmul_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                            vint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmul_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                            int16_t rs1, size_t vl);
vint32m2_t __riscv_vwmul_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmul_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint32m4_t __riscv_vwmul_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmul_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint32m8_t __riscv_vwmul_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmul_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint64m1_t __riscv_vwmul_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                            vint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmul_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                            int32_t rs1, size_t vl);
vint64m2_t __riscv_vwmul_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmul_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint64m4_t __riscv_vwmul_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmul_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint64m8_t __riscv_vwmul_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmul_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vint16mf4_t __riscv_vwmulsu_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
vint16mf2_t __riscv_vwmulsu_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vwmulsu_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vint16m1_t __riscv_vwmulsu_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vint16m1_t __riscv_vwmulsu_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vint16m2_t __riscv_vwmulsu_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vint16m2_t __riscv_vwmulsu_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vint16m4_t __riscv_vwmulsu_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vint16m4_t __riscv_vwmulsu_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vint16m8_t __riscv_vwmulsu_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vint16m8_t __riscv_vwmulsu_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs2,
                              uint8_t rs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vint32mf2_t __riscv_vwmulsu_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs2,
```

```
                                uint16_t rs1, size_t vl);
vint32m1_t __riscv_vwmulsu_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vint32m1_t __riscv_vwmulsu_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vint32m2_t __riscv_vwmulsu_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vint32m2_t __riscv_vwmulsu_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vint32m4_t __riscv_vwmulsu_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vint32m4_t __riscv_vwmulsu_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vint32m8_t __riscv_vwmulsu_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vint32m8_t __riscv_vwmulsu_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vint64m1_t __riscv_vwmulsu_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vint64m1_t __riscv_vwmulsu_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vint64m2_t __riscv_vwmulsu_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vint64m2_t __riscv_vwmulsu_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vint64m4_t __riscv_vwmulsu_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vint64m4_t __riscv_vwmulsu_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vint64m8_t __riscv_vwmulsu_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vint64m8_t __riscv_vwmulsu_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_mu(vbool64_t vm, vuint16mf4_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vuint16mf4_t __riscv_vwmulu_mu(vbool64_t vm, vuint16mf4_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_mu(vbool32_t vm, vuint16mf2_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vwmulu_mu(vbool32_t vm, vuint16mf2_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vuint16m1_t __riscv_vwmulu_mu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vwmulu_mu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint16m2_t __riscv_vwmulu_mu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint16m2_t __riscv_vwmulu_mu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vuint16m4_t __riscv_vwmulu_mu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vuint16m4_t __riscv_vwmulu_mu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vuint16m8_t __riscv_vwmulu_mu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vuint16m8_t __riscv_vwmulu_mu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs2,
                              uint8_t rs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_mu(vbool64_t vm, vuint32mf2_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint32mf2_t __riscv_vwmulu_mu(vbool64_t vm, vuint32mf2_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint32m1_t __riscv_vwmulu_mu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, size_t vl);
vuint32m1_t __riscv_vwmulu_mu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs2,
                              uint16_t rs1, size_t vl);
vuint32m2_t __riscv_vwmulu_mu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
```

```
vuint32m2_t __riscv_vwmulu_mu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint32m4_t __riscv_vwmulu_mu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint32m4_t __riscv_vwmulu_mu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint32m8_t __riscv_vwmulu_mu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint32m8_t __riscv_vwmulu_mu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint64m1_t __riscv_vwmulu_mu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, size_t vl);
vuint64m1_t __riscv_vwmulu_mu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m2_t __riscv_vwmulu_mu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint64m2_t __riscv_vwmulu_mu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m4_t __riscv_vwmulu_mu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint64m4_t __riscv_vwmulu_mu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m8_t __riscv_vwmulu_mu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint64m8_t __riscv_vwmulu_mu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
```

D.3.17. Vector Single-Width Integer Multiply-Add Intrinsics

```
vint8mf8_t __riscv_vmacc_tu(vint8mf8_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                            size_t vl);
vint8mf8_t __riscv_vmacc_tu(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                            size_t vl);
vint8mf4_t __riscv_vmacc_tu(vint8mf4_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                            size_t vl);
vint8mf4_t __riscv_vmacc_tu(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                            size_t vl);
vint8mf2_t __riscv_vmacc_tu(vint8mf2_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                            size_t vl);
vint8mf2_t __riscv_vmacc_tu(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                            size_t vl);
vint8m1_t __riscv_vmacc_tu(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                           size_t vl);
vint8m1_t __riscv_vmacc_tu(vint8m1_t vd, int8_t rs1, vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_tu(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                           size_t vl);
vint8m2_t __riscv_vmacc_tu(vint8m2_t vd, int8_t rs1, vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_tu(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                           size_t vl);
vint8m4_t __riscv_vmacc_tu(vint8m4_t vd, int8_t rs1, vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_tu(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                           size_t vl);
vint8m8_t __riscv_vmacc_tu(vint8m8_t vd, int8_t rs1, vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_tu(vint16mf4_t vd, vint16mf4_t vs1, vint16mf4_t vs2,
                             size_t vl);
vint16mf4_t __riscv_vmacc_tu(vint16mf4_t vd, int16_t rs1, vint16mf4_t vs2,
                             size_t vl);
vint16mf2_t __riscv_vmacc_tu(vint16mf2_t vd, vint16mf2_t vs1, vint16mf2_t vs2,
                             size_t vl);
vint16mf2_t __riscv_vmacc_tu(vint16mf2_t vd, int16_t rs1, vint16mf2_t vs2,
                             size_t vl);
vint16m1_t __riscv_vmacc_tu(vint16m1_t vd, vint16m1_t vs1, vint16m1_t vs2,
                            size_t vl);
vint16m1_t __riscv_vmacc_tu(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                            size_t vl);
```

```
vint16m2_t __riscv_vmacc_tu(vint16m2_t vd, vint16m2_t vs1, vint16m2_t vs2,
                            size_t vl);
vint16m2_t __riscv_vmacc_tu(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                            size_t vl);
vint16m4_t __riscv_vmacc_tu(vint16m4_t vd, vint16m4_t vs1, vint16m4_t vs2,
                            size_t vl);
vint16m4_t __riscv_vmacc_tu(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                            size_t vl);
vint16m8_t __riscv_vmacc_tu(vint16m8_t vd, vint16m8_t vs1, vint16m8_t vs2,
                            size_t vl);
vint16m8_t __riscv_vmacc_tu(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                            size_t vl);
vint32mf2_t __riscv_vmacc_tu(vint32mf2_t vd, vint32mf2_t vs1, vint32mf2_t vs2,
                             size_t vl);
vint32mf2_t __riscv_vmacc_tu(vint32mf2_t vd, int32_t rs1, vint32mf2_t vs2,
                             size_t vl);
vint32m1_t __riscv_vmacc_tu(vint32m1_t vd, vint32m1_t vs1, vint32m1_t vs2,
                            size_t vl);
vint32m1_t __riscv_vmacc_tu(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                            size_t vl);
vint32m2_t __riscv_vmacc_tu(vint32m2_t vd, vint32m2_t vs1, vint32m2_t vs2,
                            size_t vl);
vint32m2_t __riscv_vmacc_tu(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                            size_t vl);
vint32m4_t __riscv_vmacc_tu(vint32m4_t vd, vint32m4_t vs1, vint32m4_t vs2,
                            size_t vl);
vint32m4_t __riscv_vmacc_tu(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                            size_t vl);
vint32m8_t __riscv_vmacc_tu(vint32m8_t vd, vint32m8_t vs1, vint32m8_t vs2,
                            size_t vl);
vint32m8_t __riscv_vmacc_tu(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                            size_t vl);
vint64m1_t __riscv_vmacc_tu(vint64m1_t vd, vint64m1_t vs1, vint64m1_t vs2,
                            size_t vl);
vint64m1_t __riscv_vmacc_tu(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                            size_t vl);
vint64m2_t __riscv_vmacc_tu(vint64m2_t vd, vint64m2_t vs1, vint64m2_t vs2,
                            size_t vl);
vint64m2_t __riscv_vmacc_tu(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                            size_t vl);
vint64m4_t __riscv_vmacc_tu(vint64m4_t vd, vint64m4_t vs1, vint64m4_t vs2,
                            size_t vl);
vint64m4_t __riscv_vmacc_tu(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                            size_t vl);
vint64m8_t __riscv_vmacc_tu(vint64m8_t vd, vint64m8_t vs1, vint64m8_t vs2,
                            size_t vl);
vint64m8_t __riscv_vmacc_tu(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
                            size_t vl);
vint8mf8_t __riscv_vnmsac_tu(vint8mf8_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                             size_t vl);
vint8mf8_t __riscv_vnmsac_tu(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                             size_t vl);
vint8mf4_t __riscv_vnmsac_tu(vint8mf4_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                             size_t vl);
vint8mf4_t __riscv_vnmsac_tu(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                             size_t vl);
vint8mf2_t __riscv_vnmsac_tu(vint8mf2_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                             size_t vl);
vint8mf2_t __riscv_vnmsac_tu(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                             size_t vl);
vint8m1_t __riscv_vnmsac_tu(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                            size_t vl);
vint8m1_t __riscv_vnmsac_tu(vint8m1_t vd, int8_t rs1, vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_tu(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                            size_t vl);
vint8m2_t __riscv_vnmsac_tu(vint8m2_t vd, int8_t rs1, vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_tu(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
```

```
                             size_t vl);
vint8m4_t __riscv_vnmsac_tu(vint8m4_t vd, int8_t rs1, vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_tu(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                            size_t vl);
vint8m8_t __riscv_vnmsac_tu(vint8m8_t vd, int8_t rs1, vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_tu(vint16mf4_t vd, vint16mf4_t vs1, vint16mf4_t vs2,
                              size_t vl);
vint16mf4_t __riscv_vnmsac_tu(vint16mf4_t vd, int16_t rs1, vint16mf4_t vs2,
                              size_t vl);
vint16mf2_t __riscv_vnmsac_tu(vint16mf2_t vd, vint16mf2_t vs1, vint16mf2_t vs2,
                              size_t vl);
vint16mf2_t __riscv_vnmsac_tu(vint16mf2_t vd, int16_t rs1, vint16mf2_t vs2,
                              size_t vl);
vint16m1_t __riscv_vnmsac_tu(vint16m1_t vd, vint16m1_t vs1, vint16m1_t vs2,
                             size_t vl);
vint16m1_t __riscv_vnmsac_tu(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                             size_t vl);
vint16m2_t __riscv_vnmsac_tu(vint16m2_t vd, vint16m2_t vs1, vint16m2_t vs2,
                             size_t vl);
vint16m2_t __riscv_vnmsac_tu(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                             size_t vl);
vint16m4_t __riscv_vnmsac_tu(vint16m4_t vd, vint16m4_t vs1, vint16m4_t vs2,
                             size_t vl);
vint16m4_t __riscv_vnmsac_tu(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                             size_t vl);
vint16m8_t __riscv_vnmsac_tu(vint16m8_t vd, vint16m8_t vs1, vint16m8_t vs2,
                             size_t vl);
vint16m8_t __riscv_vnmsac_tu(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                             size_t vl);
vint32mf2_t __riscv_vnmsac_tu(vint32mf2_t vd, vint32mf2_t vs1, vint32mf2_t vs2,
                              size_t vl);
vint32mf2_t __riscv_vnmsac_tu(vint32mf2_t vd, int32_t rs1, vint32mf2_t vs2,
                              size_t vl);
vint32m1_t __riscv_vnmsac_tu(vint32m1_t vd, vint32m1_t vs1, vint32m1_t vs2,
                             size_t vl);
vint32m1_t __riscv_vnmsac_tu(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                             size_t vl);
vint32m2_t __riscv_vnmsac_tu(vint32m2_t vd, vint32m2_t vs1, vint32m2_t vs2,
                             size_t vl);
vint32m2_t __riscv_vnmsac_tu(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                             size_t vl);
vint32m4_t __riscv_vnmsac_tu(vint32m4_t vd, vint32m4_t vs1, vint32m4_t vs2,
                             size_t vl);
vint32m4_t __riscv_vnmsac_tu(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                             size_t vl);
vint32m8_t __riscv_vnmsac_tu(vint32m8_t vd, vint32m8_t vs1, vint32m8_t vs2,
                             size_t vl);
vint32m8_t __riscv_vnmsac_tu(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                             size_t vl);
vint64m1_t __riscv_vnmsac_tu(vint64m1_t vd, vint64m1_t vs1, vint64m1_t vs2,
                             size_t vl);
vint64m1_t __riscv_vnmsac_tu(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                             size_t vl);
vint64m2_t __riscv_vnmsac_tu(vint64m2_t vd, vint64m2_t vs1, vint64m2_t vs2,
                             size_t vl);
vint64m2_t __riscv_vnmsac_tu(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                             size_t vl);
vint64m4_t __riscv_vnmsac_tu(vint64m4_t vd, vint64m4_t vs1, vint64m4_t vs2,
                             size_t vl);
vint64m4_t __riscv_vnmsac_tu(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                             size_t vl);
vint64m8_t __riscv_vnmsac_tu(vint64m8_t vd, vint64m8_t vs1, vint64m8_t vs2,
                             size_t vl);
vint64m8_t __riscv_vnmsac_tu(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
                             size_t vl);
vint8mf8_t __riscv_vmadd_tu(vint8mf8_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                            size_t vl);
```

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vint8mf8_t __riscv_vmadd_tu(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                            size_t vl);
vint8mf4_t __riscv_vmadd_tu(vint8mf4_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                            size_t vl);
vint8mf4_t __riscv_vmadd_tu(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                            size_t vl);
vint8mf2_t __riscv_vmadd_tu(vint8mf2_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                            size_t vl);
vint8mf2_t __riscv_vmadd_tu(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                            size_t vl);
vint8m1_t __riscv_vmadd_tu(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                           size_t vl);
vint8m1_t __riscv_vmadd_tu(vint8m1_t vd, int8_t rs1, vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_tu(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                           size_t vl);
vint8m2_t __riscv_vmadd_tu(vint8m2_t vd, int8_t rs1, vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_tu(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                           size_t vl);
vint8m4_t __riscv_vmadd_tu(vint8m4_t vd, int8_t rs1, vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_tu(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                           size_t vl);
vint8m8_t __riscv_vmadd_tu(vint8m8_t vd, int8_t rs1, vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_tu(vint16mf4_t vd, vint16mf4_t vs1, vint16mf4_t vs2,
                             size_t vl);
vint16mf4_t __riscv_vmadd_tu(vint16mf4_t vd, int16_t rs1, vint16mf4_t vs2,
                             size_t vl);
vint16mf2_t __riscv_vmadd_tu(vint16mf2_t vd, vint16mf2_t vs1, vint16mf2_t vs2,
                             size_t vl);
vint16mf2_t __riscv_vmadd_tu(vint16mf2_t vd, int16_t rs1, vint16mf2_t vs2,
                             size_t vl);
vint16m1_t __riscv_vmadd_tu(vint16m1_t vd, vint16m1_t vs1, vint16m1_t vs2,
                            size_t vl);
vint16m1_t __riscv_vmadd_tu(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                            size_t vl);
vint16m2_t __riscv_vmadd_tu(vint16m2_t vd, vint16m2_t vs1, vint16m2_t vs2,
                            size_t vl);
vint16m2_t __riscv_vmadd_tu(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                            size_t vl);
vint16m4_t __riscv_vmadd_tu(vint16m4_t vd, vint16m4_t vs1, vint16m4_t vs2,
                            size_t vl);
vint16m4_t __riscv_vmadd_tu(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                            size_t vl);
vint16m8_t __riscv_vmadd_tu(vint16m8_t vd, vint16m8_t vs1, vint16m8_t vs2,
                            size_t vl);
vint16m8_t __riscv_vmadd_tu(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                            size_t vl);
vint32mf2_t __riscv_vmadd_tu(vint32mf2_t vd, vint32mf2_t vs1, vint32mf2_t vs2,
                             size_t vl);
vint32mf2_t __riscv_vmadd_tu(vint32mf2_t vd, int32_t rs1, vint32mf2_t vs2,
                             size_t vl);
vint32m1_t __riscv_vmadd_tu(vint32m1_t vd, vint32m1_t vs1, vint32m1_t vs2,
                            size_t vl);
vint32m1_t __riscv_vmadd_tu(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                            size_t vl);
vint32m2_t __riscv_vmadd_tu(vint32m2_t vd, vint32m2_t vs1, vint32m2_t vs2,
                            size_t vl);
vint32m2_t __riscv_vmadd_tu(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                            size_t vl);
vint32m4_t __riscv_vmadd_tu(vint32m4_t vd, vint32m4_t vs1, vint32m4_t vs2,
                            size_t vl);
vint32m4_t __riscv_vmadd_tu(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                            size_t vl);
vint32m8_t __riscv_vmadd_tu(vint32m8_t vd, vint32m8_t vs1, vint32m8_t vs2,
                            size_t vl);
vint32m8_t __riscv_vmadd_tu(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                            size_t vl);
vint64m1_t __riscv_vmadd_tu(vint64m1_t vd, vint64m1_t vs1, vint64m1_t vs2,
```

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                              size_t vl);
vint64m1_t __riscv_vmadd_tu(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                              size_t vl);
vint64m2_t __riscv_vmadd_tu(vint64m2_t vd, vint64m2_t vs1, vint64m2_t vs2,
                              size_t vl);
vint64m2_t __riscv_vmadd_tu(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                              size_t vl);
vint64m4_t __riscv_vmadd_tu(vint64m4_t vd, vint64m4_t vs1, vint64m4_t vs2,
                              size_t vl);
vint64m4_t __riscv_vmadd_tu(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                              size_t vl);
vint64m8_t __riscv_vmadd_tu(vint64m8_t vd, vint64m8_t vs1, vint64m8_t vs2,
                              size_t vl);
vint64m8_t __riscv_vmadd_tu(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
                              size_t vl);
vint8mf8_t __riscv_vnmsub_tu(vint8mf8_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                               size_t vl);
vint8mf8_t __riscv_vnmsub_tu(vint8mf8_t vd, int8_t rs1, vint8mf8_t vs2,
                               size_t vl);
vint8mf4_t __riscv_vnmsub_tu(vint8mf4_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                               size_t vl);
vint8mf4_t __riscv_vnmsub_tu(vint8mf4_t vd, int8_t rs1, vint8mf4_t vs2,
                               size_t vl);
vint8mf2_t __riscv_vnmsub_tu(vint8mf2_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                               size_t vl);
vint8mf2_t __riscv_vnmsub_tu(vint8mf2_t vd, int8_t rs1, vint8mf2_t vs2,
                               size_t vl);
vint8m1_t __riscv_vnmsub_tu(vint8m1_t vd, vint8m1_t vs1, vint8m1_t vs2,
                              size_t vl);
vint8m1_t __riscv_vnmsub_tu(vint8m1_t vd, int8_t rs1, vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_tu(vint8m2_t vd, vint8m2_t vs1, vint8m2_t vs2,
                              size_t vl);
vint8m2_t __riscv_vnmsub_tu(vint8m2_t vd, int8_t rs1, vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_tu(vint8m4_t vd, vint8m4_t vs1, vint8m4_t vs2,
                              size_t vl);
vint8m4_t __riscv_vnmsub_tu(vint8m4_t vd, int8_t rs1, vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_tu(vint8m8_t vd, vint8m8_t vs1, vint8m8_t vs2,
                              size_t vl);
vint8m8_t __riscv_vnmsub_tu(vint8m8_t vd, int8_t rs1, vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_tu(vint16mf4_t vd, vint16mf4_t vs1, vint16mf4_t vs2,
                                size_t vl);
vint16mf4_t __riscv_vnmsub_tu(vint16mf4_t vd, int16_t rs1, vint16mf4_t vs2,
                                size_t vl);
vint16mf2_t __riscv_vnmsub_tu(vint16mf2_t vd, vint16mf2_t vs1, vint16mf2_t vs2,
                                size_t vl);
vint16mf2_t __riscv_vnmsub_tu(vint16mf2_t vd, int16_t rs1, vint16mf2_t vs2,
                                size_t vl);
vint16m1_t __riscv_vnmsub_tu(vint16m1_t vd, vint16m1_t vs1, vint16m1_t vs2,
                               size_t vl);
vint16m1_t __riscv_vnmsub_tu(vint16m1_t vd, int16_t rs1, vint16m1_t vs2,
                               size_t vl);
vint16m2_t __riscv_vnmsub_tu(vint16m2_t vd, vint16m2_t vs1, vint16m2_t vs2,
                               size_t vl);
vint16m2_t __riscv_vnmsub_tu(vint16m2_t vd, int16_t rs1, vint16m2_t vs2,
                               size_t vl);
vint16m4_t __riscv_vnmsub_tu(vint16m4_t vd, vint16m4_t vs1, vint16m4_t vs2,
                               size_t vl);
vint16m4_t __riscv_vnmsub_tu(vint16m4_t vd, int16_t rs1, vint16m4_t vs2,
                               size_t vl);
vint16m8_t __riscv_vnmsub_tu(vint16m8_t vd, vint16m8_t vs1, vint16m8_t vs2,
                               size_t vl);
vint16m8_t __riscv_vnmsub_tu(vint16m8_t vd, int16_t rs1, vint16m8_t vs2,
                               size_t vl);
vint32mf2_t __riscv_vnmsub_tu(vint32mf2_t vd, vint32mf2_t vs1, vint32mf2_t vs2,
                                size_t vl);
vint32mf2_t __riscv_vnmsub_tu(vint32mf2_t vd, int32_t rs1, vint32mf2_t vs2,
                                size_t vl);
```

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vint32m1_t __riscv_vnmsub_tu(vint32m1_t vd, vint32m1_t vs1, vint32m1_t vs2,
                             size_t vl);
vint32m1_t __riscv_vnmsub_tu(vint32m1_t vd, int32_t rs1, vint32m1_t vs2,
                             size_t vl);
vint32m2_t __riscv_vnmsub_tu(vint32m2_t vd, vint32m2_t vs1, vint32m2_t vs2,
                             size_t vl);
vint32m2_t __riscv_vnmsub_tu(vint32m2_t vd, int32_t rs1, vint32m2_t vs2,
                             size_t vl);
vint32m4_t __riscv_vnmsub_tu(vint32m4_t vd, vint32m4_t vs1, vint32m4_t vs2,
                             size_t vl);
vint32m4_t __riscv_vnmsub_tu(vint32m4_t vd, int32_t rs1, vint32m4_t vs2,
                             size_t vl);
vint32m8_t __riscv_vnmsub_tu(vint32m8_t vd, vint32m8_t vs1, vint32m8_t vs2,
                             size_t vl);
vint32m8_t __riscv_vnmsub_tu(vint32m8_t vd, int32_t rs1, vint32m8_t vs2,
                             size_t vl);
vint64m1_t __riscv_vnmsub_tu(vint64m1_t vd, vint64m1_t vs1, vint64m1_t vs2,
                             size_t vl);
vint64m1_t __riscv_vnmsub_tu(vint64m1_t vd, int64_t rs1, vint64m1_t vs2,
                             size_t vl);
vint64m2_t __riscv_vnmsub_tu(vint64m2_t vd, vint64m2_t vs1, vint64m2_t vs2,
                             size_t vl);
vint64m2_t __riscv_vnmsub_tu(vint64m2_t vd, int64_t rs1, vint64m2_t vs2,
                             size_t vl);
vint64m4_t __riscv_vnmsub_tu(vint64m4_t vd, vint64m4_t vs1, vint64m4_t vs2,
                             size_t vl);
vint64m4_t __riscv_vnmsub_tu(vint64m4_t vd, int64_t rs1, vint64m4_t vs2,
                             size_t vl);
vint64m8_t __riscv_vnmsub_tu(vint64m8_t vd, vint64m8_t vs1, vint64m8_t vs2,
                             size_t vl);
vint64m8_t __riscv_vnmsub_tu(vint64m8_t vd, int64_t rs1, vint64m8_t vs2,
                             size_t vl);
vuint8mf8_t __riscv_vmacc_tu(vuint8mf8_t vd, vuint8mf8_t vs1, vuint8mf8_t vs2,
                             size_t vl);
vuint8mf8_t __riscv_vmacc_tu(vuint8mf8_t vd, uint8_t rs1, vuint8mf8_t vs2,
                             size_t vl);
vuint8mf4_t __riscv_vmacc_tu(vuint8mf4_t vd, vuint8mf4_t vs1, vuint8mf4_t vs2,
                             size_t vl);
vuint8mf4_t __riscv_vmacc_tu(vuint8mf4_t vd, uint8_t rs1, vuint8mf4_t vs2,
                             size_t vl);
vuint8mf2_t __riscv_vmacc_tu(vuint8mf2_t vd, vuint8mf2_t vs1, vuint8mf2_t vs2,
                             size_t vl);
vuint8mf2_t __riscv_vmacc_tu(vuint8mf2_t vd, uint8_t rs1, vuint8mf2_t vs2,
                             size_t vl);
vuint8m1_t __riscv_vmacc_tu(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                            size_t vl);
vuint8m1_t __riscv_vmacc_tu(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                            size_t vl);
vuint8m2_t __riscv_vmacc_tu(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                            size_t vl);
vuint8m2_t __riscv_vmacc_tu(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                            size_t vl);
vuint8m4_t __riscv_vmacc_tu(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                            size_t vl);
vuint8m4_t __riscv_vmacc_tu(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                            size_t vl);
vuint8m8_t __riscv_vmacc_tu(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                            size_t vl);
vuint8m8_t __riscv_vmacc_tu(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                            size_t vl);
vuint16mf4_t __riscv_vmacc_tu(vuint16mf4_t vd, vuint16mf4_t vs1,
                              vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_tu(vuint16mf4_t vd, uint16_t rs1, vuint16mf4_t vs2,
                              size_t vl);
vuint16mf2_t __riscv_vmacc_tu(vuint16mf2_t vd, vuint16mf2_t vs1,
                              vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc_tu(vuint16mf2_t vd, uint16_t rs1, vuint16mf2_t vs2,
```

```
                              size_t vl);
vuint16m1_t __riscv_vmacc_tu(vuint16m1_t vd, vuint16m1_t vs1, vuint16m1_t vs2,
                             size_t vl);
vuint16m1_t __riscv_vmacc_tu(vuint16m1_t vd, uint16_t rs1, vuint16m1_t vs2,
                             size_t vl);
vuint16m2_t __riscv_vmacc_tu(vuint16m2_t vd, vuint16m2_t vs1, vuint16m2_t vs2,
                             size_t vl);
vuint16m2_t __riscv_vmacc_tu(vuint16m2_t vd, uint16_t rs1, vuint16m2_t vs2,
                             size_t vl);
vuint16m4_t __riscv_vmacc_tu(vuint16m4_t vd, vuint16m4_t vs1, vuint16m4_t vs2,
                             size_t vl);
vuint16m4_t __riscv_vmacc_tu(vuint16m4_t vd, uint16_t rs1, vuint16m4_t vs2,
                             size_t vl);
vuint16m8_t __riscv_vmacc_tu(vuint16m8_t vd, vuint16m8_t vs1, vuint16m8_t vs2,
                             size_t vl);
vuint16m8_t __riscv_vmacc_tu(vuint16m8_t vd, uint16_t rs1, vuint16m8_t vs2,
                             size_t vl);
vuint32mf2_t __riscv_vmacc_tu(vuint32mf2_t vd, vuint32mf2_t vs1,
                              vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_tu(vuint32mf2_t vd, uint32_t rs1, vuint32mf2_t vs2,
                              size_t vl);
vuint32m1_t __riscv_vmacc_tu(vuint32m1_t vd, vuint32m1_t vs1, vuint32m1_t vs2,
                             size_t vl);
vuint32m1_t __riscv_vmacc_tu(vuint32m1_t vd, uint32_t rs1, vuint32m1_t vs2,
                             size_t vl);
vuint32m2_t __riscv_vmacc_tu(vuint32m2_t vd, vuint32m2_t vs1, vuint32m2_t vs2,
                             size_t vl);
vuint32m2_t __riscv_vmacc_tu(vuint32m2_t vd, uint32_t rs1, vuint32m2_t vs2,
                             size_t vl);
vuint32m4_t __riscv_vmacc_tu(vuint32m4_t vd, vuint32m4_t vs1, vuint32m4_t vs2,
                             size_t vl);
vuint32m4_t __riscv_vmacc_tu(vuint32m4_t vd, uint32_t rs1, vuint32m4_t vs2,
                             size_t vl);
vuint32m8_t __riscv_vmacc_tu(vuint32m8_t vd, vuint32m8_t vs1, vuint32m8_t vs2,
                             size_t vl);
vuint32m8_t __riscv_vmacc_tu(vuint32m8_t vd, uint32_t rs1, vuint32m8_t vs2,
                             size_t vl);
vuint64m1_t __riscv_vmacc_tu(vuint64m1_t vd, vuint64m1_t vs1, vuint64m1_t vs2,
                             size_t vl);
vuint64m1_t __riscv_vmacc_tu(vuint64m1_t vd, uint64_t rs1, vuint64m1_t vs2,
                             size_t vl);
vuint64m2_t __riscv_vmacc_tu(vuint64m2_t vd, vuint64m2_t vs1, vuint64m2_t vs2,
                             size_t vl);
vuint64m2_t __riscv_vmacc_tu(vuint64m2_t vd, uint64_t rs1, vuint64m2_t vs2,
                             size_t vl);
vuint64m4_t __riscv_vmacc_tu(vuint64m4_t vd, vuint64m4_t vs1, vuint64m4_t vs2,
                             size_t vl);
vuint64m4_t __riscv_vmacc_tu(vuint64m4_t vd, uint64_t rs1, vuint64m4_t vs2,
                             size_t vl);
vuint64m8_t __riscv_vmacc_tu(vuint64m8_t vd, vuint64m8_t vs1, vuint64m8_t vs2,
                             size_t vl);
vuint64m8_t __riscv_vmacc_tu(vuint64m8_t vd, uint64_t rs1, vuint64m8_t vs2,
                             size_t vl);
vuint8mf8_t __riscv_vnmsac_tu(vuint8mf8_t vd, vuint8mf8_t vs1, vuint8mf8_t vs2,
                              size_t vl);
vuint8mf8_t __riscv_vnmsac_tu(vuint8mf8_t vd, uint8_t rs1, vuint8mf8_t vs2,
                              size_t vl);
vuint8mf4_t __riscv_vnmsac_tu(vuint8mf4_t vd, vuint8mf4_t vs1, vuint8mf4_t vs2,
                              size_t vl);
vuint8mf4_t __riscv_vnmsac_tu(vuint8mf4_t vd, uint8_t rs1, vuint8mf4_t vs2,
                              size_t vl);
vuint8mf2_t __riscv_vnmsac_tu(vuint8mf2_t vd, vuint8mf2_t vs1, vuint8mf2_t vs2,
                              size_t vl);
vuint8mf2_t __riscv_vnmsac_tu(vuint8mf2_t vd, uint8_t rs1, vuint8mf2_t vs2,
                              size_t vl);
vuint8m1_t __riscv_vnmsac_tu(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                             size_t vl);
```

```
vuint8m1_t __riscv_vnmsac_tu(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                             size_t vl);
vuint8m2_t __riscv_vnmsac_tu(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                             size_t vl);
vuint8m2_t __riscv_vnmsac_tu(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                             size_t vl);
vuint8m4_t __riscv_vnmsac_tu(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                             size_t vl);
vuint8m4_t __riscv_vnmsac_tu(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                             size_t vl);
vuint8m8_t __riscv_vnmsac_tu(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                             size_t vl);
vuint8m8_t __riscv_vnmsac_tu(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                             size_t vl);
vuint16mf4_t __riscv_vnmsac_tu(vuint16mf4_t vd, vuint16mf4_t vs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_tu(vuint16mf4_t vd, uint16_t rs1, vuint16mf4_t vs2,
                               size_t vl);
vuint16mf2_t __riscv_vnmsac_tu(vuint16mf2_t vd, vuint16mf2_t vs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac_tu(vuint16mf2_t vd, uint16_t rs1, vuint16mf2_t vs2,
                               size_t vl);
vuint16m1_t __riscv_vnmsac_tu(vuint16m1_t vd, vuint16m1_t vs1, vuint16m1_t vs2,
                              size_t vl);
vuint16m1_t __riscv_vnmsac_tu(vuint16m1_t vd, uint16_t rs1, vuint16m1_t vs2,
                              size_t vl);
vuint16m2_t __riscv_vnmsac_tu(vuint16m2_t vd, vuint16m2_t vs1, vuint16m2_t vs2,
                              size_t vl);
vuint16m2_t __riscv_vnmsac_tu(vuint16m2_t vd, uint16_t rs1, vuint16m2_t vs2,
                              size_t vl);
vuint16m4_t __riscv_vnmsac_tu(vuint16m4_t vd, vuint16m4_t vs1, vuint16m4_t vs2,
                              size_t vl);
vuint16m4_t __riscv_vnmsac_tu(vuint16m4_t vd, uint16_t rs1, vuint16m4_t vs2,
                              size_t vl);
vuint16m8_t __riscv_vnmsac_tu(vuint16m8_t vd, vuint16m8_t vs1, vuint16m8_t vs2,
                              size_t vl);
vuint16m8_t __riscv_vnmsac_tu(vuint16m8_t vd, uint16_t rs1, vuint16m8_t vs2,
                              size_t vl);
vuint32mf2_t __riscv_vnmsac_tu(vuint32mf2_t vd, vuint32mf2_t vs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_tu(vuint32mf2_t vd, uint32_t rs1, vuint32mf2_t vs2,
                               size_t vl);
vuint32m1_t __riscv_vnmsac_tu(vuint32m1_t vd, vuint32m1_t vs1, vuint32m1_t vs2,
                              size_t vl);
vuint32m1_t __riscv_vnmsac_tu(vuint32m1_t vd, uint32_t rs1, vuint32m1_t vs2,
                              size_t vl);
vuint32m2_t __riscv_vnmsac_tu(vuint32m2_t vd, vuint32m2_t vs1, vuint32m2_t vs2,
                              size_t vl);
vuint32m2_t __riscv_vnmsac_tu(vuint32m2_t vd, uint32_t rs1, vuint32m2_t vs2,
                              size_t vl);
vuint32m4_t __riscv_vnmsac_tu(vuint32m4_t vd, vuint32m4_t vs1, vuint32m4_t vs2,
                              size_t vl);
vuint32m4_t __riscv_vnmsac_tu(vuint32m4_t vd, uint32_t rs1, vuint32m4_t vs2,
                              size_t vl);
vuint32m8_t __riscv_vnmsac_tu(vuint32m8_t vd, vuint32m8_t vs1, vuint32m8_t vs2,
                              size_t vl);
vuint32m8_t __riscv_vnmsac_tu(vuint32m8_t vd, uint32_t rs1, vuint32m8_t vs2,
                              size_t vl);
vuint64m1_t __riscv_vnmsac_tu(vuint64m1_t vd, vuint64m1_t vs1, vuint64m1_t vs2,
                              size_t vl);
vuint64m1_t __riscv_vnmsac_tu(vuint64m1_t vd, uint64_t rs1, vuint64m1_t vs2,
                              size_t vl);
vuint64m2_t __riscv_vnmsac_tu(vuint64m2_t vd, vuint64m2_t vs1, vuint64m2_t vs2,
                              size_t vl);
vuint64m2_t __riscv_vnmsac_tu(vuint64m2_t vd, uint64_t rs1, vuint64m2_t vs2,
                              size_t vl);
vuint64m4_t __riscv_vnmsac_tu(vuint64m4_t vd, vuint64m4_t vs1, vuint64m4_t vs2,
```

```
                              size_t vl);
vuint64m4_t __riscv_vnmsac_tu(vuint64m4_t vd, uint64_t rs1, vuint64m4_t vs2,
                              size_t vl);
vuint64m8_t __riscv_vnmsac_tu(vuint64m8_t vd, vuint64m8_t vs1, vuint64m8_t vs2,
                              size_t vl);
vuint64m8_t __riscv_vnmsac_tu(vuint64m8_t vd, uint64_t rs1, vuint64m8_t vs2,
                              size_t vl);
vuint8mf8_t __riscv_vmadd_tu(vuint8mf8_t vd, vuint8mf8_t vs1, vuint8mf8_t vs2,
                             size_t vl);
vuint8mf8_t __riscv_vmadd_tu(vuint8mf8_t vd, uint8_t rs1, vuint8mf8_t vs2,
                             size_t vl);
vuint8mf4_t __riscv_vmadd_tu(vuint8mf4_t vd, vuint8mf4_t vs1, vuint8mf4_t vs2,
                             size_t vl);
vuint8mf4_t __riscv_vmadd_tu(vuint8mf4_t vd, uint8_t rs1, vuint8mf4_t vs2,
                             size_t vl);
vuint8mf2_t __riscv_vmadd_tu(vuint8mf2_t vd, vuint8mf2_t vs1, vuint8mf2_t vs2,
                             size_t vl);
vuint8mf2_t __riscv_vmadd_tu(vuint8mf2_t vd, uint8_t rs1, vuint8mf2_t vs2,
                             size_t vl);
vuint8m1_t __riscv_vmadd_tu(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                            size_t vl);
vuint8m1_t __riscv_vmadd_tu(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                            size_t vl);
vuint8m2_t __riscv_vmadd_tu(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                            size_t vl);
vuint8m2_t __riscv_vmadd_tu(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                            size_t vl);
vuint8m4_t __riscv_vmadd_tu(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                            size_t vl);
vuint8m4_t __riscv_vmadd_tu(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                            size_t vl);
vuint8m8_t __riscv_vmadd_tu(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                            size_t vl);
vuint8m8_t __riscv_vmadd_tu(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                            size_t vl);
vuint16mf4_t __riscv_vmadd_tu(vuint16mf4_t vd, vuint16mf4_t vs1,
                              vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_tu(vuint16mf4_t vd, uint16_t rs1, vuint16mf4_t vs2,
                              size_t vl);
vuint16mf2_t __riscv_vmadd_tu(vuint16mf2_t vd, vuint16mf2_t vs1,
                              vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd_tu(vuint16mf2_t vd, uint16_t rs1, vuint16mf2_t vs2,
                              size_t vl);
vuint16m1_t __riscv_vmadd_tu(vuint16m1_t vd, vuint16m1_t vs1, vuint16m1_t vs2,
                             size_t vl);
vuint16m1_t __riscv_vmadd_tu(vuint16m1_t vd, uint16_t rs1, vuint16m1_t vs2,
                             size_t vl);
vuint16m2_t __riscv_vmadd_tu(vuint16m2_t vd, vuint16m2_t vs1, vuint16m2_t vs2,
                             size_t vl);
vuint16m2_t __riscv_vmadd_tu(vuint16m2_t vd, uint16_t rs1, vuint16m2_t vs2,
                             size_t vl);
vuint16m4_t __riscv_vmadd_tu(vuint16m4_t vd, vuint16m4_t vs1, vuint16m4_t vs2,
                             size_t vl);
vuint16m4_t __riscv_vmadd_tu(vuint16m4_t vd, uint16_t rs1, vuint16m4_t vs2,
                             size_t vl);
vuint16m8_t __riscv_vmadd_tu(vuint16m8_t vd, vuint16m8_t vs1, vuint16m8_t vs2,
                             size_t vl);
vuint16m8_t __riscv_vmadd_tu(vuint16m8_t vd, uint16_t rs1, vuint16m8_t vs2,
                             size_t vl);
vuint32mf2_t __riscv_vmadd_tu(vuint32mf2_t vd, vuint32mf2_t vs1,
                              vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_tu(vuint32mf2_t vd, uint32_t rs1, vuint32mf2_t vs2,
                              size_t vl);
vuint32m1_t __riscv_vmadd_tu(vuint32m1_t vd, vuint32m1_t vs1, vuint32m1_t vs2,
                             size_t vl);
vuint32m1_t __riscv_vmadd_tu(vuint32m1_t vd, uint32_t rs1, vuint32m1_t vs2,
                             size_t vl);
```

```
vuint32m2_t __riscv_vmadd_tu(vuint32m2_t vd, vuint32m2_t vs1, vuint32m2_t vs2,
                             size_t vl);
vuint32m2_t __riscv_vmadd_tu(vuint32m2_t vd, uint32_t rs1, vuint32m2_t vs2,
                             size_t vl);
vuint32m4_t __riscv_vmadd_tu(vuint32m4_t vd, vuint32m4_t vs1, vuint32m4_t vs2,
                             size_t vl);
vuint32m4_t __riscv_vmadd_tu(vuint32m4_t vd, uint32_t rs1, vuint32m4_t vs2,
                             size_t vl);
vuint32m8_t __riscv_vmadd_tu(vuint32m8_t vd, vuint32m8_t vs1, vuint32m8_t vs2,
                             size_t vl);
vuint32m8_t __riscv_vmadd_tu(vuint32m8_t vd, uint32_t rs1, vuint32m8_t vs2,
                             size_t vl);
vuint64m1_t __riscv_vmadd_tu(vuint64m1_t vd, vuint64m1_t vs1, vuint64m1_t vs2,
                             size_t vl);
vuint64m1_t __riscv_vmadd_tu(vuint64m1_t vd, uint64_t rs1, vuint64m1_t vs2,
                             size_t vl);
vuint64m2_t __riscv_vmadd_tu(vuint64m2_t vd, vuint64m2_t vs1, vuint64m2_t vs2,
                             size_t vl);
vuint64m2_t __riscv_vmadd_tu(vuint64m2_t vd, uint64_t rs1, vuint64m2_t vs2,
                             size_t vl);
vuint64m4_t __riscv_vmadd_tu(vuint64m4_t vd, vuint64m4_t vs1, vuint64m4_t vs2,
                             size_t vl);
vuint64m4_t __riscv_vmadd_tu(vuint64m4_t vd, uint64_t rs1, vuint64m4_t vs2,
                             size_t vl);
vuint64m8_t __riscv_vmadd_tu(vuint64m8_t vd, vuint64m8_t vs1, vuint64m8_t vs2,
                             size_t vl);
vuint64m8_t __riscv_vmadd_tu(vuint64m8_t vd, uint64_t rs1, vuint64m8_t vs2,
                             size_t vl);
vuint8mf8_t __riscv_vnmsub_tu(vuint8mf8_t vd, vuint8mf8_t vs1, vuint8mf8_t vs2,
                              size_t vl);
vuint8mf8_t __riscv_vnmsub_tu(vuint8mf8_t vd, uint8_t rs1, vuint8mf8_t vs2,
                              size_t vl);
vuint8mf4_t __riscv_vnmsub_tu(vuint8mf4_t vd, vuint8mf4_t vs1, vuint8mf4_t vs2,
                              size_t vl);
vuint8mf4_t __riscv_vnmsub_tu(vuint8mf4_t vd, uint8_t rs1, vuint8mf4_t vs2,
                              size_t vl);
vuint8mf2_t __riscv_vnmsub_tu(vuint8mf2_t vd, vuint8mf2_t vs1, vuint8mf2_t vs2,
                              size_t vl);
vuint8mf2_t __riscv_vnmsub_tu(vuint8mf2_t vd, uint8_t rs1, vuint8mf2_t vs2,
                              size_t vl);
vuint8m1_t __riscv_vnmsub_tu(vuint8m1_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                             size_t vl);
vuint8m1_t __riscv_vnmsub_tu(vuint8m1_t vd, uint8_t rs1, vuint8m1_t vs2,
                             size_t vl);
vuint8m2_t __riscv_vnmsub_tu(vuint8m2_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                             size_t vl);
vuint8m2_t __riscv_vnmsub_tu(vuint8m2_t vd, uint8_t rs1, vuint8m2_t vs2,
                             size_t vl);
vuint8m4_t __riscv_vnmsub_tu(vuint8m4_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                             size_t vl);
vuint8m4_t __riscv_vnmsub_tu(vuint8m4_t vd, uint8_t rs1, vuint8m4_t vs2,
                             size_t vl);
vuint8m8_t __riscv_vnmsub_tu(vuint8m8_t vd, vuint8m8_t vs1, vuint8m8_t vs2,
                             size_t vl);
vuint8m8_t __riscv_vnmsub_tu(vuint8m8_t vd, uint8_t rs1, vuint8m8_t vs2,
                             size_t vl);
vuint16mf4_t __riscv_vnmsub_tu(vuint16mf4_t vd, vuint16mf4_t vs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_tu(vuint16mf4_t vd, uint16_t rs1, vuint16mf4_t vs2,
                               size_t vl);
vuint16mf2_t __riscv_vnmsub_tu(vuint16mf2_t vd, vuint16mf2_t vs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub_tu(vuint16mf2_t vd, uint16_t rs1, vuint16mf2_t vs2,
                               size_t vl);
vuint16m1_t __riscv_vnmsub_tu(vuint16m1_t vd, vuint16m1_t vs1, vuint16m1_t vs2,
                              size_t vl);
vuint16m1_t __riscv_vnmsub_tu(vuint16m1_t vd, uint16_t rs1, vuint16m1_t vs2,
```

```
                              size_t vl);
vuint16m2_t __riscv_vnmsub_tu(vuint16m2_t vd, vuint16m2_t vs1, vuint16m2_t vs2,
                              size_t vl);
vuint16m2_t __riscv_vnmsub_tu(vuint16m2_t vd, uint16_t rs1, vuint16m2_t vs2,
                              size_t vl);
vuint16m4_t __riscv_vnmsub_tu(vuint16m4_t vd, vuint16m4_t vs1, vuint16m4_t vs2,
                              size_t vl);
vuint16m4_t __riscv_vnmsub_tu(vuint16m4_t vd, uint16_t rs1, vuint16m4_t vs2,
                              size_t vl);
vuint16m8_t __riscv_vnmsub_tu(vuint16m8_t vd, vuint16m8_t vs1, vuint16m8_t vs2,
                              size_t vl);
vuint16m8_t __riscv_vnmsub_tu(vuint16m8_t vd, uint16_t rs1, vuint16m8_t vs2,
                              size_t vl);
vuint32mf2_t __riscv_vnmsub_tu(vuint32mf2_t vd, vuint32mf2_t vs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_tu(vuint32mf2_t vd, uint32_t rs1, vuint32mf2_t vs2,
                               size_t vl);
vuint32m1_t __riscv_vnmsub_tu(vuint32m1_t vd, vuint32m1_t vs1, vuint32m1_t vs2,
                              size_t vl);
vuint32m1_t __riscv_vnmsub_tu(vuint32m1_t vd, uint32_t rs1, vuint32m1_t vs2,
                              size_t vl);
vuint32m2_t __riscv_vnmsub_tu(vuint32m2_t vd, vuint32m2_t vs1, vuint32m2_t vs2,
                              size_t vl);
vuint32m2_t __riscv_vnmsub_tu(vuint32m2_t vd, uint32_t rs1, vuint32m2_t vs2,
                              size_t vl);
vuint32m4_t __riscv_vnmsub_tu(vuint32m4_t vd, vuint32m4_t vs1, vuint32m4_t vs2,
                              size_t vl);
vuint32m4_t __riscv_vnmsub_tu(vuint32m4_t vd, uint32_t rs1, vuint32m4_t vs2,
                              size_t vl);
vuint32m8_t __riscv_vnmsub_tu(vuint32m8_t vd, vuint32m8_t vs1, vuint32m8_t vs2,
                              size_t vl);
vuint32m8_t __riscv_vnmsub_tu(vuint32m8_t vd, uint32_t rs1, vuint32m8_t vs2,
                              size_t vl);
vuint64m1_t __riscv_vnmsub_tu(vuint64m1_t vd, vuint64m1_t vs1, vuint64m1_t vs2,
                              size_t vl);
vuint64m1_t __riscv_vnmsub_tu(vuint64m1_t vd, uint64_t rs1, vuint64m1_t vs2,
                              size_t vl);
vuint64m2_t __riscv_vnmsub_tu(vuint64m2_t vd, vuint64m2_t vs1, vuint64m2_t vs2,
                              size_t vl);
vuint64m2_t __riscv_vnmsub_tu(vuint64m2_t vd, uint64_t rs1, vuint64m2_t vs2,
                              size_t vl);
vuint64m4_t __riscv_vnmsub_tu(vuint64m4_t vd, vuint64m4_t vs1, vuint64m4_t vs2,
                              size_t vl);
vuint64m4_t __riscv_vnmsub_tu(vuint64m4_t vd, uint64_t rs1, vuint64m4_t vs2,
                              size_t vl);
vuint64m8_t __riscv_vnmsub_tu(vuint64m8_t vd, vuint64m8_t vs1, vuint64m8_t vs2,
                              size_t vl);
vuint64m8_t __riscv_vnmsub_tu(vuint64m8_t vd, uint64_t rs1, vuint64m8_t vs2,
                              size_t vl);
// masked functions
vint8mf8_t __riscv_vmacc_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                             vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmacc_tum(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                             vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                             vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_tum(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                             vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                             vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_tum(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                             vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                            vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_tum(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                            vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
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                            vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_tum(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                            vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                            vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_tum(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                            vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                            vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_tum(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                            vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                              vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_tum(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                              vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                              vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_tum(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                              vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                             vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_tum(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                             vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                             vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_tum(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                             vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                             vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_tum(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                             vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                             vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_tum(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                             vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                              vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_tum(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                              vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                             vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_tum(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                             vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                             vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_tum(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                             vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                             vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_tum(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                             vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                             vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_tum(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                             vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                             vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_tum(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                             vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                             vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_tum(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                             vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                             vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_tum(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                             vint64m4_t vs2, size_t vl);
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vint64m8_t __riscv_vmacc_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                             vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_tum(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                             vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                              vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_tum(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                              vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                              vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_tum(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                              vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                              vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_tum(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                              vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                             vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_tum(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                             vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                             vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_tum(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                             vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                             vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_tum(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                             vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                             vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_tum(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                             vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                               vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_tum(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                               vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                               vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac_tum(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                               vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                              vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_tum(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                              vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                              vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_tum(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                              vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                              vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_tum(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                              vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                              vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_tum(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                              vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                               vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_tum(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                               vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                              vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_tum(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                              vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                              vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_tum(vbool16_t vm, vint32m2_t vd, int32_t rs1,
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                              vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                              vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_tum(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                              vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                              vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_tum(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                              vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                              vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_tum(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                              vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                              vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_tum(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                              vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                              vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_tum(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                              vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                              vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_tum(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                              vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                             vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_tum(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                             vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                             vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_tum(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                             vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                             vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_tum(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                             vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                            vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_tum(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                            vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                            vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_tum(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                            vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                            vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_tum(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                            vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                            vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_tum(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                            vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                              vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_tum(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                              vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                              vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_tum(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                              vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                             vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_tum(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                             vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmadd_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                             vint16m2_t vs2, size_t vl);
```

```
vint16m2_t __riscv_vmadd_tum(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                             vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                             vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_tum(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                             vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                             vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_tum(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                             vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                              vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_tum(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                              vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                             vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_tum(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                             vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                             vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_tum(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                             vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                             vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_tum(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                             vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                             vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_tum(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                             vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                             vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_tum(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                             vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                             vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_tum(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                             vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                             vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_tum(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                             vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                             vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_tum(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                             vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                              vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_tum(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                              vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                              vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_tum(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                              vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                              vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_tum(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                              vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                             vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_tum(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                             vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                             vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_tum(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                             vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
```

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                              vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_tum(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                             vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                             vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_tum(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                             vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                               vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_tum(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                               vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                               vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub_tum(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                               vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                              vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_tum(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                              vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                              vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_tum(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                              vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                              vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_tum(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                              vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                              vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_tum(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                              vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                               vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_tum(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                               vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                              vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_tum(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                              vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                              vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_tum(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                              vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                              vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_tum(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                              vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                              vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_tum(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                              vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                              vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_tum(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                              vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                              vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_tum(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                              vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                              vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_tum(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                              vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                              vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_tum(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                              vint64m8_t vs2, size_t vl);
```

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vuint8mf8_t __riscv_vmacc_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                              vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc_tum(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                              vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                              vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_tum(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                              vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                              vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_tum(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                              vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                             vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_tum(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                             vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                             vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_tum(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                             vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                             vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_tum(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                             vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                             vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_tum(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                             vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_tum(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc_tum(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                              vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc_tum(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                              vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                              vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_tum(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                              vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                              vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_tum(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                              vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                              vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_tum(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                              vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_tum(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                              vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc_tum(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                              vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                              vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_tum(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                              vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                              vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc_tum(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
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                              vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                              vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_tum(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                              vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                              vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_tum(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                              vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                              vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_tum(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                              vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                              vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_tum(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                              vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                              vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_tum(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                              vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                               vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_tum(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                               vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                               vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_tum(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                               vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                               vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_tum(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                               vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                              vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_tum(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                              vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                              vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_tum(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                              vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                              vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_tum(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                              vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                              vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_tum(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                              vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                                vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_tum(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                                vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                                vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac_tum(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                                vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                               vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac_tum(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                               vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                               vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac_tum(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                               vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsac_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                               vuint16m4_t vs2, size_t vl);
```

```
vuint16m4_t __riscv_vnmsac_tum(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                               vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                               vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac_tum(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                               vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                                vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_tum(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                                vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsac_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                               vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsac_tum(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                               vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                               vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac_tum(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                               vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                               vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac_tum(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                               vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                               vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac_tum(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                               vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                               vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac_tum(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                               vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                               vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac_tum(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                               vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                               vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac_tum(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                               vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                               vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac_tum(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                               vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                              vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd_tum(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                              vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                              vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_tum(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                              vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                              vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_tum(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                              vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                             vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_tum(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                             vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                             vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_tum(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                             vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                             vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_tum(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                             vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
```

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                              vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_tum(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                             vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_tum(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd_tum(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                              vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd_tum(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                              vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                              vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_tum(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                              vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                              vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_tum(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                              vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                              vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_tum(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                              vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_tum(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                              vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd_tum(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                              vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                              vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_tum(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                              vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                              vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_tum(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                              vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                              vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_tum(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                              vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                              vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_tum(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                              vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                              vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd_tum(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                              vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                              vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_tum(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                              vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                              vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_tum(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                              vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                               vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_tum(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                               vuint8mf8_t vs2, size_t vl);
```

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vuint8mf4_t __riscv_vnmsub_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                               vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub_tum(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                               vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                               vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_tum(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                               vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                              vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_tum(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                              vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                              vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_tum(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                              vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                              vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_tum(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                              vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                              vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_tum(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                              vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                                vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_tum(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                                vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                                vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub_tum(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                                vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsub_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                               vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsub_tum(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                               vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                               vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub_tum(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                               vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                               vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub_tum(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                               vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                               vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub_tum(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                               vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                                vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_tum(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                                vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                               vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub_tum(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                               vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                               vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub_tum(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                               vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                               vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub_tum(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                               vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                               vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub_tum(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
```

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                                vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                               vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub_tum(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                               vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                               vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub_tum(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                               vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                               vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub_tum(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                               vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                               vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub_tum(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                               vuint64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vmacc_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                              vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmacc_tumu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                              vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                              vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_tumu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                              vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                              vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_tumu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                              vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                             vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_tumu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                             vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                             vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_tumu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                             vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                             vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_tumu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                             vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                             vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_tumu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                             vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                               vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_tumu(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                               vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                               vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_tumu(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                               vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                              vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_tumu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                              vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                              vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_tumu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                              vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                              vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_tumu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                              vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
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                              vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_tumu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                              vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                               vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_tumu(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                               vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                              vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_tumu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                              vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                              vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_tumu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                              vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                              vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_tumu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                              vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                              vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_tumu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                              vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                              vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_tumu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                              vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                              vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_tumu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                              vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                              vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_tumu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                              vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                              vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_tumu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                              vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                               vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_tumu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                               vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                               vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_tumu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                               vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                               vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_tumu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                               vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                              vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_tumu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                              vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                              vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_tumu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                              vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                              vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_tumu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                              vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                              vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_tumu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                              vint8m8_t vs2, size_t vl);
```

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vint16mf4_t __riscv_vnmsac_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                                vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_tumu(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                                vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                                vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac_tumu(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                                vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                               vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_tumu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                               vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                               vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_tumu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                               vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                               vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_tumu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                               vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                               vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_tumu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                               vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                                vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_tumu(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                                vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                               vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_tumu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                               vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                               vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_tumu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                               vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                               vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_tumu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                               vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                               vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_tumu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                               vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                               vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_tumu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                               vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                               vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_tumu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                               vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                               vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_tumu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                               vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                               vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_tumu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                               vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                              vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_tumu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                              vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                              vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_tumu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
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                              vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                              vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_tumu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                              vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                             vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_tumu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                             vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                             vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_tumu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                             vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                             vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_tumu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                             vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                             vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_tumu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                             vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                               vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_tumu(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                               vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                               vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_tumu(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                               vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                              vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_tumu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                              vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmadd_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                              vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmadd_tumu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                              vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                              vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_tumu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                              vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                              vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_tumu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                              vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                               vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_tumu(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                               vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                              vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_tumu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                              vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                              vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_tumu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                              vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                              vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_tumu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                              vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                              vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_tumu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                              vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                              vint64m1_t vs2, size_t vl);
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vint64m1_t __riscv_vmadd_tumu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                              vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                              vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_tumu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                              vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                              vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_tumu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                              vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                              vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_tumu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                              vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                               vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_tumu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                               vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                               vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_tumu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                               vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                               vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_tumu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                               vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                              vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_tumu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                              vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                              vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_tumu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                              vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                              vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_tumu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                              vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                              vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_tumu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                              vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                                vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_tumu(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                                vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                                vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub_tumu(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                                vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                               vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_tumu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                               vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                               vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_tumu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                               vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                               vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_tumu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                               vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                               vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_tumu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                               vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
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                                vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_tumu(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                                vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                               vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_tumu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                               vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                               vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_tumu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                               vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                               vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_tumu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                               vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                               vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_tumu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                               vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                               vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_tumu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                               vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                               vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_tumu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                               vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                               vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_tumu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                               vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                               vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_tumu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                               vint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                               vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc_tumu(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                               vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                               vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_tumu(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                               vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                               vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_tumu(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                               vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                              vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_tumu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                              vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                              vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_tumu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                              vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                              vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_tumu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                              vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                              vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_tumu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                              vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                                vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_tumu(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                                vuint16mf4_t vs2, size_t vl);
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vuint16mf2_t __riscv_vmacc_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                                vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc_tumu(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                                vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                               vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc_tumu(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                               vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                               vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_tumu(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                               vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                               vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_tumu(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                               vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                               vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_tumu(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                               vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                                vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_tumu(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                                vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                               vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc_tumu(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                               vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                               vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_tumu(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                               vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                               vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc_tumu(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                               vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                               vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_tumu(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                               vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                               vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_tumu(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                               vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                               vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_tumu(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                               vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                               vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_tumu(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                               vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                               vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_tumu(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                               vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                                vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_tumu(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                                vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                                vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_tumu(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                                vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                                vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_tumu(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
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                                vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                               vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_tumu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                               vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                               vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_tumu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                               vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                               vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_tumu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                               vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                               vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_tumu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                               vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_tumu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs1, vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_tumu(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                                 vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac_tumu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs1, vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac_tumu(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                                 vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                                vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac_tumu(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                                vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                                vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac_tumu(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                                vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsac_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                                vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsac_tumu(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                                vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                                vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac_tumu(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                                vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs1, vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_tumu(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                                 vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsac_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                                vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsac_tumu(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                                vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                                vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac_tumu(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                                vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                                vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac_tumu(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                                vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                                vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac_tumu(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                                vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                                vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac_tumu(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                                vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                                vuint64m2_t vs2, size_t vl);
```

```
vuint64m2_t __riscv_vnmsac_tumu(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                                vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                                vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac_tumu(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                                vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                                vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac_tumu(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                                vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                               vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd_tumu(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                               vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                               vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_tumu(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                               vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                               vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_tumu(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                               vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                              vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_tumu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                              vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                              vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_tumu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                              vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                              vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_tumu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                              vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                              vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_tumu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                              vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                                vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_tumu(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                                vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                                vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd_tumu(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                                vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                               vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd_tumu(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                               vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                               vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_tumu(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                               vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                               vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_tumu(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                               vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                               vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_tumu(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                               vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                                vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_tumu(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                                vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
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                                vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd_tumu(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                                vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                                vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_tumu(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                                vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                                vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_tumu(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                                vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                                vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_tumu(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                                vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                                vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_tumu(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                                vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                                vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd_tumu(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                                vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                                vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_tumu(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                                vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                                vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_tumu(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                                vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                                 vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_tumu(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                                 vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                                 vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub_tumu(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                                 vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                                 vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_tumu(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                                 vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                                vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_tumu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                                vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                                vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_tumu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                                vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                                vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_tumu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                                vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                                vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_tumu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                                vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_tumu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint16mf4_t vs1, vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_tumu(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                                  vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub_tumu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint16mf2_t vs1, vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub_tumu(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                                  vuint16mf2_t vs2, size_t vl);
```

```
vuint16m1_t __riscv_vnmsub_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                                vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsub_tumu(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                                vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                                vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub_tumu(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                                vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                                vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub_tumu(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                                vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                                vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub_tumu(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                                vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs1, vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_tumu(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                                 vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                                vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub_tumu(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                                vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                                vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub_tumu(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                                vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                                vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub_tumu(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                                vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                                vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub_tumu(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                                vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                                vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub_tumu(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                                vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                                vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub_tumu(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                                vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                                vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub_tumu(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                                vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                                vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub_tumu(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                                vuint64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vmacc_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                            vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmacc_mu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                            vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                            vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmacc_mu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                            vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                            vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmacc_mu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                            vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmacc_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                           vint8m1_t vs2, size_t vl);
```

```
vint8m1_t __riscv_vmacc_mu(vbool8_t vm, vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                           size_t vl);
vint8m2_t __riscv_vmacc_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                           vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmacc_mu(vbool4_t vm, vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                           size_t vl);
vint8m4_t __riscv_vmacc_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                           vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmacc_mu(vbool2_t vm, vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                           size_t vl);
vint8m8_t __riscv_vmacc_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                           vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmacc_mu(vbool1_t vm, vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                           size_t vl);
vint16mf4_t __riscv_vmacc_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                             vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmacc_mu(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                             vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                             vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmacc_mu(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                             vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                            vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmacc_mu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                            vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                            vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmacc_mu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                            vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                            vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmacc_mu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                            vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                            vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmacc_mu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                            vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                             vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vmacc_mu(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                             vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                            vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmacc_mu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                            vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                            vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmacc_mu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                            vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                            vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmacc_mu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                            vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                            vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmacc_mu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                            vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                            vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmacc_mu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                            vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                            vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmacc_mu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                            vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
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                            vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmacc_mu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                            vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                            vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmacc_mu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                            vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                             vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsac_mu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                             vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                             vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsac_mu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                             vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                             vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsac_mu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                             vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                            vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsac_mu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                            vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                            vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vnmsac_mu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                            vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                            vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsac_mu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                            vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                            vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsac_mu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                            vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                              vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsac_mu(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                              vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                              vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsac_mu(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                              vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                             vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsac_mu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                             vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                             vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsac_mu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                             vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                             vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsac_mu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                             vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                             vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsac_mu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                             vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                              vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsac_mu(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                              vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                             vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsac_mu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                             vint32m1_t vs2, size_t vl);
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vint32m2_t __riscv_vnmsac_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                             vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsac_mu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                             vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                             vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsac_mu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                             vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                             vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsac_mu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                             vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                             vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsac_mu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                             vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                             vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsac_mu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                             vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                             vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsac_mu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                             vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                             vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsac_mu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                             vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                            vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vmadd_mu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                            vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                            vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vmadd_mu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                            vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                            vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vmadd_mu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                            vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                           vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vmadd_mu(vbool8_t vm, vint8m1_t vd, int8_t rs1, vint8m1_t vs2,
                           size_t vl);
vint8m2_t __riscv_vmadd_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                           vint8m2_t vs2, size_t vl);
vint8m2_t __riscv_vmadd_mu(vbool4_t vm, vint8m2_t vd, int8_t rs1, vint8m2_t vs2,
                           size_t vl);
vint8m4_t __riscv_vmadd_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                           vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vmadd_mu(vbool2_t vm, vint8m4_t vd, int8_t rs1, vint8m4_t vs2,
                           size_t vl);
vint8m8_t __riscv_vmadd_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                           vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vmadd_mu(vbool1_t vm, vint8m8_t vd, int8_t rs1, vint8m8_t vs2,
                           size_t vl);
vint16mf4_t __riscv_vmadd_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                             vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vmadd_mu(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                             vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                             vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vmadd_mu(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                             vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                            vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vmadd_mu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
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                            vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vmadd_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                            vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vmadd_mu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                            vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                            vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vmadd_mu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                            vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                            vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vmadd_mu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                            vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                             vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vmadd_mu(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                             vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                            vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vmadd_mu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                            vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                            vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vmadd_mu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                            vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                            vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vmadd_mu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                            vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                            vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vmadd_mu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                            vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                            vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vmadd_mu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                            vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                            vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vmadd_mu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                            vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                            vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vmadd_mu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                            vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
                            vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vmadd_mu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                            vint64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs1,
                             vint8mf8_t vs2, size_t vl);
vint8mf8_t __riscv_vnmsub_mu(vbool64_t vm, vint8mf8_t vd, int8_t rs1,
                             vint8mf8_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs1,
                             vint8mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vnmsub_mu(vbool32_t vm, vint8mf4_t vd, int8_t rs1,
                             vint8mf4_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs1,
                             vint8mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vnmsub_mu(vbool16_t vm, vint8mf2_t vd, int8_t rs1,
                             vint8mf2_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs1,
                            vint8m1_t vs2, size_t vl);
vint8m1_t __riscv_vnmsub_mu(vbool8_t vm, vint8m1_t vd, int8_t rs1,
                            vint8m1_t vs2, size_t vl);
vint8m2_t __riscv_vnmsub_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs1,
                            vint8m2_t vs2, size_t vl);
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vint8m2_t __riscv_vnmsub_mu(vbool4_t vm, vint8m2_t vd, int8_t rs1,
                            vint8m2_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs1,
                            vint8m4_t vs2, size_t vl);
vint8m4_t __riscv_vnmsub_mu(vbool2_t vm, vint8m4_t vd, int8_t rs1,
                            vint8m4_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs1,
                            vint8m8_t vs2, size_t vl);
vint8m8_t __riscv_vnmsub_mu(vbool1_t vm, vint8m8_t vd, int8_t rs1,
                            vint8m8_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs1,
                              vint16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vnmsub_mu(vbool64_t vm, vint16mf4_t vd, int16_t rs1,
                              vint16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs1,
                              vint16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vnmsub_mu(vbool32_t vm, vint16mf2_t vd, int16_t rs1,
                              vint16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs1,
                             vint16m1_t vs2, size_t vl);
vint16m1_t __riscv_vnmsub_mu(vbool16_t vm, vint16m1_t vd, int16_t rs1,
                             vint16m1_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs1,
                             vint16m2_t vs2, size_t vl);
vint16m2_t __riscv_vnmsub_mu(vbool8_t vm, vint16m2_t vd, int16_t rs1,
                             vint16m2_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs1,
                             vint16m4_t vs2, size_t vl);
vint16m4_t __riscv_vnmsub_mu(vbool4_t vm, vint16m4_t vd, int16_t rs1,
                             vint16m4_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs1,
                             vint16m8_t vs2, size_t vl);
vint16m8_t __riscv_vnmsub_mu(vbool2_t vm, vint16m8_t vd, int16_t rs1,
                             vint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs1,
                              vint32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vnmsub_mu(vbool64_t vm, vint32mf2_t vd, int32_t rs1,
                              vint32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs1,
                             vint32m1_t vs2, size_t vl);
vint32m1_t __riscv_vnmsub_mu(vbool32_t vm, vint32m1_t vd, int32_t rs1,
                             vint32m1_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs1,
                             vint32m2_t vs2, size_t vl);
vint32m2_t __riscv_vnmsub_mu(vbool16_t vm, vint32m2_t vd, int32_t rs1,
                             vint32m2_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs1,
                             vint32m4_t vs2, size_t vl);
vint32m4_t __riscv_vnmsub_mu(vbool8_t vm, vint32m4_t vd, int32_t rs1,
                             vint32m4_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs1,
                             vint32m8_t vs2, size_t vl);
vint32m8_t __riscv_vnmsub_mu(vbool4_t vm, vint32m8_t vd, int32_t rs1,
                             vint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs1,
                             vint64m1_t vs2, size_t vl);
vint64m1_t __riscv_vnmsub_mu(vbool64_t vm, vint64m1_t vd, int64_t rs1,
                             vint64m1_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs1,
                             vint64m2_t vs2, size_t vl);
vint64m2_t __riscv_vnmsub_mu(vbool32_t vm, vint64m2_t vd, int64_t rs1,
                             vint64m2_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs1,
                             vint64m4_t vs2, size_t vl);
vint64m4_t __riscv_vnmsub_mu(vbool16_t vm, vint64m4_t vd, int64_t rs1,
                             vint64m4_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs1,
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                              vint64m8_t vs2, size_t vl);
vint64m8_t __riscv_vnmsub_mu(vbool8_t vm, vint64m8_t vd, int64_t rs1,
                              vint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                              vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmacc_mu(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                              vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                              vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmacc_mu(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                              vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                              vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmacc_mu(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                              vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                             vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmacc_mu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                             vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                             vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmacc_mu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                             vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                             vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vmacc_mu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                             vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                             vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmacc_mu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                             vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmacc_mu(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmacc_mu(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                              vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmacc_mu(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                              vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                              vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmacc_mu(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                              vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                              vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmacc_mu(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                              vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                              vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmacc_mu(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                              vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmacc_mu(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                              vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmacc_mu(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                              vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                              vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmacc_mu(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                              vuint32m2_t vs2, size_t vl);
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vuint32m4_t __riscv_vmacc_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                             vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmacc_mu(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                             vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                             vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmacc_mu(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                             vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                             vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmacc_mu(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                             vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                             vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmacc_mu(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                             vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                             vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmacc_mu(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                             vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                             vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmacc_mu(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                             vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                              vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsac_mu(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                              vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                              vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsac_mu(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                              vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                              vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsac_mu(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                              vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                             vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsac_mu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                             vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                             vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsac_mu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                             vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                             vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsac_mu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                             vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                             vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsac_mu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                             vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsac_mu(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsac_mu(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                              vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsac_mu(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                              vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                              vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsac_mu(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
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                              vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsac_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                              vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsac_mu(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                              vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                              vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsac_mu(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                              vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsac_mu(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsac_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                              vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsac_mu(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                              vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                              vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsac_mu(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                              vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                              vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsac_mu(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                              vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                              vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsac_mu(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                              vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                              vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsac_mu(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                              vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                              vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsac_mu(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                              vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                              vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsac_mu(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                              vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                              vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsac_mu(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                              vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
                             vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vmadd_mu(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                             vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                             vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vmadd_mu(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                             vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                             vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vmadd_mu(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                             vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                            vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vmadd_mu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                            vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                            vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vmadd_mu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                            vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vmadd_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                            vuint8m4_t vs2, size_t vl);
```

```
vuint8m4_t __riscv_vmadd_mu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                            vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                            vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vmadd_mu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                            vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                              vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vmadd_mu(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                              vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                              vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vmadd_mu(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                              vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                             vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vmadd_mu(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                             vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                             vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vmadd_mu(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                             vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                             vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vmadd_mu(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                             vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                             vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vmadd_mu(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                             vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                              vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vmadd_mu(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                              vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                             vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vmadd_mu(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                             vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                             vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vmadd_mu(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                             vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                             vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vmadd_mu(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                             vuint32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                             vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vmadd_mu(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                             vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                             vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vmadd_mu(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                             vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                             vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vmadd_mu(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                             vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                             vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vmadd_mu(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                             vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                             vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vmadd_mu(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                             vuint64m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs1,
```

```
                              vuint8mf8_t vs2, size_t vl);
vuint8mf8_t __riscv_vnmsub_mu(vbool64_t vm, vuint8mf8_t vd, uint8_t rs1,
                              vuint8mf8_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs1,
                              vuint8mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vnmsub_mu(vbool32_t vm, vuint8mf4_t vd, uint8_t rs1,
                              vuint8mf4_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs1,
                              vuint8mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vnmsub_mu(vbool16_t vm, vuint8mf2_t vd, uint8_t rs1,
                              vuint8mf2_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs1,
                             vuint8m1_t vs2, size_t vl);
vuint8m1_t __riscv_vnmsub_mu(vbool8_t vm, vuint8m1_t vd, uint8_t rs1,
                             vuint8m1_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs1,
                             vuint8m2_t vs2, size_t vl);
vuint8m2_t __riscv_vnmsub_mu(vbool4_t vm, vuint8m2_t vd, uint8_t rs1,
                             vuint8m2_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs1,
                             vuint8m4_t vs2, size_t vl);
vuint8m4_t __riscv_vnmsub_mu(vbool2_t vm, vuint8m4_t vd, uint8_t rs1,
                             vuint8m4_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs1,
                             vuint8m8_t vs2, size_t vl);
vuint8m8_t __riscv_vnmsub_mu(vbool1_t vm, vuint8m8_t vd, uint8_t rs1,
                             vuint8m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vnmsub_mu(vbool64_t vm, vuint16mf4_t vd, uint16_t rs1,
                               vuint16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vnmsub_mu(vbool32_t vm, vuint16mf2_t vd, uint16_t rs1,
                               vuint16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsub_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs1,
                              vuint16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vnmsub_mu(vbool16_t vm, vuint16m1_t vd, uint16_t rs1,
                              vuint16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs1,
                              vuint16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vnmsub_mu(vbool8_t vm, vuint16m2_t vd, uint16_t rs1,
                              vuint16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs1,
                              vuint16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vnmsub_mu(vbool4_t vm, vuint16m4_t vd, uint16_t rs1,
                              vuint16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs1,
                              vuint16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vnmsub_mu(vbool2_t vm, vuint16m8_t vd, uint16_t rs1,
                              vuint16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vnmsub_mu(vbool64_t vm, vuint32mf2_t vd, uint32_t rs1,
                               vuint32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs1,
                              vuint32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vnmsub_mu(vbool32_t vm, vuint32m1_t vd, uint32_t rs1,
                              vuint32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs1,
                              vuint32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vnmsub_mu(vbool16_t vm, vuint32m2_t vd, uint32_t rs1,
                              vuint32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs1,
                              vuint32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vnmsub_mu(vbool8_t vm, vuint32m4_t vd, uint32_t rs1,
                              vuint32m4_t vs2, size_t vl);
```

```
vuint32m8_t __riscv_vnmsub_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs1,
                              vuint32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vnmsub_mu(vbool4_t vm, vuint32m8_t vd, uint32_t rs1,
                              vuint32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs1,
                              vuint64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vnmsub_mu(vbool64_t vm, vuint64m1_t vd, uint64_t rs1,
                              vuint64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs1,
                              vuint64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vnmsub_mu(vbool32_t vm, vuint64m2_t vd, uint64_t rs1,
                              vuint64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs1,
                              vuint64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vnmsub_mu(vbool16_t vm, vuint64m4_t vd, uint64_t rs1,
                              vuint64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs1,
                              vuint64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vnmsub_mu(vbool8_t vm, vuint64m8_t vd, uint64_t rs1,
                              vuint64m8_t vs2, size_t vl);
```

D.3.18. Vector Widening Integer Multiply-Add Intrinsics

```
vint16mf4_t __riscv_vwmacc_tu(vint16mf4_t vd, vint8mf8_t vs1, vint8mf8_t vs2,
                              size_t vl);
vint16mf4_t __riscv_vwmacc_tu(vint16mf4_t vd, int8_t rs1, vint8mf8_t vs2,
                              size_t vl);
vint16mf2_t __riscv_vwmacc_tu(vint16mf2_t vd, vint8mf4_t vs1, vint8mf4_t vs2,
                              size_t vl);
vint16mf2_t __riscv_vwmacc_tu(vint16mf2_t vd, int8_t rs1, vint8mf4_t vs2,
                              size_t vl);
vint16m1_t __riscv_vwmacc_tu(vint16m1_t vd, vint8mf2_t vs1, vint8mf2_t vs2,
                             size_t vl);
vint16m1_t __riscv_vwmacc_tu(vint16m1_t vd, int8_t rs1, vint8mf2_t vs2,
                             size_t vl);
vint16m2_t __riscv_vwmacc_tu(vint16m2_t vd, vint8m1_t vs1, vint8m1_t vs2,
                             size_t vl);
vint16m2_t __riscv_vwmacc_tu(vint16m2_t vd, int8_t rs1, vint8m1_t vs2,
                             size_t vl);
vint16m4_t __riscv_vwmacc_tu(vint16m4_t vd, vint8m2_t vs1, vint8m2_t vs2,
                             size_t vl);
vint16m4_t __riscv_vwmacc_tu(vint16m4_t vd, int8_t rs1, vint8m2_t vs2,
                             size_t vl);
vint16m8_t __riscv_vwmacc_tu(vint16m8_t vd, vint8m4_t vs1, vint8m4_t vs2,
                             size_t vl);
vint16m8_t __riscv_vwmacc_tu(vint16m8_t vd, int8_t rs1, vint8m4_t vs2,
                             size_t vl);
vint32mf2_t __riscv_vwmacc_tu(vint32mf2_t vd, vint16mf4_t vs1, vint16mf4_t vs2,
                              size_t vl);
vint32mf2_t __riscv_vwmacc_tu(vint32mf2_t vd, int16_t rs1, vint16mf4_t vs2,
                              size_t vl);
vint32m1_t __riscv_vwmacc_tu(vint32m1_t vd, vint16mf2_t vs1, vint16mf2_t vs2,
                             size_t vl);
vint32m1_t __riscv_vwmacc_tu(vint32m1_t vd, int16_t rs1, vint16mf2_t vs2,
                             size_t vl);
vint32m2_t __riscv_vwmacc_tu(vint32m2_t vd, vint16m1_t vs1, vint16m1_t vs2,
                             size_t vl);
vint32m2_t __riscv_vwmacc_tu(vint32m2_t vd, int16_t rs1, vint16m1_t vs2,
                             size_t vl);
vint32m4_t __riscv_vwmacc_tu(vint32m4_t vd, vint16m2_t vs1, vint16m2_t vs2,
                             size_t vl);
vint32m4_t __riscv_vwmacc_tu(vint32m4_t vd, int16_t rs1, vint16m2_t vs2,
                             size_t vl);
vint32m8_t __riscv_vwmacc_tu(vint32m8_t vd, vint16m4_t vs1, vint16m4_t vs2,
                             size_t vl);
```

```
vint32m8_t __riscv_vwmacc_tu(vint32m8_t vd, int16_t rs1, vint16m4_t vs2,
                             size_t vl);
vint64m1_t __riscv_vwmacc_tu(vint64m1_t vd, vint32mf2_t vs1, vint32mf2_t vs2,
                             size_t vl);
vint64m1_t __riscv_vwmacc_tu(vint64m1_t vd, int32_t rs1, vint32mf2_t vs2,
                             size_t vl);
vint64m2_t __riscv_vwmacc_tu(vint64m2_t vd, vint32m1_t vs1, vint32m1_t vs2,
                             size_t vl);
vint64m2_t __riscv_vwmacc_tu(vint64m2_t vd, int32_t rs1, vint32m1_t vs2,
                             size_t vl);
vint64m4_t __riscv_vwmacc_tu(vint64m4_t vd, vint32m2_t vs1, vint32m2_t vs2,
                             size_t vl);
vint64m4_t __riscv_vwmacc_tu(vint64m4_t vd, int32_t rs1, vint32m2_t vs2,
                             size_t vl);
vint64m8_t __riscv_vwmacc_tu(vint64m8_t vd, vint32m4_t vs1, vint32m4_t vs2,
                             size_t vl);
vint64m8_t __riscv_vwmacc_tu(vint64m8_t vd, int32_t rs1, vint32m4_t vs2,
                             size_t vl);
vint16mf4_t __riscv_vwmaccsu_tu(vint16mf4_t vd, vint8mf8_t vs1, vuint8mf8_t vs2,
                                size_t vl);
vint16mf4_t __riscv_vwmaccsu_tu(vint16mf4_t vd, int8_t rs1, vuint8mf8_t vs2,
                                size_t vl);
vint16mf2_t __riscv_vwmaccsu_tu(vint16mf2_t vd, vint8mf4_t vs1, vuint8mf4_t vs2,
                                size_t vl);
vint16mf2_t __riscv_vwmaccsu_tu(vint16mf2_t vd, int8_t rs1, vuint8mf4_t vs2,
                                size_t vl);
vint16m1_t __riscv_vwmaccsu_tu(vint16m1_t vd, vint8mf2_t vs1, vuint8mf2_t vs2,
                               size_t vl);
vint16m1_t __riscv_vwmaccsu_tu(vint16m1_t vd, int8_t rs1, vuint8mf2_t vs2,
                               size_t vl);
vint16m2_t __riscv_vwmaccsu_tu(vint16m2_t vd, vint8m1_t vs1, vuint8m1_t vs2,
                               size_t vl);
vint16m2_t __riscv_vwmaccsu_tu(vint16m2_t vd, int8_t rs1, vuint8m1_t vs2,
                               size_t vl);
vint16m4_t __riscv_vwmaccsu_tu(vint16m4_t vd, vint8m2_t vs1, vuint8m2_t vs2,
                               size_t vl);
vint16m4_t __riscv_vwmaccsu_tu(vint16m4_t vd, int8_t rs1, vuint8m2_t vs2,
                               size_t vl);
vint16m8_t __riscv_vwmaccsu_tu(vint16m8_t vd, vint8m4_t vs1, vuint8m4_t vs2,
                               size_t vl);
vint16m8_t __riscv_vwmaccsu_tu(vint16m8_t vd, int8_t rs1, vuint8m4_t vs2,
                               size_t vl);
vint32mf2_t __riscv_vwmaccsu_tu(vint32mf2_t vd, vint16mf4_t vs1,
                                vuint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_tu(vint32mf2_t vd, int16_t rs1, vuint16mf4_t vs2,
                                size_t vl);
vint32m1_t __riscv_vwmaccsu_tu(vint32m1_t vd, vint16mf2_t vs1, vuint16mf2_t vs2,
                               size_t vl);
vint32m1_t __riscv_vwmaccsu_tu(vint32m1_t vd, int16_t rs1, vuint16mf2_t vs2,
                               size_t vl);
vint32m2_t __riscv_vwmaccsu_tu(vint32m2_t vd, vint16m1_t vs1, vuint16m1_t vs2,
                               size_t vl);
vint32m2_t __riscv_vwmaccsu_tu(vint32m2_t vd, int16_t rs1, vuint16m1_t vs2,
                               size_t vl);
vint32m4_t __riscv_vwmaccsu_tu(vint32m4_t vd, vint16m2_t vs1, vuint16m2_t vs2,
                               size_t vl);
vint32m4_t __riscv_vwmaccsu_tu(vint32m4_t vd, int16_t rs1, vuint16m2_t vs2,
                               size_t vl);
vint32m8_t __riscv_vwmaccsu_tu(vint32m8_t vd, vint16m4_t vs1, vuint16m4_t vs2,
                               size_t vl);
vint32m8_t __riscv_vwmaccsu_tu(vint32m8_t vd, int16_t rs1, vuint16m4_t vs2,
                               size_t vl);
vint64m1_t __riscv_vwmaccsu_tu(vint64m1_t vd, vint32mf2_t vs1, vuint32mf2_t vs2,
                               size_t vl);
vint64m1_t __riscv_vwmaccsu_tu(vint64m1_t vd, int32_t rs1, vuint32mf2_t vs2,
                               size_t vl);
vint64m2_t __riscv_vwmaccsu_tu(vint64m2_t vd, vint32m1_t vs1, vuint32m1_t vs2,
```

```
                                size_t vl);
vint64m2_t __riscv_vwmaccsu_tu(vint64m2_t vd, int32_t rs1, vuint32m1_t vs2,
                                size_t vl);
vint64m4_t __riscv_vwmaccsu_tu(vint64m4_t vd, vint32m2_t vs1, vuint32m2_t vs2,
                                size_t vl);
vint64m4_t __riscv_vwmaccsu_tu(vint64m4_t vd, int32_t rs1, vuint32m2_t vs2,
                                size_t vl);
vint64m8_t __riscv_vwmaccsu_tu(vint64m8_t vd, vint32m4_t vs1, vuint32m4_t vs2,
                                size_t vl);
vint64m8_t __riscv_vwmaccsu_tu(vint64m8_t vd, int32_t rs1, vuint32m4_t vs2,
                                size_t vl);
vint16mf4_t __riscv_vwmaccus_tu(vint16mf4_t vd, uint8_t rs1, vint8mf8_t vs2,
                                 size_t vl);
vint16mf2_t __riscv_vwmaccus_tu(vint16mf2_t vd, uint8_t rs1, vint8mf4_t vs2,
                                 size_t vl);
vint16m1_t __riscv_vwmaccus_tu(vint16m1_t vd, uint8_t rs1, vint8mf2_t vs2,
                                size_t vl);
vint16m2_t __riscv_vwmaccus_tu(vint16m2_t vd, uint8_t rs1, vint8m1_t vs2,
                                size_t vl);
vint16m4_t __riscv_vwmaccus_tu(vint16m4_t vd, uint8_t rs1, vint8m2_t vs2,
                                size_t vl);
vint16m8_t __riscv_vwmaccus_tu(vint16m8_t vd, uint8_t rs1, vint8m4_t vs2,
                                size_t vl);
vint32mf2_t __riscv_vwmaccus_tu(vint32mf2_t vd, uint16_t rs1, vint16mf4_t vs2,
                                 size_t vl);
vint32m1_t __riscv_vwmaccus_tu(vint32m1_t vd, uint16_t rs1, vint16mf2_t vs2,
                                size_t vl);
vint32m2_t __riscv_vwmaccus_tu(vint32m2_t vd, uint16_t rs1, vint16m1_t vs2,
                                size_t vl);
vint32m4_t __riscv_vwmaccus_tu(vint32m4_t vd, uint16_t rs1, vint16m2_t vs2,
                                size_t vl);
vint32m8_t __riscv_vwmaccus_tu(vint32m8_t vd, uint16_t rs1, vint16m4_t vs2,
                                size_t vl);
vint64m1_t __riscv_vwmaccus_tu(vint64m1_t vd, uint32_t rs1, vint32mf2_t vs2,
                                size_t vl);
vint64m2_t __riscv_vwmaccus_tu(vint64m2_t vd, uint32_t rs1, vint32m1_t vs2,
                                size_t vl);
vint64m4_t __riscv_vwmaccus_tu(vint64m4_t vd, uint32_t rs1, vint32m2_t vs2,
                                size_t vl);
vint64m8_t __riscv_vwmaccus_tu(vint64m8_t vd, uint32_t rs1, vint32m4_t vs2,
                                size_t vl);
vuint16mf4_t __riscv_vwmaccu_tu(vuint16mf4_t vd, vuint8mf8_t vs1,
                                 vuint8mf8_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_tu(vuint16mf4_t vd, uint8_t rs1, vuint8mf8_t vs2,
                                 size_t vl);
vuint16mf2_t __riscv_vwmaccu_tu(vuint16mf2_t vd, vuint8mf4_t vs1,
                                 vuint8mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu_tu(vuint16mf2_t vd, uint8_t rs1, vuint8mf4_t vs2,
                                 size_t vl);
vuint16m1_t __riscv_vwmaccu_tu(vuint16m1_t vd, vuint8mf2_t vs1, vuint8mf2_t vs2,
                                size_t vl);
vuint16m1_t __riscv_vwmaccu_tu(vuint16m1_t vd, uint8_t rs1, vuint8mf2_t vs2,
                                size_t vl);
vuint16m2_t __riscv_vwmaccu_tu(vuint16m2_t vd, vuint8m1_t vs1, vuint8m1_t vs2,
                                size_t vl);
vuint16m2_t __riscv_vwmaccu_tu(vuint16m2_t vd, uint8_t rs1, vuint8m1_t vs2,
                                size_t vl);
vuint16m4_t __riscv_vwmaccu_tu(vuint16m4_t vd, vuint8m2_t vs1, vuint8m2_t vs2,
                                size_t vl);
vuint16m4_t __riscv_vwmaccu_tu(vuint16m4_t vd, uint8_t rs1, vuint8m2_t vs2,
                                size_t vl);
vuint16m8_t __riscv_vwmaccu_tu(vuint16m8_t vd, vuint8m4_t vs1, vuint8m4_t vs2,
                                size_t vl);
vuint16m8_t __riscv_vwmaccu_tu(vuint16m8_t vd, uint8_t rs1, vuint8m4_t vs2,
                                size_t vl);
vuint32mf2_t __riscv_vwmaccu_tu(vuint32mf2_t vd, vuint16mf4_t vs1,
                                 vuint16mf4_t vs2, size_t vl);
```

```
vuint32mf2_t __riscv_vwmaccu_tu(vuint32mf2_t vd, uint16_t rs1, vuint16mf4_t vs2,
                                size_t vl);
vuint32m1_t __riscv_vwmaccu_tu(vuint32m1_t vd, vuint16mf2_t vs1,
                               vuint16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu_tu(vuint32m1_t vd, uint16_t rs1, vuint16mf2_t vs2,
                               size_t vl);
vuint32m2_t __riscv_vwmaccu_tu(vuint32m2_t vd, vuint16m1_t vs1, vuint16m1_t vs2,
                               size_t vl);
vuint32m2_t __riscv_vwmaccu_tu(vuint32m2_t vd, uint16_t rs1, vuint16m1_t vs2,
                               size_t vl);
vuint32m4_t __riscv_vwmaccu_tu(vuint32m4_t vd, vuint16m2_t vs1, vuint16m2_t vs2,
                               size_t vl);
vuint32m4_t __riscv_vwmaccu_tu(vuint32m4_t vd, uint16_t rs1, vuint16m2_t vs2,
                               size_t vl);
vuint32m8_t __riscv_vwmaccu_tu(vuint32m8_t vd, vuint16m4_t vs1, vuint16m4_t vs2,
                               size_t vl);
vuint32m8_t __riscv_vwmaccu_tu(vuint32m8_t vd, uint16_t rs1, vuint16m4_t vs2,
                               size_t vl);
vuint64m1_t __riscv_vwmaccu_tu(vuint64m1_t vd, vuint32mf2_t vs1,
                               vuint32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu_tu(vuint64m1_t vd, uint32_t rs1, vuint32mf2_t vs2,
                               size_t vl);
vuint64m2_t __riscv_vwmaccu_tu(vuint64m2_t vd, vuint32m1_t vs1, vuint32m1_t vs2,
                               size_t vl);
vuint64m2_t __riscv_vwmaccu_tu(vuint64m2_t vd, uint32_t rs1, vuint32m1_t vs2,
                               size_t vl);
vuint64m4_t __riscv_vwmaccu_tu(vuint64m4_t vd, vuint32m2_t vs1, vuint32m2_t vs2,
                               size_t vl);
vuint64m4_t __riscv_vwmaccu_tu(vuint64m4_t vd, uint32_t rs1, vuint32m2_t vs2,
                               size_t vl);
vuint64m8_t __riscv_vwmaccu_tu(vuint64m8_t vd, vuint32m4_t vs1, vuint32m4_t vs2,
                               size_t vl);
vuint64m8_t __riscv_vwmaccu_tu(vuint64m8_t vd, uint32_t rs1, vuint32m4_t vs2,
                               size_t vl);
// masked functions
vint16mf4_t __riscv_vwmacc_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs1,
                               vint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmacc_tum(vbool64_t vm, vint16mf4_t vd, int8_t rs1,
                               vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs1,
                               vint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_tum(vbool32_t vm, vint16mf2_t vd, int8_t rs1,
                               vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs1,
                              vint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_tum(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                              vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs1,
                              vint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_tum(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                              vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs1,
                              vint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_tum(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                              vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs1,
                              vint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_tum(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                              vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs1,
                               vint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_tum(vbool64_t vm, vint32mf2_t vd, int16_t rs1,
                               vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs1,
                              vint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc_tum(vbool32_t vm, vint32m1_t vd, int16_t rs1,
                              vint16mf2_t vs2, size_t vl);
```

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vint32m2_t __riscv_vwmacc_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs1,
                              vint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_tum(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                              vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs1,
                              vint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_tum(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                              vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs1,
                              vint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_tum(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                              vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs1,
                              vint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_tum(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                              vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs1,
                              vint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_tum(vbool32_t vm, vint64m2_t vd, int32_t rs1,
                              vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs1,
                              vint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_tum(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                              vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs1,
                              vint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_tum(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                              vint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_tum(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs1,
                                 vuint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_tum(vbool64_t vm, vint16mf4_t vd, int8_t rs1,
                                 vuint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu_tum(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs1,
                                 vuint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu_tum(vbool32_t vm, vint16mf2_t vd, int8_t rs1,
                                 vuint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs1,
                                vuint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu_tum(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                                vuint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu_tum(vbool8_t vm, vint16m2_t vd, vint8m1_t vs1,
                                vuint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu_tum(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                                vuint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu_tum(vbool4_t vm, vint16m4_t vd, vint8m2_t vs1,
                                vuint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu_tum(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                                vuint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_tum(vbool2_t vm, vint16m8_t vd, vint8m4_t vs1,
                                vuint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_tum(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                                vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_tum(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs1,
                                 vuint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_tum(vbool64_t vm, vint32mf2_t vd, int16_t rs1,
                                 vuint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs1,
                                vuint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu_tum(vbool32_t vm, vint32m1_t vd, int16_t rs1,
                                vuint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu_tum(vbool16_t vm, vint32m2_t vd, vint16m1_t vs1,
                                vuint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu_tum(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                                vuint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu_tum(vbool8_t vm, vint32m4_t vd, vint16m2_t vs1,
                                vuint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu_tum(vbool8_t vm, vint32m4_t vd, int16_t rs1,
```

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                                vuint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_tum(vbool4_t vm, vint32m8_t vd, vint16m4_t vs1,
                                vuint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_tum(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                                vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs1,
                                vuint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_tum(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                                vuint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu_tum(vbool32_t vm, vint64m2_t vd, vint32m1_t vs1,
                                vuint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu_tum(vbool32_t vm, vint64m2_t vd, int32_t rs1,
                                vuint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu_tum(vbool16_t vm, vint64m4_t vd, vint32m2_t vs1,
                                vuint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu_tum(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                                vuint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu_tum(vbool8_t vm, vint64m8_t vd, vint32m4_t vs1,
                                vuint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu_tum(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                                vuint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccus_tum(vbool64_t vm, vint16mf4_t vd, uint8_t rs1,
                                 vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccus_tum(vbool32_t vm, vint16mf2_t vd, uint8_t rs1,
                                 vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccus_tum(vbool16_t vm, vint16m1_t vd, uint8_t rs1,
                                vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccus_tum(vbool8_t vm, vint16m2_t vd, uint8_t rs1,
                                vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccus_tum(vbool4_t vm, vint16m4_t vd, uint8_t rs1,
                                vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccus_tum(vbool2_t vm, vint16m8_t vd, uint8_t rs1,
                                vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccus_tum(vbool64_t vm, vint32mf2_t vd, uint16_t rs1,
                                 vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccus_tum(vbool32_t vm, vint32m1_t vd, uint16_t rs1,
                                vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccus_tum(vbool16_t vm, vint32m2_t vd, uint16_t rs1,
                                vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccus_tum(vbool8_t vm, vint32m4_t vd, uint16_t rs1,
                                vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccus_tum(vbool4_t vm, vint32m8_t vd, uint16_t rs1,
                                vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccus_tum(vbool64_t vm, vint64m1_t vd, uint32_t rs1,
                                vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccus_tum(vbool32_t vm, vint64m2_t vd, uint32_t rs1,
                                vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccus_tum(vbool16_t vm, vint64m4_t vd, uint32_t rs1,
                                vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccus_tum(vbool8_t vm, vint64m8_t vd, uint32_t rs1,
                                vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_tum(vbool64_t vm, vuint16mf4_t vd, vuint8mf8_t vs1,
                                 vuint8mf8_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_tum(vbool64_t vm, vuint16mf4_t vd, uint8_t rs1,
                                 vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu_tum(vbool32_t vm, vuint16mf2_t vd, vuint8mf4_t vs1,
                                 vuint8mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu_tum(vbool32_t vm, vuint16mf2_t vd, uint8_t rs1,
                                 vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu_tum(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs1,
                                vuint8mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu_tum(vbool16_t vm, vuint16m1_t vd, uint8_t rs1,
                                vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu_tum(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs1,
                                vuint8m1_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu_tum(vbool8_t vm, vuint16m2_t vd, uint8_t rs1,
                                vuint8m1_t vs2, size_t vl);
```

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vuint16m4_t __riscv_vwmaccu_tum(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs1,
                                vuint8m2_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu_tum(vbool4_t vm, vuint16m4_t vd, uint8_t rs1,
                                vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_tum(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs1,
                                vuint8m4_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_tum(vbool2_t vm, vuint16m8_t vd, uint8_t rs1,
                                vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu_tum(vbool64_t vm, vuint32mf2_t vd,
                                 vuint16mf4_t vs1, vuint16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu_tum(vbool64_t vm, vuint32mf2_t vd, uint16_t rs1,
                                 vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu_tum(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs1,
                                vuint16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu_tum(vbool32_t vm, vuint32m1_t vd, uint16_t rs1,
                                vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu_tum(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs1,
                                vuint16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu_tum(vbool16_t vm, vuint32m2_t vd, uint16_t rs1,
                                vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu_tum(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs1,
                                vuint16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu_tum(vbool8_t vm, vuint32m4_t vd, uint16_t rs1,
                                vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu_tum(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs1,
                                vuint16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu_tum(vbool4_t vm, vuint32m8_t vd, uint16_t rs1,
                                vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu_tum(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs1,
                                vuint32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu_tum(vbool64_t vm, vuint64m1_t vd, uint32_t rs1,
                                vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu_tum(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs1,
                                vuint32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu_tum(vbool32_t vm, vuint64m2_t vd, uint32_t rs1,
                                vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu_tum(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs1,
                                vuint32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu_tum(vbool16_t vm, vuint64m4_t vd, uint32_t rs1,
                                vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vwmaccu_tum(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs1,
                                vuint32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vwmaccu_tum(vbool8_t vm, vuint64m8_t vd, uint32_t rs1,
                                vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vwmacc_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs1,
                                vint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmacc_tumu(vbool64_t vm, vint16mf4_t vd, int8_t rs1,
                                vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs1,
                                vint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_tumu(vbool32_t vm, vint16mf2_t vd, int8_t rs1,
                                vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs1,
                               vint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_tumu(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                               vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs1,
                               vint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_tumu(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                               vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs1,
                               vint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_tumu(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                               vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs1,
                               vint8m4_t vs2, size_t vl);
```

```
vint16m8_t __riscv_vwmacc_tumu(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                               vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_tumu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs1,
                                vint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_tumu(vbool64_t vm, vint32mf2_t vd, int16_t rs1,
                                vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs1,
                               vint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc_tumu(vbool32_t vm, vint32m1_t vd, int16_t rs1,
                               vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs1,
                               vint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_tumu(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                               vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs1,
                               vint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_tumu(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                               vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs1,
                               vint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_tumu(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                               vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs1,
                               vint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_tumu(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                               vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs1,
                               vint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_tumu(vbool32_t vm, vint64m2_t vd, int32_t rs1,
                               vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs1,
                               vint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_tumu(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                               vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs1,
                               vint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_tumu(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                               vint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_tumu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs1,
                                  vuint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_tumu(vbool64_t vm, vint16mf4_t vd, int8_t rs1,
                                  vuint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu_tumu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs1,
                                  vuint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu_tumu(vbool32_t vm, vint16mf2_t vd, int8_t rs1,
                                  vuint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu_tumu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs1,
                                 vuint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu_tumu(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                                 vuint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu_tumu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs1,
                                 vuint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu_tumu(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                                 vuint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu_tumu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs1,
                                 vuint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu_tumu(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                                 vuint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_tumu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs1,
                                 vuint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_tumu(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                                 vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_tumu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs1,
                                  vuint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_tumu(vbool64_t vm, vint32mf2_t vd, int16_t rs1,
                                  vuint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu_tumu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs1,
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                                  vuint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu_tumu(vbool32_t vm, vint32m1_t vd, int16_t rs1,
                                  vuint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu_tumu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs1,
                                  vuint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu_tumu(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                                  vuint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu_tumu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs1,
                                  vuint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu_tumu(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                                  vuint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_tumu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs1,
                                  vuint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_tumu(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                                  vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_tumu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs1,
                                  vuint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_tumu(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                                  vuint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu_tumu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs1,
                                  vuint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu_tumu(vbool32_t vm, vint64m2_t vd, int32_t rs1,
                                  vuint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu_tumu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs1,
                                  vuint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu_tumu(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                                  vuint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu_tumu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs1,
                                  vuint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu_tumu(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                                  vuint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccus_tumu(vbool64_t vm, vint16mf4_t vd, uint8_t rs1,
                                   vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccus_tumu(vbool32_t vm, vint16mf2_t vd, uint8_t rs1,
                                   vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccus_tumu(vbool16_t vm, vint16m1_t vd, uint8_t rs1,
                                  vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccus_tumu(vbool8_t vm, vint16m2_t vd, uint8_t rs1,
                                  vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccus_tumu(vbool4_t vm, vint16m4_t vd, uint8_t rs1,
                                  vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccus_tumu(vbool2_t vm, vint16m8_t vd, uint8_t rs1,
                                  vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccus_tumu(vbool64_t vm, vint32mf2_t vd, uint16_t rs1,
                                   vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccus_tumu(vbool32_t vm, vint32m1_t vd, uint16_t rs1,
                                  vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccus_tumu(vbool16_t vm, vint32m2_t vd, uint16_t rs1,
                                  vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccus_tumu(vbool8_t vm, vint32m4_t vd, uint16_t rs1,
                                  vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccus_tumu(vbool4_t vm, vint32m8_t vd, uint16_t rs1,
                                  vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccus_tumu(vbool64_t vm, vint64m1_t vd, uint32_t rs1,
                                  vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccus_tumu(vbool32_t vm, vint64m2_t vd, uint32_t rs1,
                                  vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccus_tumu(vbool16_t vm, vint64m4_t vd, uint32_t rs1,
                                  vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccus_tumu(vbool8_t vm, vint64m8_t vd, uint32_t rs1,
                                  vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   vuint8mf8_t vs1, vuint8mf8_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_tumu(vbool64_t vm, vuint16mf4_t vd, uint8_t rs1,
                                   vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                   vuint8mf4_t vs1, vuint8mf4_t vs2, size_t vl);
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vuint16mf2_t __riscv_vwmaccu_tumu(vbool32_t vm, vuint16mf2_t vd, uint8_t rs1,
                                  vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu_tumu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs1,
                                 vuint8mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu_tumu(vbool16_t vm, vuint16m1_t vd, uint8_t rs1,
                                 vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu_tumu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs1,
                                 vuint8m1_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu_tumu(vbool8_t vm, vuint16m2_t vd, uint8_t rs1,
                                 vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu_tumu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs1,
                                 vuint8m2_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu_tumu(vbool4_t vm, vuint16m4_t vd, uint8_t rs1,
                                 vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_tumu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs1,
                                 vuint8m4_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_tumu(vbool2_t vm, vuint16m8_t vd, uint8_t rs1,
                                 vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                  vuint16mf4_t vs1, vuint16mf4_t vs2,
                                  size_t vl);
vuint32mf2_t __riscv_vwmaccu_tumu(vbool64_t vm, vuint32mf2_t vd, uint16_t rs1,
                                  vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu_tumu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs1,
                                 vuint16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu_tumu(vbool32_t vm, vuint32m1_t vd, uint16_t rs1,
                                 vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu_tumu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs1,
                                 vuint16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu_tumu(vbool16_t vm, vuint32m2_t vd, uint16_t rs1,
                                 vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu_tumu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs1,
                                 vuint16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu_tumu(vbool8_t vm, vuint32m4_t vd, uint16_t rs1,
                                 vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu_tumu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs1,
                                 vuint16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu_tumu(vbool4_t vm, vuint32m8_t vd, uint16_t rs1,
                                 vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu_tumu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs1,
                                 vuint32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu_tumu(vbool64_t vm, vuint64m1_t vd, uint32_t rs1,
                                 vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu_tumu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs1,
                                 vuint32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu_tumu(vbool32_t vm, vuint64m2_t vd, uint32_t rs1,
                                 vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu_tumu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs1,
                                 vuint32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu_tumu(vbool16_t vm, vuint64m4_t vd, uint32_t rs1,
                                 vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vwmaccu_tumu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs1,
                                 vuint32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vwmaccu_tumu(vbool8_t vm, vuint64m8_t vd, uint32_t rs1,
                                 vuint32m4_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vwmacc_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs1,
                              vint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmacc_mu(vbool64_t vm, vint16mf4_t vd, int8_t rs1,
                              vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs1,
                              vint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmacc_mu(vbool32_t vm, vint16mf2_t vd, int8_t rs1,
                              vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs1,
                             vint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmacc_mu(vbool16_t vm, vint16m1_t vd, int8_t rs1,
```

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                              vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs1,
                             vint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmacc_mu(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                             vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs1,
                             vint8m2_t vs2, size_t vl);
vint16m4_t __riscv_vwmacc_mu(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                             vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs1,
                             vint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmacc_mu(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                             vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs1,
                              vint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmacc_mu(vbool64_t vm, vint32mf2_t vd, int16_t rs1,
                              vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs1,
                             vint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmacc_mu(vbool32_t vm, vint32m1_t vd, int16_t rs1,
                             vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs1,
                             vint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmacc_mu(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                             vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs1,
                             vint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmacc_mu(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                             vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs1,
                             vint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmacc_mu(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                             vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs1,
                             vint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmacc_mu(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                             vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs1,
                             vint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmacc_mu(vbool32_t vm, vint64m2_t vd, int32_t rs1,
                             vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs1,
                             vint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmacc_mu(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                             vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs1,
                             vint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmacc_mu(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                             vint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_mu(vbool64_t vm, vint16mf4_t vd, vint8mf8_t vs1,
                                vuint8mf8_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccsu_mu(vbool64_t vm, vint16mf4_t vd, int8_t rs1,
                                vuint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu_mu(vbool32_t vm, vint16mf2_t vd, vint8mf4_t vs1,
                                vuint8mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccsu_mu(vbool32_t vm, vint16mf2_t vd, int8_t rs1,
                                vuint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu_mu(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs1,
                               vuint8mf2_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccsu_mu(vbool16_t vm, vint16m1_t vd, int8_t rs1,
                               vuint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu_mu(vbool8_t vm, vint16m2_t vd, vint8m1_t vs1,
                               vuint8m1_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccsu_mu(vbool8_t vm, vint16m2_t vd, int8_t rs1,
                               vuint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccsu_mu(vbool4_t vm, vint16m4_t vd, vint8m2_t vs1,
                               vuint8m2_t vs2, size_t vl);
```

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vint16m4_t __riscv_vwmaccsu_mu(vbool4_t vm, vint16m4_t vd, int8_t rs1,
                               vuint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_mu(vbool2_t vm, vint16m8_t vd, vint8m4_t vs1,
                               vuint8m4_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccsu_mu(vbool2_t vm, vint16m8_t vd, int8_t rs1,
                               vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_mu(vbool64_t vm, vint32mf2_t vd, vint16mf4_t vs1,
                                vuint16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccsu_mu(vbool64_t vm, vint32mf2_t vd, int16_t rs1,
                                vuint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu_mu(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs1,
                               vuint16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccsu_mu(vbool32_t vm, vint32m1_t vd, int16_t rs1,
                               vuint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu_mu(vbool16_t vm, vint32m2_t vd, vint16m1_t vs1,
                               vuint16m1_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccsu_mu(vbool16_t vm, vint32m2_t vd, int16_t rs1,
                               vuint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu_mu(vbool8_t vm, vint32m4_t vd, vint16m2_t vs1,
                               vuint16m2_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccsu_mu(vbool8_t vm, vint32m4_t vd, int16_t rs1,
                               vuint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_mu(vbool4_t vm, vint32m8_t vd, vint16m4_t vs1,
                               vuint16m4_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccsu_mu(vbool4_t vm, vint32m8_t vd, int16_t rs1,
                               vuint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_mu(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs1,
                               vuint32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccsu_mu(vbool64_t vm, vint64m1_t vd, int32_t rs1,
                               vuint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu_mu(vbool32_t vm, vint64m2_t vd, vint32m1_t vs1,
                               vuint32m1_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccsu_mu(vbool32_t vm, vint64m2_t vd, int32_t rs1,
                               vuint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu_mu(vbool16_t vm, vint64m4_t vd, vint32m2_t vs1,
                               vuint32m2_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccsu_mu(vbool16_t vm, vint64m4_t vd, int32_t rs1,
                               vuint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu_mu(vbool8_t vm, vint64m8_t vd, vint32m4_t vs1,
                               vuint32m4_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccsu_mu(vbool8_t vm, vint64m8_t vd, int32_t rs1,
                               vuint32m4_t vs2, size_t vl);
vint16mf4_t __riscv_vwmaccus_mu(vbool64_t vm, vint16mf4_t vd, uint8_t rs1,
                                vint8mf8_t vs2, size_t vl);
vint16mf2_t __riscv_vwmaccus_mu(vbool32_t vm, vint16mf2_t vd, uint8_t rs1,
                                vint8mf4_t vs2, size_t vl);
vint16m1_t __riscv_vwmaccus_mu(vbool16_t vm, vint16m1_t vd, uint8_t rs1,
                               vint8mf2_t vs2, size_t vl);
vint16m2_t __riscv_vwmaccus_mu(vbool8_t vm, vint16m2_t vd, uint8_t rs1,
                               vint8m1_t vs2, size_t vl);
vint16m4_t __riscv_vwmaccus_mu(vbool4_t vm, vint16m4_t vd, uint8_t rs1,
                               vint8m2_t vs2, size_t vl);
vint16m8_t __riscv_vwmaccus_mu(vbool2_t vm, vint16m8_t vd, uint8_t rs1,
                               vint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vwmaccus_mu(vbool64_t vm, vint32mf2_t vd, uint16_t rs1,
                                vint16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vwmaccus_mu(vbool32_t vm, vint32m1_t vd, uint16_t rs1,
                               vint16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vwmaccus_mu(vbool16_t vm, vint32m2_t vd, uint16_t rs1,
                               vint16m1_t vs2, size_t vl);
vint32m4_t __riscv_vwmaccus_mu(vbool8_t vm, vint32m4_t vd, uint16_t rs1,
                               vint16m2_t vs2, size_t vl);
vint32m8_t __riscv_vwmaccus_mu(vbool4_t vm, vint32m8_t vd, uint16_t rs1,
                               vint16m4_t vs2, size_t vl);
vint64m1_t __riscv_vwmaccus_mu(vbool64_t vm, vint64m1_t vd, uint32_t rs1,
                               vint32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vwmaccus_mu(vbool32_t vm, vint64m2_t vd, uint32_t rs1,
```

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                                vint32m1_t vs2, size_t vl);
vint64m4_t __riscv_vwmaccus_mu(vbool16_t vm, vint64m4_t vd, uint32_t rs1,
                                vint32m2_t vs2, size_t vl);
vint64m8_t __riscv_vwmaccus_mu(vbool8_t vm, vint64m8_t vd, uint32_t rs1,
                                vint32m4_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_mu(vbool64_t vm, vuint16mf4_t vd, vuint8mf8_t vs1,
                                 vuint8mf8_t vs2, size_t vl);
vuint16mf4_t __riscv_vwmaccu_mu(vbool64_t vm, vuint16mf4_t vd, uint8_t rs1,
                                 vuint8mf8_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu_mu(vbool32_t vm, vuint16mf2_t vd, vuint8mf4_t vs1,
                                 vuint8mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vwmaccu_mu(vbool32_t vm, vuint16mf2_t vd, uint8_t rs1,
                                 vuint8mf4_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu_mu(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs1,
                                vuint8mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vwmaccu_mu(vbool16_t vm, vuint16m1_t vd, uint8_t rs1,
                                vuint8mf2_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu_mu(vbool8_t vm, vuint16m2_t vd, vuint8m1_t vs1,
                                vuint8m1_t vs2, size_t vl);
vuint16m2_t __riscv_vwmaccu_mu(vbool8_t vm, vuint16m2_t vd, uint8_t rs1,
                                vuint8m1_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu_mu(vbool4_t vm, vuint16m4_t vd, vuint8m2_t vs1,
                                vuint8m2_t vs2, size_t vl);
vuint16m4_t __riscv_vwmaccu_mu(vbool4_t vm, vuint16m4_t vd, uint8_t rs1,
                                vuint8m2_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_mu(vbool2_t vm, vuint16m8_t vd, vuint8m4_t vs1,
                                vuint8m4_t vs2, size_t vl);
vuint16m8_t __riscv_vwmaccu_mu(vbool2_t vm, vuint16m8_t vd, uint8_t rs1,
                                vuint8m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu_mu(vbool64_t vm, vuint32mf2_t vd, vuint16mf4_t vs1,
                                 vuint16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vwmaccu_mu(vbool64_t vm, vuint32mf2_t vd, uint16_t rs1,
                                 vuint16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu_mu(vbool32_t vm, vuint32m1_t vd, vuint16mf2_t vs1,
                                vuint16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vwmaccu_mu(vbool32_t vm, vuint32m1_t vd, uint16_t rs1,
                                vuint16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu_mu(vbool16_t vm, vuint32m2_t vd, vuint16m1_t vs1,
                                vuint16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vwmaccu_mu(vbool16_t vm, vuint32m2_t vd, uint16_t rs1,
                                vuint16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu_mu(vbool8_t vm, vuint32m4_t vd, vuint16m2_t vs1,
                                vuint16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vwmaccu_mu(vbool8_t vm, vuint32m4_t vd, uint16_t rs1,
                                vuint16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu_mu(vbool4_t vm, vuint32m8_t vd, vuint16m4_t vs1,
                                vuint16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vwmaccu_mu(vbool4_t vm, vuint32m8_t vd, uint16_t rs1,
                                vuint16m4_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu_mu(vbool64_t vm, vuint64m1_t vd, vuint32mf2_t vs1,
                                vuint32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vwmaccu_mu(vbool64_t vm, vuint64m1_t vd, uint32_t rs1,
                                vuint32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu_mu(vbool32_t vm, vuint64m2_t vd, vuint32m1_t vs1,
                                vuint32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vwmaccu_mu(vbool32_t vm, vuint64m2_t vd, uint32_t rs1,
                                vuint32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu_mu(vbool16_t vm, vuint64m4_t vd, vuint32m2_t vs1,
                                vuint32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vwmaccu_mu(vbool16_t vm, vuint64m4_t vd, uint32_t rs1,
                                vuint32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vwmaccu_mu(vbool8_t vm, vuint64m8_t vd, vuint32m4_t vs1,
                                vuint32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vwmaccu_mu(vbool8_t vm, vuint64m8_t vd, uint32_t rs1,
                                vuint32m4_t vs2, size_t vl);
```

D.3.19. Vector Integer Merge Intrinsics

```
vint8mf8_t __riscv_vmerge_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                             vbool64_t v0, size_t vl);
vint8mf8_t __riscv_vmerge_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                             vbool64_t v0, size_t vl);
vint8mf4_t __riscv_vmerge_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                             vbool32_t v0, size_t vl);
vint8mf4_t __riscv_vmerge_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                             vbool32_t v0, size_t vl);
vint8mf2_t __riscv_vmerge_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                             vbool16_t v0, size_t vl);
vint8mf2_t __riscv_vmerge_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                             vbool16_t v0, size_t vl);
vint8m1_t __riscv_vmerge_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                            vbool8_t v0, size_t vl);
vint8m1_t __riscv_vmerge_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                            vbool8_t v0, size_t vl);
vint8m2_t __riscv_vmerge_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                            vbool4_t v0, size_t vl);
vint8m2_t __riscv_vmerge_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                            vbool4_t v0, size_t vl);
vint8m4_t __riscv_vmerge_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                            vbool2_t v0, size_t vl);
vint8m4_t __riscv_vmerge_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                            vbool2_t v0, size_t vl);
vint8m8_t __riscv_vmerge_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                            vbool1_t v0, size_t vl);
vint8m8_t __riscv_vmerge_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                            vbool1_t v0, size_t vl);
vint16mf4_t __riscv_vmerge_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                              vbool64_t v0, size_t vl);
vint16mf4_t __riscv_vmerge_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                              vbool64_t v0, size_t vl);
vint16mf2_t __riscv_vmerge_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                              vbool32_t v0, size_t vl);
vint16mf2_t __riscv_vmerge_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                              vbool32_t v0, size_t vl);
vint16m1_t __riscv_vmerge_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                             vbool16_t v0, size_t vl);
vint16m1_t __riscv_vmerge_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                             vbool16_t v0, size_t vl);
vint16m2_t __riscv_vmerge_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                             vbool8_t v0, size_t vl);
vint16m2_t __riscv_vmerge_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                             vbool8_t v0, size_t vl);
vint16m4_t __riscv_vmerge_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                             vbool4_t v0, size_t vl);
vint16m4_t __riscv_vmerge_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                             vbool4_t v0, size_t vl);
vint16m8_t __riscv_vmerge_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                             vbool2_t v0, size_t vl);
vint16m8_t __riscv_vmerge_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                             vbool2_t v0, size_t vl);
vint32mf2_t __riscv_vmerge_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                              vbool64_t v0, size_t vl);
vint32mf2_t __riscv_vmerge_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                              vbool64_t v0, size_t vl);
vint32m1_t __riscv_vmerge_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                             vbool32_t v0, size_t vl);
vint32m1_t __riscv_vmerge_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                             vbool32_t v0, size_t vl);
vint32m2_t __riscv_vmerge_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                             vbool16_t v0, size_t vl);
vint32m2_t __riscv_vmerge_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                             vbool16_t v0, size_t vl);
```

```
vint32m4_t __riscv_vmerge_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                             vbool8_t v0, size_t vl);
vint32m4_t __riscv_vmerge_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                             vbool8_t v0, size_t vl);
vint32m8_t __riscv_vmerge_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                             vbool4_t v0, size_t vl);
vint32m8_t __riscv_vmerge_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                             vbool4_t v0, size_t vl);
vint64m1_t __riscv_vmerge_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                             vbool64_t v0, size_t vl);
vint64m1_t __riscv_vmerge_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                             vbool64_t v0, size_t vl);
vint64m2_t __riscv_vmerge_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                             vbool32_t v0, size_t vl);
vint64m2_t __riscv_vmerge_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                             vbool32_t v0, size_t vl);
vint64m4_t __riscv_vmerge_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                             vbool16_t v0, size_t vl);
vint64m4_t __riscv_vmerge_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                             vbool16_t v0, size_t vl);
vint64m8_t __riscv_vmerge_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                             vbool8_t v0, size_t vl);
vint64m8_t __riscv_vmerge_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                             vbool8_t v0, size_t vl);
vuint8mf8_t __riscv_vmerge_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                              vbool64_t v0, size_t vl);
vuint8mf8_t __riscv_vmerge_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                              vbool64_t v0, size_t vl);
vuint8mf4_t __riscv_vmerge_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                              vbool32_t v0, size_t vl);
vuint8mf4_t __riscv_vmerge_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                              vbool32_t v0, size_t vl);
vuint8mf2_t __riscv_vmerge_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                              vbool16_t v0, size_t vl);
vuint8mf2_t __riscv_vmerge_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                              vbool16_t v0, size_t vl);
vuint8m1_t __riscv_vmerge_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                             vbool8_t v0, size_t vl);
vuint8m1_t __riscv_vmerge_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                             vbool8_t v0, size_t vl);
vuint8m2_t __riscv_vmerge_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                             vbool4_t v0, size_t vl);
vuint8m2_t __riscv_vmerge_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                             vbool4_t v0, size_t vl);
vuint8m4_t __riscv_vmerge_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                             vbool2_t v0, size_t vl);
vuint8m4_t __riscv_vmerge_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                             vbool2_t v0, size_t vl);
vuint8m8_t __riscv_vmerge_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                             vbool1_t v0, size_t vl);
vuint8m8_t __riscv_vmerge_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                             vbool1_t v0, size_t vl);
vuint16mf4_t __riscv_vmerge_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, vbool64_t v0, size_t vl);
vuint16mf4_t __riscv_vmerge_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                               vbool64_t v0, size_t vl);
vuint16mf2_t __riscv_vmerge_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, vbool32_t v0, size_t vl);
vuint16mf2_t __riscv_vmerge_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                               vbool32_t v0, size_t vl);
vuint16m1_t __riscv_vmerge_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                              vbool16_t v0, size_t vl);
vuint16m1_t __riscv_vmerge_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                              vbool16_t v0, size_t vl);
vuint16m2_t __riscv_vmerge_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                              vbool8_t v0, size_t vl);
vuint16m2_t __riscv_vmerge_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
```

```
                              vbool8_t v0, size_t vl);
vuint16m4_t __riscv_vmerge_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                              vbool4_t v0, size_t vl);
vuint16m4_t __riscv_vmerge_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                              vbool4_t v0, size_t vl);
vuint16m8_t __riscv_vmerge_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                              vbool2_t v0, size_t vl);
vuint16m8_t __riscv_vmerge_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                              vbool2_t v0, size_t vl);
vuint32mf2_t __riscv_vmerge_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, vbool64_t v0, size_t vl);
vuint32mf2_t __riscv_vmerge_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                               vbool64_t v0, size_t vl);
vuint32m1_t __riscv_vmerge_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                              vbool32_t v0, size_t vl);
vuint32m1_t __riscv_vmerge_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                              vbool32_t v0, size_t vl);
vuint32m2_t __riscv_vmerge_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                              vbool16_t v0, size_t vl);
vuint32m2_t __riscv_vmerge_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                              vbool16_t v0, size_t vl);
vuint32m4_t __riscv_vmerge_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                              vbool8_t v0, size_t vl);
vuint32m4_t __riscv_vmerge_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                              vbool8_t v0, size_t vl);
vuint32m8_t __riscv_vmerge_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                              vbool4_t v0, size_t vl);
vuint32m8_t __riscv_vmerge_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                              vbool4_t v0, size_t vl);
vuint64m1_t __riscv_vmerge_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                              vbool64_t v0, size_t vl);
vuint64m1_t __riscv_vmerge_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                              vbool64_t v0, size_t vl);
vuint64m2_t __riscv_vmerge_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                              vbool32_t v0, size_t vl);
vuint64m2_t __riscv_vmerge_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                              vbool32_t v0, size_t vl);
vuint64m4_t __riscv_vmerge_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                              vbool16_t v0, size_t vl);
vuint64m4_t __riscv_vmerge_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                              vbool16_t v0, size_t vl);
vuint64m8_t __riscv_vmerge_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                              vbool8_t v0, size_t vl);
vuint64m8_t __riscv_vmerge_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                              vbool8_t v0, size_t vl);
```

D.3.20. Vector Integer Move Intrinsics

```
vint8mf8_t __riscv_vmv_v_tu(vint8mf8_t vd, vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vmv_v_tu(vint8mf8_t vd, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmv_v_tu(vint8mf4_t vd, vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vmv_v_tu(vint8mf4_t vd, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmv_v_tu(vint8mf2_t vd, vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vmv_v_tu(vint8mf2_t vd, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmv_v_tu(vint8m1_t vd, vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vmv_v_tu(vint8m1_t vd, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmv_v_tu(vint8m2_t vd, vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vmv_v_tu(vint8m2_t vd, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmv_v_tu(vint8m4_t vd, vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vmv_v_tu(vint8m4_t vd, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmv_v_tu(vint8m8_t vd, vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vmv_v_tu(vint8m8_t vd, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmv_v_tu(vint16mf4_t vd, vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vmv_v_tu(vint16mf4_t vd, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmv_v_tu(vint16mf2_t vd, vint16mf2_t vs1, size_t vl);
```

```
vint16mf2_t __riscv_vmv_v_tu(vint16mf2_t vd, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmv_v_tu(vint16m1_t vd, vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vmv_v_tu(vint16m1_t vd, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmv_v_tu(vint16m2_t vd, vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vmv_v_tu(vint16m2_t vd, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmv_v_tu(vint16m4_t vd, vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vmv_v_tu(vint16m4_t vd, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmv_v_tu(vint16m8_t vd, vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vmv_v_tu(vint16m8_t vd, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmv_v_tu(vint32mf2_t vd, vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vmv_v_tu(vint32mf2_t vd, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmv_v_tu(vint32m1_t vd, vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vmv_v_tu(vint32m1_t vd, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmv_v_tu(vint32m2_t vd, vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vmv_v_tu(vint32m2_t vd, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmv_v_tu(vint32m4_t vd, vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vmv_v_tu(vint32m4_t vd, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmv_v_tu(vint32m8_t vd, vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vmv_v_tu(vint32m8_t vd, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmv_v_tu(vint64m1_t vd, vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vmv_v_tu(vint64m1_t vd, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmv_v_tu(vint64m2_t vd, vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vmv_v_tu(vint64m2_t vd, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmv_v_tu(vint64m4_t vd, vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vmv_v_tu(vint64m4_t vd, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmv_v_tu(vint64m8_t vd, vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vmv_v_tu(vint64m8_t vd, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmv_v_tu(vuint8mf8_t vd, vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vmv_v_tu(vuint8mf8_t vd, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmv_v_tu(vuint8mf4_t vd, vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vmv_v_tu(vuint8mf4_t vd, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmv_v_tu(vuint8mf2_t vd, vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vmv_v_tu(vuint8mf2_t vd, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmv_v_tu(vuint8m1_t vd, vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vmv_v_tu(vuint8m1_t vd, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmv_v_tu(vuint8m2_t vd, vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vmv_v_tu(vuint8m2_t vd, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmv_v_tu(vuint8m4_t vd, vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vmv_v_tu(vuint8m4_t vd, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmv_v_tu(vuint8m8_t vd, vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vmv_v_tu(vuint8m8_t vd, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmv_v_tu(vuint16mf4_t vd, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vmv_v_tu(vuint16mf4_t vd, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmv_v_tu(vuint16mf2_t vd, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vmv_v_tu(vuint16mf2_t vd, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmv_v_tu(vuint16m1_t vd, vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vmv_v_tu(vuint16m1_t vd, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmv_v_tu(vuint16m2_t vd, vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vmv_v_tu(vuint16m2_t vd, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmv_v_tu(vuint16m4_t vd, vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vmv_v_tu(vuint16m4_t vd, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmv_v_tu(vuint16m8_t vd, vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vmv_v_tu(vuint16m8_t vd, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmv_v_tu(vuint32mf2_t vd, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vmv_v_tu(vuint32mf2_t vd, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmv_v_tu(vuint32m1_t vd, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vmv_v_tu(vuint32m1_t vd, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmv_v_tu(vuint32m2_t vd, vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vmv_v_tu(vuint32m2_t vd, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmv_v_tu(vuint32m4_t vd, vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vmv_v_tu(vuint32m4_t vd, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmv_v_tu(vuint32m8_t vd, vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vmv_v_tu(vuint32m8_t vd, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmv_v_tu(vuint64m1_t vd, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vmv_v_tu(vuint64m1_t vd, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmv_v_tu(vuint64m2_t vd, vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vmv_v_tu(vuint64m2_t vd, uint64_t rs1, size_t vl);
```

```
vuint64m4_t __riscv_vmv_v_tu(vuint64m4_t vd, vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vmv_v_tu(vuint64m4_t vd, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmv_v_tu(vuint64m8_t vd, vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vmv_v_tu(vuint64m8_t vd, uint64_t rs1, size_t vl);
```

D.4. Vector Fixed-Point Arithmetic Intrinsics

D.4.1. Vector Single-Width Saturating Add and Subtract Intrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vsadd_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                            size_t vl);
vint8mf8_t __riscv_vsadd_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                            size_t vl);
vint8mf4_t __riscv_vsadd_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                            size_t vl);
vint8mf4_t __riscv_vsadd_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                            size_t vl);
vint8mf2_t __riscv_vsadd_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                            size_t vl);
vint8mf2_t __riscv_vsadd_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                            size_t vl);
vint8m1_t __riscv_vsadd_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                           size_t vl);
vint8m1_t __riscv_vsadd_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vsadd_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                           size_t vl);
vint8m2_t __riscv_vsadd_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vsadd_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                           size_t vl);
vint8m4_t __riscv_vsadd_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vsadd_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                           size_t vl);
vint8m8_t __riscv_vsadd_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsadd_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                             size_t vl);
vint16mf4_t __riscv_vsadd_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                             size_t vl);
vint16mf2_t __riscv_vsadd_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                             size_t vl);
vint16mf2_t __riscv_vsadd_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                             size_t vl);
vint16m1_t __riscv_vsadd_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vsadd_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                            size_t vl);
vint16m2_t __riscv_vsadd_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                            size_t vl);
vint16m2_t __riscv_vsadd_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                            size_t vl);
vint16m4_t __riscv_vsadd_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                            size_t vl);
vint16m4_t __riscv_vsadd_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                            size_t vl);
vint16m8_t __riscv_vsadd_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                            size_t vl);
vint16m8_t __riscv_vsadd_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                            size_t vl);
vint32mf2_t __riscv_vsadd_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                             size_t vl);
vint32mf2_t __riscv_vsadd_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                             size_t vl);
```

```
vint32m1_t __riscv_vsadd_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vsadd_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                            size_t vl);
vint32m2_t __riscv_vsadd_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                            size_t vl);
vint32m2_t __riscv_vsadd_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                            size_t vl);
vint32m4_t __riscv_vsadd_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                            size_t vl);
vint32m4_t __riscv_vsadd_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                            size_t vl);
vint32m8_t __riscv_vsadd_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                            size_t vl);
vint32m8_t __riscv_vsadd_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                            size_t vl);
vint64m1_t __riscv_vsadd_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                            size_t vl);
vint64m1_t __riscv_vsadd_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                            size_t vl);
vint64m2_t __riscv_vsadd_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                            size_t vl);
vint64m2_t __riscv_vsadd_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                            size_t vl);
vint64m4_t __riscv_vsadd_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                            size_t vl);
vint64m4_t __riscv_vsadd_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                            size_t vl);
vint64m8_t __riscv_vsadd_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                            size_t vl);
vint64m8_t __riscv_vsadd_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                            size_t vl);
vint8mf8_t __riscv_vssub_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                            size_t vl);
vint8mf8_t __riscv_vssub_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                            size_t vl);
vint8mf4_t __riscv_vssub_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                            size_t vl);
vint8mf4_t __riscv_vssub_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                            size_t vl);
vint8mf2_t __riscv_vssub_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                            size_t vl);
vint8mf2_t __riscv_vssub_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                            size_t vl);
vint8m1_t __riscv_vssub_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                           size_t vl);
vint8m1_t __riscv_vssub_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1, size_t vl);
vint8m2_t __riscv_vssub_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                           size_t vl);
vint8m2_t __riscv_vssub_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1, size_t vl);
vint8m4_t __riscv_vssub_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                           size_t vl);
vint8m4_t __riscv_vssub_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1, size_t vl);
vint8m8_t __riscv_vssub_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                           size_t vl);
vint8m8_t __riscv_vssub_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vssub_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                             size_t vl);
vint16mf4_t __riscv_vssub_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                             size_t vl);
vint16mf2_t __riscv_vssub_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                             size_t vl);
vint16mf2_t __riscv_vssub_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                             size_t vl);
vint16m1_t __riscv_vssub_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vssub_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
```

```
                            size_t vl);
vint16m2_t __riscv_vssub_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                            size_t vl);
vint16m2_t __riscv_vssub_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                            size_t vl);
vint16m4_t __riscv_vssub_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                            size_t vl);
vint16m4_t __riscv_vssub_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                            size_t vl);
vint16m8_t __riscv_vssub_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                            size_t vl);
vint16m8_t __riscv_vssub_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                            size_t vl);
vint32mf2_t __riscv_vssub_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                             size_t vl);
vint32mf2_t __riscv_vssub_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                             size_t vl);
vint32m1_t __riscv_vssub_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                            size_t vl);
vint32m1_t __riscv_vssub_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                            size_t vl);
vint32m2_t __riscv_vssub_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                            size_t vl);
vint32m2_t __riscv_vssub_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                            size_t vl);
vint32m4_t __riscv_vssub_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                            size_t vl);
vint32m4_t __riscv_vssub_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                            size_t vl);
vint32m8_t __riscv_vssub_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                            size_t vl);
vint32m8_t __riscv_vssub_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                            size_t vl);
vint64m1_t __riscv_vssub_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                            size_t vl);
vint64m1_t __riscv_vssub_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                            size_t vl);
vint64m2_t __riscv_vssub_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                            size_t vl);
vint64m2_t __riscv_vssub_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                            size_t vl);
vint64m4_t __riscv_vssub_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                            size_t vl);
vint64m4_t __riscv_vssub_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                            size_t vl);
vint64m8_t __riscv_vssub_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                            size_t vl);
vint64m8_t __riscv_vssub_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                            size_t vl);
vuint8mf8_t __riscv_vsaddu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                              size_t vl);
vuint8mf8_t __riscv_vsaddu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                              size_t vl);
vuint8mf4_t __riscv_vsaddu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                              size_t vl);
vuint8mf4_t __riscv_vsaddu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                              size_t vl);
vuint8mf2_t __riscv_vsaddu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                              size_t vl);
vuint8mf2_t __riscv_vsaddu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                              size_t vl);
vuint8m1_t __riscv_vsaddu_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vsaddu_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m2_t __riscv_vsaddu_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                             size_t vl);
```

```
vuint8m2_t __riscv_vsaddu_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m4_t __riscv_vsaddu_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                             size_t vl);
vuint8m4_t __riscv_vsaddu_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m8_t __riscv_vsaddu_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                             size_t vl);
vuint8m8_t __riscv_vsaddu_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                             size_t vl);
vuint16mf4_t __riscv_vsaddu_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                               size_t vl);
vuint16mf2_t __riscv_vsaddu_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsaddu_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                               size_t vl);
vuint16m1_t __riscv_vsaddu_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vsaddu_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m2_t __riscv_vsaddu_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                              size_t vl);
vuint16m2_t __riscv_vsaddu_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m4_t __riscv_vsaddu_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                              size_t vl);
vuint16m4_t __riscv_vsaddu_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m8_t __riscv_vsaddu_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                              size_t vl);
vuint16m8_t __riscv_vsaddu_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                              size_t vl);
vuint32mf2_t __riscv_vsaddu_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsaddu_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                               size_t vl);
vuint32m1_t __riscv_vsaddu_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vsaddu_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m2_t __riscv_vsaddu_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                              size_t vl);
vuint32m2_t __riscv_vsaddu_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m4_t __riscv_vsaddu_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                              size_t vl);
vuint32m4_t __riscv_vsaddu_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m8_t __riscv_vsaddu_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                              size_t vl);
vuint32m8_t __riscv_vsaddu_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m1_t __riscv_vsaddu_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vsaddu_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m2_t __riscv_vsaddu_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                              size_t vl);
vuint64m2_t __riscv_vsaddu_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m4_t __riscv_vsaddu_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                              size_t vl);
vuint64m4_t __riscv_vsaddu_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m8_t __riscv_vsaddu_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
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                              size_t vl);
vuint64m8_t __riscv_vsaddu_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                              size_t vl);
vuint8mf8_t __riscv_vssubu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                              size_t vl);
vuint8mf8_t __riscv_vssubu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                              size_t vl);
vuint8mf4_t __riscv_vssubu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                              size_t vl);
vuint8mf4_t __riscv_vssubu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                              size_t vl);
vuint8mf2_t __riscv_vssubu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                              size_t vl);
vuint8mf2_t __riscv_vssubu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                              size_t vl);
vuint8m1_t __riscv_vssubu_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vssubu_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m2_t __riscv_vssubu_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                             size_t vl);
vuint8m2_t __riscv_vssubu_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m4_t __riscv_vssubu_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                             size_t vl);
vuint8m4_t __riscv_vssubu_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                             size_t vl);
vuint8m8_t __riscv_vssubu_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                             size_t vl);
vuint8m8_t __riscv_vssubu_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                             size_t vl);
vuint16mf4_t __riscv_vssubu_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vssubu_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                               size_t vl);
vuint16mf2_t __riscv_vssubu_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vssubu_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                               size_t vl);
vuint16m1_t __riscv_vssubu_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vssubu_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m2_t __riscv_vssubu_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                              size_t vl);
vuint16m2_t __riscv_vssubu_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m4_t __riscv_vssubu_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                              size_t vl);
vuint16m4_t __riscv_vssubu_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                              size_t vl);
vuint16m8_t __riscv_vssubu_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                              size_t vl);
vuint16m8_t __riscv_vssubu_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                              size_t vl);
vuint32mf2_t __riscv_vssubu_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vssubu_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                               size_t vl);
vuint32m1_t __riscv_vssubu_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vssubu_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m2_t __riscv_vssubu_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                              size_t vl);
vuint32m2_t __riscv_vssubu_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                              size_t vl);
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vuint32m4_t __riscv_vssubu_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                              size_t vl);
vuint32m4_t __riscv_vssubu_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                              size_t vl);
vuint32m8_t __riscv_vssubu_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                              size_t vl);
vuint32m8_t __riscv_vssubu_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                              size_t vl);
vuint64m1_t __riscv_vssubu_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vssubu_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m2_t __riscv_vssubu_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                              size_t vl);
vuint64m2_t __riscv_vssubu_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m4_t __riscv_vssubu_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                              size_t vl);
vuint64m4_t __riscv_vssubu_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                              size_t vl);
vuint64m8_t __riscv_vssubu_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                              size_t vl);
vuint64m8_t __riscv_vssubu_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                              size_t vl);
// masked functions
vint8mf8_t __riscv_vsadd_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsadd_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsadd_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsadd_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsadd_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsadd_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vsadd_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsadd_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vsadd_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsadd_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vsadd_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsadd_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vsadd_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsadd_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsadd_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsadd_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsadd_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsadd_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vsadd_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsadd_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vsadd_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
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vint16m2_t __riscv_vsadd_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vsadd_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsadd_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vsadd_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsadd_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsadd_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsadd_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vsadd_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsadd_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vsadd_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsadd_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vsadd_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsadd_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, size_t vl);
vint32m8_t __riscv_vsadd_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsadd_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, size_t vl);
vint64m1_t __riscv_vsadd_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsadd_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, size_t vl);
vint64m2_t __riscv_vsadd_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsadd_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, size_t vl);
vint64m4_t __riscv_vsadd_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsadd_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, size_t vl);
vint64m8_t __riscv_vsadd_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsadd_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, size_t vl);
vint8mf8_t __riscv_vssub_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vssub_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, size_t vl);
vint8mf4_t __riscv_vssub_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vssub_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, size_t vl);
vint8mf2_t __riscv_vssub_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vssub_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, size_t vl);
vint8m1_t __riscv_vssub_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vssub_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, size_t vl);
vint8m2_t __riscv_vssub_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vssub_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, size_t vl);
vint8m4_t __riscv_vssub_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
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                            vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vssub_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, size_t vl);
vint8m8_t __riscv_vssub_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vssub_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, size_t vl);
vint16mf4_t __riscv_vssub_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vssub_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, size_t vl);
vint16mf2_t __riscv_vssub_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vssub_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, size_t vl);
vint16m1_t __riscv_vssub_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vssub_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, size_t vl);
vint16m2_t __riscv_vssub_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vssub_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, size_t vl);
vint16m4_t __riscv_vssub_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vssub_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, size_t vl);
vint16m8_t __riscv_vssub_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vssub_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, size_t vl);
vint32mf2_t __riscv_vssub_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vssub_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, size_t vl);
vint32m1_t __riscv_vssub_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vssub_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, size_t vl);
vint32m2_t __riscv_vssub_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vssub_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, size_t vl);
vint32m4_t __riscv_vssub_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vssub_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, size_t vl);
vint32m8_t __riscv_vssub_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vssub_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, size_t vl);
vint64m1_t __riscv_vssub_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vssub_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, size_t vl);
vint64m2_t __riscv_vssub_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vssub_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, size_t vl);
vint64m4_t __riscv_vssub_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vssub_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, size_t vl);
vint64m8_t __riscv_vssub_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vssub_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, size_t vl);
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vuint8mf8_t __riscv_vsaddu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsaddu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsaddu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsaddu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsaddu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsaddu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsaddu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsaddu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsaddu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsaddu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsaddu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsaddu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsaddu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsaddu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsaddu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsaddu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsaddu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsaddu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsaddu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsaddu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsaddu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsaddu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsaddu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsaddu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsaddu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsaddu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsaddu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsaddu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
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                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsaddu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsaddu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsaddu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsaddu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsaddu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsaddu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsaddu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsaddu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsaddu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsaddu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vssubu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vssubu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vssubu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vssubu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vssubu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vssubu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vssubu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vssubu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vssubu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vssubu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vssubu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vssubu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vssubu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vssubu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vssubu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vssubu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vssubu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vssubu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vssubu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vssubu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vssubu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vssubu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vssubu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
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vuint16m4_t __riscv_vssubu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vssubu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vssubu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vssubu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vssubu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vssubu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vssubu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vssubu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vssubu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vssubu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vssubu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vssubu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vssubu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vssubu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vssubu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vssubu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vssubu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vssubu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vssubu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vssubu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vssubu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsadd_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsadd_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsadd_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vsadd_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsadd_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsadd_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              int8_t rs1, size_t vl);
vint8m1_t __riscv_vsadd_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsadd_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             int8_t rs1, size_t vl);
vint8m2_t __riscv_vsadd_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsadd_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             int8_t rs1, size_t vl);
vint8m4_t __riscv_vsadd_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsadd_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             int8_t rs1, size_t vl);
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vint8m8_t __riscv_vsadd_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsadd_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             int8_t rs1, size_t vl);
vint16mf4_t __riscv_vsadd_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsadd_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsadd_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsadd_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               int16_t rs1, size_t vl);
vint16m1_t __riscv_vsadd_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsadd_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              int16_t rs1, size_t vl);
vint16m2_t __riscv_vsadd_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsadd_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              int16_t rs1, size_t vl);
vint16m4_t __riscv_vsadd_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsadd_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              int16_t rs1, size_t vl);
vint16m8_t __riscv_vsadd_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                              vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsadd_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                              int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsadd_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsadd_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               int32_t rs1, size_t vl);
vint32m1_t __riscv_vsadd_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsadd_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              int32_t rs1, size_t vl);
vint32m2_t __riscv_vsadd_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsadd_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              int32_t rs1, size_t vl);
vint32m4_t __riscv_vsadd_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsadd_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              int32_t rs1, size_t vl);
vint32m8_t __riscv_vsadd_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsadd_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              int32_t rs1, size_t vl);
vint64m1_t __riscv_vsadd_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsadd_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              int64_t rs1, size_t vl);
vint64m2_t __riscv_vsadd_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsadd_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              int64_t rs1, size_t vl);
vint64m4_t __riscv_vsadd_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsadd_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              int64_t rs1, size_t vl);
vint64m8_t __riscv_vsadd_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsadd_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              int64_t rs1, size_t vl);
vint8mf8_t __riscv_vssub_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vssub_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
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                              int8_t rs1, size_t vl);
vint8mf4_t __riscv_vssub_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vssub_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              int8_t rs1, size_t vl);
vint8mf2_t __riscv_vssub_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vssub_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              int8_t rs1, size_t vl);
vint8m1_t __riscv_vssub_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vssub_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             int8_t rs1, size_t vl);
vint8m2_t __riscv_vssub_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vssub_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             int8_t rs1, size_t vl);
vint8m4_t __riscv_vssub_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vssub_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             int8_t rs1, size_t vl);
vint8m8_t __riscv_vssub_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vssub_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             int8_t rs1, size_t vl);
vint16mf4_t __riscv_vssub_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vssub_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               int16_t rs1, size_t vl);
vint16mf2_t __riscv_vssub_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vssub_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               int16_t rs1, size_t vl);
vint16m1_t __riscv_vssub_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vssub_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              int16_t rs1, size_t vl);
vint16m2_t __riscv_vssub_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vssub_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              int16_t rs1, size_t vl);
vint16m4_t __riscv_vssub_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vssub_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              int16_t rs1, size_t vl);
vint16m8_t __riscv_vssub_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                              vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vssub_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                              int16_t rs1, size_t vl);
vint32mf2_t __riscv_vssub_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vssub_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               int32_t rs1, size_t vl);
vint32m1_t __riscv_vssub_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vssub_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              int32_t rs1, size_t vl);
vint32m2_t __riscv_vssub_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vssub_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              int32_t rs1, size_t vl);
vint32m4_t __riscv_vssub_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vssub_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              int32_t rs1, size_t vl);
vint32m8_t __riscv_vssub_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              vint32m8_t vs1, size_t vl);
```

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vint32m8_t __riscv_vssub_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              int32_t rs1, size_t vl);
vint64m1_t __riscv_vssub_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vssub_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              int64_t rs1, size_t vl);
vint64m2_t __riscv_vssub_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vssub_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              int64_t rs1, size_t vl);
vint64m4_t __riscv_vssub_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vssub_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              int64_t rs1, size_t vl);
vint64m8_t __riscv_vssub_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vssub_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsaddu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsaddu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsaddu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsaddu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsaddu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsaddu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsaddu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsaddu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsaddu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsaddu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsaddu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsaddu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsaddu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsaddu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsaddu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsaddu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsaddu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsaddu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsaddu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
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                                vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsaddu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsaddu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsaddu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsaddu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsaddu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsaddu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsaddu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsaddu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsaddu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsaddu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsaddu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsaddu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsaddu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsaddu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsaddu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsaddu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsaddu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsaddu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsaddu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vssubu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vssubu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vssubu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vssubu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vssubu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vssubu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vssubu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vssubu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vssubu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vssubu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vssubu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vssubu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vssubu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vssubu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               uint8_t rs1, size_t vl);
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vuint16mf4_t __riscv_vssubu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vssubu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vssubu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vssubu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vssubu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vssubu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vssubu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vssubu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vssubu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vssubu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vssubu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vssubu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vssubu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vssubu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vssubu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vssubu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vssubu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vssubu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vssubu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vssubu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vssubu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vssubu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vssubu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vssubu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vssubu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vssubu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vssubu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vssubu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vssubu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vssubu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                uint64_t rs1, size_t vl);
// masked functions
vint8mf8_t __riscv_vsadd_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vsadd_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vsadd_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
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vint8mf4_t __riscv_vsadd_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vsadd_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vsadd_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vsadd_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vsadd_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           size_t vl);
vint8m2_t __riscv_vsadd_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vsadd_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vsadd_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vsadd_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           size_t vl);
vint8m8_t __riscv_vsadd_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vsadd_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vsadd_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vsadd_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vsadd_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vsadd_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vsadd_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vsadd_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vsadd_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vsadd_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vsadd_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vsadd_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vsadd_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vsadd_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
vint32mf2_t __riscv_vsadd_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vsadd_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vsadd_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vsadd_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vsadd_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vsadd_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vsadd_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vsadd_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vsadd_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vsadd_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vsadd_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
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                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vsadd_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vsadd_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vsadd_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vsadd_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vsadd_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vsadd_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vsadd_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vint8mf8_t __riscv_vssub_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vssub_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, size_t vl);
vint8mf4_t __riscv_vssub_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vssub_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, size_t vl);
vint8mf2_t __riscv_vssub_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vssub_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, size_t vl);
vint8m1_t __riscv_vssub_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vssub_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           size_t vl);
vint8m2_t __riscv_vssub_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vssub_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           size_t vl);
vint8m4_t __riscv_vssub_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vssub_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           size_t vl);
vint8m8_t __riscv_vssub_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vssub_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           size_t vl);
vint16mf4_t __riscv_vssub_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vssub_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, size_t vl);
vint16mf2_t __riscv_vssub_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vssub_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, size_t vl);
vint16m1_t __riscv_vssub_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vssub_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, size_t vl);
vint16m2_t __riscv_vssub_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vssub_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, size_t vl);
vint16m4_t __riscv_vssub_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vssub_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, size_t vl);
vint16m8_t __riscv_vssub_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vssub_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, size_t vl);
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vint32mf2_t __riscv_vssub_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vssub_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, size_t vl);
vint32m1_t __riscv_vssub_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vssub_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, size_t vl);
vint32m2_t __riscv_vssub_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vssub_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, size_t vl);
vint32m4_t __riscv_vssub_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vssub_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, size_t vl);
vint32m8_t __riscv_vssub_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vssub_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, size_t vl);
vint64m1_t __riscv_vssub_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vssub_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, size_t vl);
vint64m2_t __riscv_vssub_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vssub_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, size_t vl);
vint64m4_t __riscv_vssub_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vssub_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, size_t vl);
vint64m8_t __riscv_vssub_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vssub_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vsaddu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vsaddu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vsaddu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vsaddu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vsaddu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vsaddu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vsaddu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vsaddu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vsaddu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vsaddu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vsaddu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vsaddu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vsaddu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
```

```
                                uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vsaddu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vsaddu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vsaddu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vsaddu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vsaddu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vsaddu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vsaddu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vsaddu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vsaddu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vsaddu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vsaddu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vsaddu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vsaddu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vsaddu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vsaddu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vsaddu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vsaddu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vsaddu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vsaddu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vsaddu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vsaddu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vsaddu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vsaddu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vsaddu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vsaddu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vsaddu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vsaddu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vsaddu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vssubu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vssubu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vssubu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vssubu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vssubu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, size_t vl);
```

```
vuint8mf2_t __riscv_vssubu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vssubu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vssubu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vssubu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vssubu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vssubu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vssubu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vssubu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vssubu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vssubu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vssubu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vssubu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vssubu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vssubu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vssubu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vssubu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vssubu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vssubu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vssubu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vssubu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vssubu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vssubu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vssubu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vssubu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vssubu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vssubu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vssubu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vssubu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vssubu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vssubu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vssubu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vssubu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vssubu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vssubu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
```

```
                              vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vssubu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vssubu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vssubu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vssubu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vssubu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, size_t vl);
```

D.4.2. Vector Single-Width Averaging Add and Subtract Intrinsics

```
vint8mf8_t __riscv_vaadd_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                            unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vaadd_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                            unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                            unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                            unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                            unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                             unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                             unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                             unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
```

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                            unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                             unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                            unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                            unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                            unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                            unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                            unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                             unsigned int vxrm, size_t vl);
```

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vint16mf4_t __riscv_vasub_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                             unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                             unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                            unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                             unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                              unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                              unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                              unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                              unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
```

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                              unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                              unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                             unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                             unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                             unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                             unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                             unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                             unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                             unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                             unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                               unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                               unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                              unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                              unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                              unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                              unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                              unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                              unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                              unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                              unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
                               unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                              unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                              unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                              unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                              unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                              unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                              unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                              unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                              unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                              unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                              unsigned int vxrm, size_t vl);
```

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vuint64m2_t __riscv_vaaddu_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                              unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                              unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                              unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                              unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                              unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                              unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                              unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                              unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                              unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                              unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                              unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                              unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                             unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                             unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                             unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                             unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                             unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                             unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                             unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                             unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_tu(vuint16mf4_t vd, vuint16mf4_t vs2, uint16_t rs1,
                               unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_tu(vuint16mf2_t vd, vuint16mf2_t vs2, uint16_t rs1,
                               unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                              unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                              unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                              unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                              unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                              unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                              unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                              unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                              unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_tu(vuint32mf2_t vd, vuint32mf2_t vs2, uint32_t rs1,
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                                unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                              unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                              unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                              unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                              unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                              unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                              unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                              unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                              unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                              unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                              unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                              unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                              unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                              unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                              unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                              unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                              unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vaadd_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vaadd_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
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                              vint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vaadd_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
```

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vint8m1_t __riscv_vasub_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
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                              int64_t rs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              vuint8m8_t vs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               uint16_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               vuint32m1_t vs1, unsigned int vxrm, size_t vl);
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vuint32m1_t __riscv_vaaddu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               vuint32m8_t vs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               uint32_t rs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               vuint64m1_t vs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               vuint64m2_t vs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               vuint64m4_t vs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               vuint64m8_t vs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               uint64_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              vuint8m8_t vs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
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                              vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vaadd_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vaadd_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
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                              int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             vint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vaadd_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             vint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               vint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               int16_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               vint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vaadd_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               int16_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              vint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              vint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              vint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                              vint16m8_t vs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               vint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               int32_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              vint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              vint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vaadd_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              vint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vaadd_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              vint32m8_t vs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vaadd_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vaadd_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              vint64m1_t vs1, unsigned int vxrm, size_t vl);
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                              int64_t rs1, unsigned int vxrm, size_t vl);
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                              vint64m2_t vs1, unsigned int vxrm, size_t vl);
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                              int64_t rs1, unsigned int vxrm, size_t vl);
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                              vint64m4_t vs1, unsigned int vxrm, size_t vl);
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                              int64_t rs1, unsigned int vxrm, size_t vl);
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                              vint64m8_t vs1, unsigned int vxrm, size_t vl);
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                              int64_t rs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              vint8mf8_t vs1, unsigned int vxrm, size_t vl);
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                              int8_t rs1, unsigned int vxrm, size_t vl);
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                              vint8mf4_t vs1, unsigned int vxrm, size_t vl);
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                              vint8mf2_t vs1, unsigned int vxrm, size_t vl);
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                              int8_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vasub_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             vint8m2_t vs1, unsigned int vxrm, size_t vl);
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                             int8_t rs1, unsigned int vxrm, size_t vl);
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                             vint8m4_t vs1, unsigned int vxrm, size_t vl);
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                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               vint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               int16_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               vint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               int16_t rs1, unsigned int vxrm, size_t vl);
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vint16m1_t __riscv_vasub_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              vint16m2_t vs1, unsigned int vxrm, size_t vl);
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                              int16_t rs1, unsigned int vxrm, size_t vl);
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                              vint16m4_t vs1, unsigned int vxrm, size_t vl);
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                              int16_t rs1, unsigned int vxrm, size_t vl);
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                              vint16m8_t vs1, unsigned int vxrm, size_t vl);
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                              int16_t rs1, unsigned int vxrm, size_t vl);
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                               int32_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              vint32m1_t vs1, unsigned int vxrm, size_t vl);
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                              int32_t rs1, unsigned int vxrm, size_t vl);
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                              vint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
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                              vint32m4_t vs1, unsigned int vxrm, size_t vl);
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                              vint32m8_t vs1, unsigned int vxrm, size_t vl);
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                              vint64m4_t vs1, unsigned int vxrm, size_t vl);
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                                uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
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                                uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
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vuint8m8_t __riscv_vaaddu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               vuint8m8_t vs1, unsigned int vxrm, size_t vl);
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                                 vuint16mf2_t vs2, vuint16mf2_t vs1,
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                                 vuint16mf2_t vs2, uint16_t rs1,
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vuint16m1_t __riscv_vaaddu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, vuint32mf2_t vs1,
                                 unsigned int vxrm, size_t vl);
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                                 vuint32mf2_t vs2, uint32_t rs1,
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                                uint32_t rs1, unsigned int vxrm, size_t vl);
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                                vuint32m2_t vs1, unsigned int vxrm, size_t vl);
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                                uint32_t rs1, unsigned int vxrm, size_t vl);
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                                vuint32m4_t vs1, unsigned int vxrm, size_t vl);
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                                vuint64m8_t vs1, unsigned int vxrm, size_t vl);
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vuint8mf8_t __riscv_vasubu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
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                                vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               vuint8m8_t vs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               uint8_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, vuint16mf4_t vs1,
                                 unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, uint16_t rs1,
                                 unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, vuint16mf2_t vs1,
                                 unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, uint16_t rs1,
                                 unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                uint16_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, vuint32mf2_t vs1,
                                 unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, uint32_t rs1,
                                 unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                vuint32m8_t vs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                uint32_t rs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, unsigned int vxrm, size_t vl);
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vuint64m1_t __riscv_vasubu_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                vuint64m2_t vs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                vuint64m4_t vs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                vuint64m8_t vs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                uint64_t rs1, unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vaadd_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vaadd_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vaadd_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vaadd_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vaadd_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
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                           vint8m2_t vs1, unsigned int vxrm, size_t vl);
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                           unsigned int vxrm, size_t vl);
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                           vint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vaadd_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vaadd_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vaadd_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, unsigned int vxrm, size_t vl);
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                             int16_t rs1, unsigned int vxrm, size_t vl);
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                             vint16mf2_t vs1, unsigned int vxrm, size_t vl);
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                             int16_t rs1, unsigned int vxrm, size_t vl);
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                            vint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vaadd_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vaadd_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, unsigned int vxrm, size_t vl);
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                            int16_t rs1, unsigned int vxrm, size_t vl);
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                            vint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vaadd_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vaadd_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, unsigned int vxrm, size_t vl);
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                             vint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vaadd_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vaadd_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
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vint32m4_t __riscv_vaadd_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, unsigned int vxrm, size_t vl);
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                            vint32m8_t vs1, unsigned int vxrm, size_t vl);
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                            int32_t rs1, unsigned int vxrm, size_t vl);
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                            vint64m1_t vs1, unsigned int vxrm, size_t vl);
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                            int64_t rs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vaadd_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vaadd_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, unsigned int vxrm, size_t vl);
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                            int64_t rs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vasub_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vasub_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, unsigned int vxrm, size_t vl);
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                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vasub_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vasub_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
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                           vint8m2_t vs1, unsigned int vxrm, size_t vl);
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                           vint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vasub_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vasub_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vasub_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
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                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vasub_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vasub_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vasub_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vasub_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vasub_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vasub_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vasub_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vasub_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vasub_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vasub_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vasub_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vasub_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vasub_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vasub_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vaaddu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vaaddu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vaaddu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
```

```
vuint8mf2_t __riscv_vaaddu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vaaddu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vaaddu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vaaddu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vaaddu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vaaddu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vaaddu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vaaddu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vaaddu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vaaddu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vaaddu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vaaddu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vaaddu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vaaddu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vaaddu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vaaddu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vaaddu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
```

```
                              vuint64m2_t vs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vaaddu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vaaddu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vaaddu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vasubu_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vasubu_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vasubu_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vasubu_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vasubu_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vasubu_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             uint8_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vasubu_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             uint8_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vasubu_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vasubu_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vasubu_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vasubu_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vasubu_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vasubu_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              uint16_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vasubu_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               uint32_t rs1, unsigned int vxrm, size_t vl);
```

```
vuint32m1_t __riscv_vasubu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vasubu_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vasubu_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vasubu_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vasubu_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              uint32_t rs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vasubu_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vasubu_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vasubu_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vasubu_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              uint64_t rs1, unsigned int vxrm, size_t vl);
```

D.4.3. Vector Single-Width Fractional Multiply with Rounding and SaturationIntrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vsmul_tu(vint8mf8_t vd, vint8mf8_t vs2, vint8mf8_t vs1,
                            unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vsmul_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                            unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_tu(vint8mf4_t vd, vint8mf4_t vs2, vint8mf4_t vs1,
                            unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                            unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_tu(vint8mf2_t vd, vint8mf2_t vs2, vint8mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                            unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_tu(vint8m2_t vd, vint8m2_t vs2, vint8m2_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_tu(vint8m4_t vd, vint8m4_t vs2, vint8m4_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_tu(vint8m8_t vd, vint8m8_t vs2, vint8m8_t vs1,
                           unsigned int vxrm, size_t vl);
```

```
vint8m8_t __riscv_vsmul_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_tu(vint16mf4_t vd, vint16mf4_t vs2, vint16mf4_t vs1,
                             unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                             unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_tu(vint16mf2_t vd, vint16mf2_t vs2, vint16mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                             unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_tu(vint16m2_t vd, vint16m2_t vs2, vint16m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_tu(vint16m4_t vd, vint16m4_t vs2, vint16m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_tu(vint16m8_t vd, vint16m8_t vs2, vint16m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                            unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_tu(vint32mf2_t vd, vint32mf2_t vs2, vint32mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                             unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_tu(vint32m2_t vd, vint32m2_t vs2, vint32m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_tu(vint32m4_t vd, vint32m4_t vs2, vint32m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_tu(vint32m8_t vd, vint32m8_t vs2, vint32m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_tu(vint64m2_t vd, vint64m2_t vs2, vint64m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_tu(vint64m4_t vd, vint64m4_t vs2, vint64m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_tu(vint64m8_t vd, vint64m8_t vs2, vint64m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                            unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vsmul_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             vint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vsmul_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
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vint8mf4_t __riscv_vsmul_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             vint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             vint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            vint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            vint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vint16m8_t vs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vint32m8_t vs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
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                              int32_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vint64m1_t vs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             int64_t rs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vint64m2_t vs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             int64_t rs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vint64m4_t vs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             int64_t rs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vint64m8_t vs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             int64_t rs1, unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vsmul_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              vint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vsmul_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              vint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              vint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              int8_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             vint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             vint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             int8_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               vint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               int16_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               vint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               int16_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              vint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              vint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              vint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
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                              vint16m8_t vs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                              int16_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               vint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               int32_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              vint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              vint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              vint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              vint32m8_t vs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              int32_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              vint64m1_t vs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              int64_t rs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              vint64m2_t vs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              int64_t rs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              vint64m4_t vs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                              int64_t rs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              vint64m8_t vs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                              int64_t rs1, unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vsmul_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vsmul_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vsmul_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vsmul_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            int8_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vsmul_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vsmul_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vsmul_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vsmul_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
```

```
                           unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             vint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vsmul_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vsmul_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             int16_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vsmul_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            int16_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vsmul_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            int16_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vsmul_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            int16_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vint16m8_t vs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vsmul_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            int16_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vsmul_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             int32_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vsmul_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            int32_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vsmul_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            int32_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vsmul_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            int32_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vint32m8_t vs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vsmul_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            int32_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            vint64m1_t vs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vsmul_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            int64_t rs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vint64m2_t vs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vsmul_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            int64_t rs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vint64m4_t vs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vsmul_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            int64_t rs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vint64m8_t vs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vsmul_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            int64_t rs1, unsigned int vxrm, size_t vl);
```

D.4.4. Vector Single-Width Scaling Shift Intrinsics

```
vint8mf8_t __riscv_vssra_tu(vint8mf8_t vd, vint8mf8_t vs2, vuint8mf8_t vs1,
```

```
                            unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vssra_tu(vint8mf8_t vd, vint8mf8_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_tu(vint8mf4_t vd, vint8mf4_t vs2, vuint8mf4_t vs1,
                            unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_tu(vint8mf4_t vd, vint8mf4_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_tu(vint8mf2_t vd, vint8mf2_t vs2, vuint8mf2_t vs1,
                            unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_tu(vint8mf2_t vd, vint8mf2_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_tu(vint8m1_t vd, vint8m1_t vs2, vuint8m1_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_tu(vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_tu(vint8m2_t vd, vint8m2_t vs2, vuint8m2_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_tu(vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_tu(vint8m4_t vd, vint8m4_t vs2, vuint8m4_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_tu(vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_tu(vint8m8_t vd, vint8m8_t vs2, vuint8m8_t vs1,
                           unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_tu(vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_tu(vint16mf4_t vd, vint16mf4_t vs2, vuint16mf4_t vs1,
                             unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_tu(vint16mf4_t vd, vint16mf4_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_tu(vint16mf2_t vd, vint16mf2_t vs2, vuint16mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_tu(vint16mf2_t vd, vint16mf2_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_tu(vint16m1_t vd, vint16m1_t vs2, vuint16m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_tu(vint16m1_t vd, vint16m1_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_tu(vint16m2_t vd, vint16m2_t vs2, vuint16m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_tu(vint16m2_t vd, vint16m2_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_tu(vint16m4_t vd, vint16m4_t vs2, vuint16m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_tu(vint16m4_t vd, vint16m4_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_tu(vint16m8_t vd, vint16m8_t vs2, vuint16m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_tu(vint16m8_t vd, vint16m8_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_tu(vint32mf2_t vd, vint32mf2_t vs2, vuint32mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_tu(vint32mf2_t vd, vint32mf2_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_tu(vint32m1_t vd, vint32m1_t vs2, vuint32m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_tu(vint32m1_t vd, vint32m1_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_tu(vint32m2_t vd, vint32m2_t vs2, vuint32m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_tu(vint32m2_t vd, vint32m2_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_tu(vint32m4_t vd, vint32m4_t vs2, vuint32m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_tu(vint32m4_t vd, vint32m4_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
```

```
vint32m8_t __riscv_vssra_tu(vint32m8_t vd, vint32m8_t vs2, vuint32m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_tu(vint32m8_t vd, vint32m8_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_tu(vint64m1_t vd, vint64m1_t vs2, vuint64m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_tu(vint64m1_t vd, vint64m1_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_tu(vint64m2_t vd, vint64m2_t vs2, vuint64m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_tu(vint64m2_t vd, vint64m2_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_tu(vint64m4_t vd, vint64m4_t vs2, vuint64m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_tu(vint64m4_t vd, vint64m4_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_tu(vint64m8_t vd, vint64m8_t vs2, vuint64m8_t vs1,
                            unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_tu(vint64m8_t vd, vint64m8_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vuint8mf8_t vs1,
                             unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_tu(vuint8mf8_t vd, vuint8mf8_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vuint8mf4_t vs1,
                             unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_tu(vuint8mf4_t vd, vuint8mf4_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vuint8mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_tu(vuint8mf2_t vd, vuint8mf2_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                            unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_tu(vuint8m1_t vd, vuint8m1_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_tu(vuint8m2_t vd, vuint8m2_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                            unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_tu(vuint8m4_t vd, vuint8m4_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                            unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_tu(vuint8m8_t vd, vuint8m8_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_tu(vuint16mf4_t vd, vuint16mf4_t vs2, size_t rs1,
                              unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_tu(vuint16mf2_t vd, vuint16mf2_t vs2, size_t rs1,
                              unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                             unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_tu(vuint16m1_t vd, vuint16m1_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_tu(vuint16m2_t vd, vuint16m2_t vs2, vuint16m2_t vs1,
                             unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_tu(vuint16m2_t vd, vuint16m2_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_tu(vuint16m4_t vd, vuint16m4_t vs2, vuint16m4_t vs1,
                             unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_tu(vuint16m4_t vd, vuint16m4_t vs2, size_t rs1,
```

```
                            unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_tu(vuint16m8_t vd, vuint16m8_t vs2, vuint16m8_t vs1,
                            unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_tu(vuint16m8_t vd, vuint16m8_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                             vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_tu(vuint32mf2_t vd, vuint32mf2_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                            unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_tu(vuint32m1_t vd, vuint32m1_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_tu(vuint32m2_t vd, vuint32m2_t vs2, vuint32m2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_tu(vuint32m2_t vd, vuint32m2_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_tu(vuint32m4_t vd, vuint32m4_t vs2, vuint32m4_t vs1,
                            unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_tu(vuint32m4_t vd, vuint32m4_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_tu(vuint32m8_t vd, vuint32m8_t vs2, vuint32m8_t vs1,
                            unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_tu(vuint32m8_t vd, vuint32m8_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                            unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_tu(vuint64m1_t vd, vuint64m1_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_tu(vuint64m2_t vd, vuint64m2_t vs2, vuint64m2_t vs1,
                            unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_tu(vuint64m2_t vd, vuint64m2_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_tu(vuint64m4_t vd, vuint64m4_t vs2, vuint64m4_t vs1,
                            unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_tu(vuint64m4_t vd, vuint64m4_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_tu(vuint64m8_t vd, vuint64m8_t vs2, vuint64m8_t vs1,
                            unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_tu(vuint64m8_t vd, vuint64m8_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vssra_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vssra_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           size_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                           size_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                           size_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
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                            vuint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           size_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             vuint32m8_t vs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             vuint64m1_t vs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             vuint64m2_t vs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             vuint64m4_t vs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             vuint64m8_t vs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
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vuint8mf4_t __riscv_vssrl_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             vuint8m8_t vs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_tum(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_tum(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_tum(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                              vuint32m8_t vs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
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                              size_t rs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              vuint64m1_t vs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              vuint64m2_t vs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              vuint64m4_t vs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              vuint64m8_t vs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vssra_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vssra_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vssra_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                             vuint8m2_t vs1, unsigned int vxrm, size_t vl);
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                             size_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vssra_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             vuint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vssra_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
```

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                              vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                              vuint32m1_t vs1, unsigned int vxrm, size_t vl);
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                              size_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              vuint32m8_t vs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              vuint64m1_t vs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              vuint64m2_t vs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
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                              vuint64m4_t vs1, unsigned int vxrm, size_t vl);
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                              size_t rs1, unsigned int vxrm, size_t vl);
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                              vuint64m8_t vs1, unsigned int vxrm, size_t vl);
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                              size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              vuint8m8_t vs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
```

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vuint16mf4_t __riscv_vssrl_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_tumu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_tumu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_tumu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               vuint32m8_t vs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               vuint64m1_t vs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               vuint64m2_t vs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               vuint64m4_t vs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               vuint64m8_t vs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vssra_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vssra_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vssra_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
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vint8mf4_t __riscv_vssra_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vssra_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                           vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vssra_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
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                           vuint8m2_t vs1, unsigned int vxrm, size_t vl);
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vint8m4_t __riscv_vssra_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
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                           unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                           vuint8m8_t vs1, unsigned int vxrm, size_t vl);
vint8m8_t __riscv_vssra_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                           unsigned int vxrm, size_t vl);
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                             vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
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                             size_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vssra_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vssra_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vssra_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vssra_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vint16m8_t __riscv_vssra_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vssra_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vssra_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vssra_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                            vuint32m2_t vs1, unsigned int vxrm, size_t vl);
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                            size_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vssra_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            vuint32m8_t vs1, unsigned int vxrm, size_t vl);
vint32m8_t __riscv_vssra_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
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                            vuint64m1_t vs1, unsigned int vxrm, size_t vl);
vint64m1_t __riscv_vssra_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            vuint64m2_t vs1, unsigned int vxrm, size_t vl);
vint64m2_t __riscv_vssra_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            vuint64m4_t vs1, unsigned int vxrm, size_t vl);
vint64m4_t __riscv_vssra_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            vuint64m8_t vs1, unsigned int vxrm, size_t vl);
vint64m8_t __riscv_vssra_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vssrl_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vssrl_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vssrl_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vssrl_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vssrl_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vssrl_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            vuint8m8_t vs1, unsigned int vxrm, size_t vl);
vuint8m8_t __riscv_vssrl_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vssrl_mu(vbool64_t vm, vuint16mf4_t vd, vuint16mf4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vssrl_mu(vbool32_t vm, vuint16mf2_t vd, vuint16mf2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vssrl_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vssrl_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vssrl_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             vuint16m8_t vs1, unsigned int vxrm, size_t vl);
vuint16m8_t __riscv_vssrl_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
```

```
vuint32mf2_t __riscv_vssrl_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vssrl_mu(vbool64_t vm, vuint32mf2_t vd, vuint32mf2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vssrl_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vssrl_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vssrl_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             vuint32m8_t vs1, unsigned int vxrm, size_t vl);
vuint32m8_t __riscv_vssrl_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             vuint64m1_t vs1, unsigned int vxrm, size_t vl);
vuint64m1_t __riscv_vssrl_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             vuint64m2_t vs1, unsigned int vxrm, size_t vl);
vuint64m2_t __riscv_vssrl_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             vuint64m4_t vs1, unsigned int vxrm, size_t vl);
vuint64m4_t __riscv_vssrl_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             vuint64m8_t vs1, unsigned int vxrm, size_t vl);
vuint64m8_t __riscv_vssrl_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
```

D.4.5. Vector Narrowing Fixed-Point Clip Intrinsics

After executing an intrinsic in this section, the `vxsat` CSR assumes an UNSPECIFIED value.

```
vint8mf8_t __riscv_vnclip_tu(vint8mf8_t vd, vint16mf4_t vs2, vuint8mf8_t vs1,
                             unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vnclip_tu(vint8mf8_t vd, vint16mf4_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_tu(vint8mf4_t vd, vint16mf2_t vs2, vuint8mf4_t vs1,
                             unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_tu(vint8mf4_t vd, vint16mf2_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_tu(vint8mf2_t vd, vint16m1_t vs2, vuint8mf2_t vs1,
                             unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_tu(vint8mf2_t vd, vint16m1_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_tu(vint8m1_t vd, vint16m2_t vs2, vuint8m1_t vs1,
                            unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_tu(vint8m1_t vd, vint16m2_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_tu(vint8m2_t vd, vint16m4_t vs2, vuint8m2_t vs1,
                            unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_tu(vint8m2_t vd, vint16m4_t vs2, size_t rs1,
                            unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_tu(vint8m4_t vd, vint16m8_t vs2, vuint8m4_t vs1,
                            unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_tu(vint8m4_t vd, vint16m8_t vs2, size_t rs1,
```

```
                              unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_tu(vint16mf4_t vd, vint32mf2_t vs2, vuint16mf4_t vs1,
                              unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_tu(vint16mf4_t vd, vint32mf2_t vs2, size_t rs1,
                              unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_tu(vint16mf2_t vd, vint32m1_t vs2, vuint16mf2_t vs1,
                              unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_tu(vint16mf2_t vd, vint32m1_t vs2, size_t rs1,
                              unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_tu(vint16m1_t vd, vint32m2_t vs2, vuint16m1_t vs1,
                             unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_tu(vint16m1_t vd, vint32m2_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_tu(vint16m2_t vd, vint32m4_t vs2, vuint16m2_t vs1,
                             unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_tu(vint16m2_t vd, vint32m4_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_tu(vint16m4_t vd, vint32m8_t vs2, vuint16m4_t vs1,
                             unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_tu(vint16m4_t vd, vint32m8_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_tu(vint32mf2_t vd, vint64m1_t vs2, vuint32mf2_t vs1,
                              unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_tu(vint32mf2_t vd, vint64m1_t vs2, size_t rs1,
                              unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_tu(vint32m1_t vd, vint64m2_t vs2, vuint32m1_t vs1,
                             unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_tu(vint32m1_t vd, vint64m2_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_tu(vint32m2_t vd, vint64m4_t vs2, vuint32m2_t vs1,
                             unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_tu(vint32m2_t vd, vint64m4_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_tu(vint32m4_t vd, vint64m8_t vs2, vuint32m4_t vs1,
                             unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_tu(vint32m4_t vd, vint64m8_t vs2, size_t rs1,
                             unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_tu(vuint8mf8_t vd, vuint16mf4_t vs2,
                               vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_tu(vuint8mf8_t vd, vuint16mf4_t vs2, size_t rs1,
                               unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_tu(vuint8mf4_t vd, vuint16mf2_t vs2,
                               vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_tu(vuint8mf4_t vd, vuint16mf2_t vs2, size_t rs1,
                               unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_tu(vuint8mf2_t vd, vuint16m1_t vs2, vuint8mf2_t vs1,
                               unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_tu(vuint8mf2_t vd, vuint16m1_t vs2, size_t rs1,
                               unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_tu(vuint8m1_t vd, vuint16m2_t vs2, vuint8m1_t vs1,
                              unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_tu(vuint8m1_t vd, vuint16m2_t vs2, size_t rs1,
                              unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_tu(vuint8m2_t vd, vuint16m4_t vs2, vuint8m2_t vs1,
                              unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_tu(vuint8m2_t vd, vuint16m4_t vs2, size_t rs1,
                              unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_tu(vuint8m4_t vd, vuint16m8_t vs2, vuint8m4_t vs1,
                              unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_tu(vuint8m4_t vd, vuint16m8_t vs2, size_t rs1,
                              unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_tu(vuint16mf4_t vd, vuint32mf2_t vs2,
                                vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_tu(vuint16mf4_t vd, vuint32mf2_t vs2, size_t rs1,
                                unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_tu(vuint16mf2_t vd, vuint32m1_t vs2,
                                vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
```

```
vuint16mf2_t __riscv_vnclipu_tu(vuint16mf2_t vd, vuint32m1_t vs2, size_t rs1,
                                unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_tu(vuint16m1_t vd, vuint32m2_t vs2, vuint16m1_t vs1,
                               unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_tu(vuint16m1_t vd, vuint32m2_t vs2, size_t rs1,
                               unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_tu(vuint16m2_t vd, vuint32m4_t vs2, vuint16m2_t vs1,
                               unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_tu(vuint16m2_t vd, vuint32m4_t vs2, size_t rs1,
                               unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_tu(vuint16m4_t vd, vuint32m8_t vs2, vuint16m4_t vs1,
                               unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_tu(vuint16m4_t vd, vuint32m8_t vs2, size_t rs1,
                               unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_tu(vuint32mf2_t vd, vuint64m1_t vs2,
                                vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_tu(vuint32mf2_t vd, vuint64m1_t vs2, size_t rs1,
                                unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_tu(vuint32m1_t vd, vuint64m2_t vs2, vuint32m1_t vs1,
                               unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_tu(vuint32m1_t vd, vuint64m2_t vs2, size_t rs1,
                               unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_tu(vuint32m2_t vd, vuint64m4_t vs2, vuint32m2_t vs1,
                               unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_tu(vuint32m2_t vd, vuint64m4_t vs2, size_t rs1,
                               unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_tu(vuint32m4_t vd, vuint64m8_t vs2, vuint32m4_t vs1,
                               unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_tu(vuint32m4_t vd, vuint64m8_t vs2, size_t rs1,
                               unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vnclip_tum(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                              vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vnclip_tum(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_tum(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                              vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_tum(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_tum(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                              vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_tum(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_tum(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                             vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_tum(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_tum(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                             vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_tum(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_tum(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                             vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_tum(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_tum(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                               vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_tum(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_tum(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                               vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_tum(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_tum(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                              vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_tum(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
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vint16m2_t __riscv_vnclip_tum(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                              vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_tum(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_tum(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                              vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_tum(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_tum(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                               vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_tum(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_tum(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                              vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_tum(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_tum(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                              vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_tum(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_tum(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                              vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_tum(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_tum(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                                vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_tum(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_tum(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                                vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_tum(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_tum(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                                vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_tum(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_tum(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                               vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_tum(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_tum(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                               vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_tum(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_tum(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                               vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_tum(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_tum(vbool64_t vm, vuint16mf4_t vd,
                                 vuint32mf2_t vs2, vuint16mf4_t vs1,
                                 unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_tum(vbool64_t vm, vuint16mf4_t vd,
                                 vuint32mf2_t vs2, size_t rs1,
                                 unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_tum(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                                 vuint16mf2_t vs1, unsigned int vxrm,
                                 size_t vl);
vuint16mf2_t __riscv_vnclipu_tum(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                                 size_t rs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_tum(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                                vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_tum(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_tum(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                                vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_tum(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
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vuint16m4_t __riscv_vnclipu_tum(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                                vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_tum(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_tum(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                                 vuint32mf2_t vs1, unsigned int vxrm,
                                 size_t vl);
vuint32mf2_t __riscv_vnclipu_tum(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                                 size_t rs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_tum(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                                vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_tum(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_tum(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                                vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_tum(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_tum(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                                vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_tum(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vnclip_tumu(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                               vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vnclip_tumu(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_tumu(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                               vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_tumu(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_tumu(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                               vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_tumu(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_tumu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                              vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_tumu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_tumu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                              vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_tumu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_tumu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                              vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_tumu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_tumu(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                                vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_tumu(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_tumu(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                                vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_tumu(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_tumu(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                               vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_tumu(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_tumu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                               vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_tumu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_tumu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                               vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_tumu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_tumu(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
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                                vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_tumu(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_tumu(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                               vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_tumu(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_tumu(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                               vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_tumu(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_tumu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                               vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_tumu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                                 vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_tumu(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                                 size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                                 vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_tumu(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                                 size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                                 vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_tumu(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                                 size_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_tumu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                                vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_tumu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_tumu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                                vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_tumu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_tumu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                                vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_tumu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint32mf2_t vs2, vuint16mf4_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                  vuint32mf2_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint32m1_t vs2, vuint16mf2_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                  vuint32m1_t vs2, size_t rs1,
                                  unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_tumu(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                                 vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_tumu(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                                 size_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_tumu(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                                 vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_tumu(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                                 size_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_tumu(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                                 vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_tumu(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                                 size_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                  vuint64m1_t vs2, vuint32mf2_t vs1,
                                  unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_tumu(vbool64_t vm, vuint32mf2_t vd,
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                                vuint64m1_t vs2, size_t rs1,
                                unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_tumu(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                                vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_tumu(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_tumu(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                                vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_tumu(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_tumu(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                                vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_tumu(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
// masked functions
vint8mf8_t __riscv_vnclip_mu(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                             vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vint8mf8_t __riscv_vnclip_mu(vbool64_t vm, vint8mf8_t vd, vint16mf4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_mu(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                             vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vint8mf4_t __riscv_vnclip_mu(vbool32_t vm, vint8mf4_t vd, vint16mf2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_mu(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                             vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vint8mf2_t __riscv_vnclip_mu(vbool16_t vm, vint8mf2_t vd, vint16m1_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_mu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                            vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vint8m1_t __riscv_vnclip_mu(vbool8_t vm, vint8m1_t vd, vint16m2_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_mu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                            vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vint8m2_t __riscv_vnclip_mu(vbool4_t vm, vint8m2_t vd, vint16m4_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_mu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                            vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vint8m4_t __riscv_vnclip_mu(vbool2_t vm, vint8m4_t vd, vint16m8_t vs2,
                            size_t rs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_mu(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                              vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vint16mf4_t __riscv_vnclip_mu(vbool64_t vm, vint16mf4_t vd, vint32mf2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_mu(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                              vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vint16mf2_t __riscv_vnclip_mu(vbool32_t vm, vint16mf2_t vd, vint32m1_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_mu(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                             vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vint16m1_t __riscv_vnclip_mu(vbool16_t vm, vint16m1_t vd, vint32m2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_mu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                             vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vint16m2_t __riscv_vnclip_mu(vbool8_t vm, vint16m2_t vd, vint32m4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_mu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                             vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vint16m4_t __riscv_vnclip_mu(vbool4_t vm, vint16m4_t vd, vint32m8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_mu(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                              vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vint32mf2_t __riscv_vnclip_mu(vbool64_t vm, vint32mf2_t vd, vint64m1_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_mu(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                             vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vint32m1_t __riscv_vnclip_mu(vbool32_t vm, vint32m1_t vd, vint64m2_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
```

```
vint32m2_t __riscv_vnclip_mu(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                             vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vint32m2_t __riscv_vnclip_mu(vbool16_t vm, vint32m2_t vd, vint64m4_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_mu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                             vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vint32m4_t __riscv_vnclip_mu(vbool8_t vm, vint32m4_t vd, vint64m8_t vs2,
                             size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_mu(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                               vuint8mf8_t vs1, unsigned int vxrm, size_t vl);
vuint8mf8_t __riscv_vnclipu_mu(vbool64_t vm, vuint8mf8_t vd, vuint16mf4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_mu(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                               vuint8mf4_t vs1, unsigned int vxrm, size_t vl);
vuint8mf4_t __riscv_vnclipu_mu(vbool32_t vm, vuint8mf4_t vd, vuint16mf2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_mu(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                               vuint8mf2_t vs1, unsigned int vxrm, size_t vl);
vuint8mf2_t __riscv_vnclipu_mu(vbool16_t vm, vuint8mf2_t vd, vuint16m1_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_mu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                              vuint8m1_t vs1, unsigned int vxrm, size_t vl);
vuint8m1_t __riscv_vnclipu_mu(vbool8_t vm, vuint8m1_t vd, vuint16m2_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_mu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                              vuint8m2_t vs1, unsigned int vxrm, size_t vl);
vuint8m2_t __riscv_vnclipu_mu(vbool4_t vm, vuint8m2_t vd, vuint16m4_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_mu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                              vuint8m4_t vs1, unsigned int vxrm, size_t vl);
vuint8m4_t __riscv_vnclipu_mu(vbool2_t vm, vuint8m4_t vd, vuint16m8_t vs2,
                              size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_mu(vbool64_t vm, vuint16mf4_t vd, vuint32mf2_t vs2,
                                vuint16mf4_t vs1, unsigned int vxrm, size_t vl);
vuint16mf4_t __riscv_vnclipu_mu(vbool64_t vm, vuint16mf4_t vd, vuint32mf2_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_mu(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                                vuint16mf2_t vs1, unsigned int vxrm, size_t vl);
vuint16mf2_t __riscv_vnclipu_mu(vbool32_t vm, vuint16mf2_t vd, vuint32m1_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_mu(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                               vuint16m1_t vs1, unsigned int vxrm, size_t vl);
vuint16m1_t __riscv_vnclipu_mu(vbool16_t vm, vuint16m1_t vd, vuint32m2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_mu(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                               vuint16m2_t vs1, unsigned int vxrm, size_t vl);
vuint16m2_t __riscv_vnclipu_mu(vbool8_t vm, vuint16m2_t vd, vuint32m4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_mu(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                               vuint16m4_t vs1, unsigned int vxrm, size_t vl);
vuint16m4_t __riscv_vnclipu_mu(vbool4_t vm, vuint16m4_t vd, vuint32m8_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_mu(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                                vuint32mf2_t vs1, unsigned int vxrm, size_t vl);
vuint32mf2_t __riscv_vnclipu_mu(vbool64_t vm, vuint32mf2_t vd, vuint64m1_t vs2,
                                size_t rs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_mu(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                               vuint32m1_t vs1, unsigned int vxrm, size_t vl);
vuint32m1_t __riscv_vnclipu_mu(vbool32_t vm, vuint32m1_t vd, vuint64m2_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_mu(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                               vuint32m2_t vs1, unsigned int vxrm, size_t vl);
vuint32m2_t __riscv_vnclipu_mu(vbool16_t vm, vuint32m2_t vd, vuint64m4_t vs2,
                               size_t rs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_mu(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
                               vuint32m4_t vs1, unsigned int vxrm, size_t vl);
vuint32m4_t __riscv_vnclipu_mu(vbool8_t vm, vuint32m4_t vd, vuint64m8_t vs2,
```

```
                                size_t rs1, unsigned int vxrm, size_t vl);
```

D.5. Vector Floating-Point Intrinsics

D.5.1. Vector Single-Width Floating-Point Add/Subtract Intrinsics

```
vfloat16mf4_t __riscv_vfadd_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfadd_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfadd_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfadd_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfadd_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfadd_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m2_t __riscv_vfadd_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfadd_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m4_t __riscv_vfadd_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfadd_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m8_t __riscv_vfadd_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfadd_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                              size_t vl);
vfloat32mf2_t __riscv_vfadd_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfadd_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                               size_t vl);
vfloat32m1_t __riscv_vfadd_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                              size_t vl);
vfloat32m2_t __riscv_vfadd_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfadd_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                              size_t vl);
vfloat32m4_t __riscv_vfadd_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfadd_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                              size_t vl);
vfloat32m8_t __riscv_vfadd_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfadd_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                              size_t vl);
vfloat64m1_t __riscv_vfadd_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfadd_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                              size_t vl);
vfloat64m2_t __riscv_vfadd_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfadd_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                              size_t vl);
vfloat64m4_t __riscv_vfadd_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfadd_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                              size_t vl);
vfloat64m8_t __riscv_vfadd_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
```

```
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfadd_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                              size_t vl);
vfloat16mf4_t __riscv_vfsub_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsub_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsub_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsub_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsub_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsub_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m2_t __riscv_vfsub_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsub_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m4_t __riscv_vfsub_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsub_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m8_t __riscv_vfsub_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsub_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                              size_t vl);
vfloat32mf2_t __riscv_vfsub_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsub_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                               size_t vl);
vfloat32m1_t __riscv_vfsub_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsub_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                              size_t vl);
vfloat32m2_t __riscv_vfsub_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsub_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                              size_t vl);
vfloat32m4_t __riscv_vfsub_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsub_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                              size_t vl);
vfloat32m8_t __riscv_vfsub_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsub_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                              size_t vl);
vfloat64m1_t __riscv_vfsub_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsub_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                              size_t vl);
vfloat64m2_t __riscv_vfsub_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsub_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                              size_t vl);
vfloat64m4_t __riscv_vfsub_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsub_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                              size_t vl);
vfloat64m8_t __riscv_vfsub_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsub_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                              size_t vl);
vfloat16mf4_t __riscv_vfrsub_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrsub_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                _Float16 rs1, size_t vl);
```

```
vfloat16m1_t __riscv_vfrsub_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                               size_t vl);
vfloat16m2_t __riscv_vfrsub_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                               size_t vl);
vfloat16m4_t __riscv_vfrsub_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                               size_t vl);
vfloat16m8_t __riscv_vfrsub_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32mf2_t __riscv_vfrsub_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                                size_t vl);
vfloat32m1_t __riscv_vfrsub_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                               size_t vl);
vfloat32m2_t __riscv_vfrsub_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                               size_t vl);
vfloat32m4_t __riscv_vfrsub_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                               size_t vl);
vfloat32m8_t __riscv_vfrsub_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                               size_t vl);
vfloat64m1_t __riscv_vfrsub_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                               size_t vl);
vfloat64m2_t __riscv_vfrsub_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                               size_t vl);
vfloat64m4_t __riscv_vfrsub_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                               size_t vl);
vfloat64m8_t __riscv_vfrsub_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                               size_t vl);
vfloat16mf4_t __riscv_vfneg_tu(vfloat16mf4_t vd, vfloat16mf4_t vs, size_t vl);
vfloat16mf2_t __riscv_vfneg_tu(vfloat16mf2_t vd, vfloat16mf2_t vs, size_t vl);
vfloat16m1_t __riscv_vfneg_tu(vfloat16m1_t vd, vfloat16m1_t vs, size_t vl);
vfloat16m2_t __riscv_vfneg_tu(vfloat16m2_t vd, vfloat16m2_t vs, size_t vl);
vfloat16m4_t __riscv_vfneg_tu(vfloat16m4_t vd, vfloat16m4_t vs, size_t vl);
vfloat16m8_t __riscv_vfneg_tu(vfloat16m8_t vd, vfloat16m8_t vs, size_t vl);
vfloat32mf2_t __riscv_vfneg_tu(vfloat32mf2_t vd, vfloat32mf2_t vs, size_t vl);
vfloat32m1_t __riscv_vfneg_tu(vfloat32m1_t vd, vfloat32m1_t vs, size_t vl);
vfloat32m2_t __riscv_vfneg_tu(vfloat32m2_t vd, vfloat32m2_t vs, size_t vl);
vfloat32m4_t __riscv_vfneg_tu(vfloat32m4_t vd, vfloat32m4_t vs, size_t vl);
vfloat32m8_t __riscv_vfneg_tu(vfloat32m8_t vd, vfloat32m8_t vs, size_t vl);
vfloat64m1_t __riscv_vfneg_tu(vfloat64m1_t vd, vfloat64m1_t vs, size_t vl);
vfloat64m2_t __riscv_vfneg_tu(vfloat64m2_t vd, vfloat64m2_t vs, size_t vl);
vfloat64m4_t __riscv_vfneg_tu(vfloat64m4_t vd, vfloat64m4_t vs, size_t vl);
vfloat64m8_t __riscv_vfneg_tu(vfloat64m8_t vd, vfloat64m8_t vs, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                size_t vl);
vfloat16mf4_t __riscv_vfadd_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfadd_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                size_t vl);
vfloat16mf2_t __riscv_vfadd_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfadd_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfadd_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfadd_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfadd_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfadd_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfadd_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfadd_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfadd_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
```

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                              _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfadd_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfadd_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfadd_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, size_t vl);
vfloat32m2_t __riscv_vfadd_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfadd_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, size_t vl);
vfloat32m4_t __riscv_vfadd_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfadd_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, size_t vl);
vfloat32m8_t __riscv_vfadd_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfadd_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, size_t vl);
vfloat64m1_t __riscv_vfadd_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfadd_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, size_t vl);
vfloat64m2_t __riscv_vfadd_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfadd_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, size_t vl);
vfloat64m4_t __riscv_vfadd_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfadd_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, size_t vl);
vfloat64m8_t __riscv_vfadd_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfadd_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsub_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                size_t vl);
vfloat16mf4_t __riscv_vfsub_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsub_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                size_t vl);
vfloat16mf2_t __riscv_vfsub_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsub_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsub_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsub_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsub_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsub_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsub_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsub_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsub_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsub_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                size_t vl);
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vfloat32mf2_t __riscv_vfsub_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsub_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsub_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, size_t vl);
vfloat32m2_t __riscv_vfsub_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsub_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, size_t vl);
vfloat32m4_t __riscv_vfsub_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsub_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, size_t vl);
vfloat32m8_t __riscv_vfsub_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsub_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, size_t vl);
vfloat64m1_t __riscv_vfsub_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsub_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, size_t vl);
vfloat64m2_t __riscv_vfsub_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsub_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, size_t vl);
vfloat64m4_t __riscv_vfsub_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsub_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, size_t vl);
vfloat64m8_t __riscv_vfsub_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsub_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrsub_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrsub_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrsub_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrsub_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrsub_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrsub_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrsub_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfrsub_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfrsub_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat32m4_t __riscv_vfrsub_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
vfloat32m8_t __riscv_vfrsub_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfrsub_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfrsub_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
vfloat64m4_t __riscv_vfrsub_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
vfloat64m8_t __riscv_vfrsub_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
vfloat16mf4_t __riscv_vfneg_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs, size_t vl);
vfloat16mf2_t __riscv_vfneg_tum(vbool32_t vm, vfloat16mf2_t vd,
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                                vfloat16mf2_t vs, size_t vl);
vfloat16m1_t __riscv_vfneg_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs,
                               size_t vl);
vfloat16m2_t __riscv_vfneg_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs,
                               size_t vl);
vfloat16m4_t __riscv_vfneg_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs,
                               size_t vl);
vfloat16m8_t __riscv_vfneg_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs,
                               size_t vl);
vfloat32mf2_t __riscv_vfneg_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs, size_t vl);
vfloat32m1_t __riscv_vfneg_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs,
                               size_t vl);
vfloat32m2_t __riscv_vfneg_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs,
                               size_t vl);
vfloat32m4_t __riscv_vfneg_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs,
                               size_t vl);
vfloat32m8_t __riscv_vfneg_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs,
                               size_t vl);
vfloat64m1_t __riscv_vfneg_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs,
                               size_t vl);
vfloat64m2_t __riscv_vfneg_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs,
                               size_t vl);
vfloat64m4_t __riscv_vfneg_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs,
                               size_t vl);
vfloat64m8_t __riscv_vfneg_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs,
                               size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 size_t vl);
vfloat16mf4_t __riscv_vfadd_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfadd_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vfadd_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfadd_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfadd_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfadd_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfadd_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfadd_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfadd_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfadd_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfadd_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfadd_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vfadd_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfadd_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfadd_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfadd_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
```

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vfloat32m4_t __riscv_vfadd_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfadd_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
vfloat32m8_t __riscv_vfadd_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfadd_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfadd_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfadd_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfadd_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfadd_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
vfloat64m4_t __riscv_vfadd_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfadd_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
vfloat64m8_t __riscv_vfadd_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfadd_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsub_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 size_t vl);
vfloat16mf4_t __riscv_vfsub_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsub_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vfsub_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsub_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsub_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsub_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsub_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsub_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsub_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsub_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsub_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsub_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vfsub_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsub_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsub_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfsub_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsub_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat32m4_t __riscv_vfsub_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsub_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
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vfloat32m8_t __riscv_vfsub_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsub_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfsub_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsub_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfsub_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsub_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
vfloat64m4_t __riscv_vfsub_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsub_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
vfloat64m8_t __riscv_vfsub_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsub_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrsub_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrsub_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrsub_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrsub_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrsub_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrsub_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrsub_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfrsub_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfrsub_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfrsub_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 float rs1, size_t vl);
vfloat32m8_t __riscv_vfrsub_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 float rs1, size_t vl);
vfloat64m1_t __riscv_vfrsub_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfrsub_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfrsub_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfrsub_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 double rs1, size_t vl);
vfloat16mf4_t __riscv_vfneg_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs, size_t vl);
vfloat16mf2_t __riscv_vfneg_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs, size_t vl);
vfloat16m1_t __riscv_vfneg_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs,
                                size_t vl);
vfloat16m2_t __riscv_vfneg_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs,
                                size_t vl);
vfloat16m4_t __riscv_vfneg_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs,
                                size_t vl);
vfloat16m8_t __riscv_vfneg_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs,
                                size_t vl);
vfloat32mf2_t __riscv_vfneg_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs, size_t vl);
vfloat32m1_t __riscv_vfneg_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs,
                                size_t vl);
vfloat32m2_t __riscv_vfneg_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs,
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                                size_t vl);
vfloat32m4_t __riscv_vfneg_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs,
                                size_t vl);
vfloat32m8_t __riscv_vfneg_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs,
                                size_t vl);
vfloat64m1_t __riscv_vfneg_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs,
                                size_t vl);
vfloat64m2_t __riscv_vfneg_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs,
                                size_t vl);
vfloat64m4_t __riscv_vfneg_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs,
                                size_t vl);
vfloat64m8_t __riscv_vfneg_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs,
                                size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfadd_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfadd_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfadd_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfadd_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfadd_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfadd_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfadd_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfadd_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfadd_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfadd_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfadd_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfadd_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfadd_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfadd_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfadd_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              float rs1, size_t vl);
vfloat32m2_t __riscv_vfadd_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfadd_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              float rs1, size_t vl);
vfloat32m4_t __riscv_vfadd_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfadd_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              float rs1, size_t vl);
vfloat32m8_t __riscv_vfadd_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfadd_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              float rs1, size_t vl);
vfloat64m1_t __riscv_vfadd_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfadd_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              double rs1, size_t vl);
vfloat64m2_t __riscv_vfadd_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfadd_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              double rs1, size_t vl);
vfloat64m4_t __riscv_vfadd_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
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                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfadd_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              double rs1, size_t vl);
vfloat64m8_t __riscv_vfadd_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfadd_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsub_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsub_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsub_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsub_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsub_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsub_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsub_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsub_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsub_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsub_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsub_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsub_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsub_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsub_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsub_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsub_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              float rs1, size_t vl);
vfloat32m2_t __riscv_vfsub_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsub_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              float rs1, size_t vl);
vfloat32m4_t __riscv_vfsub_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsub_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              float rs1, size_t vl);
vfloat32m8_t __riscv_vfsub_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsub_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              float rs1, size_t vl);
vfloat64m1_t __riscv_vfsub_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsub_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              double rs1, size_t vl);
vfloat64m2_t __riscv_vfsub_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsub_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              double rs1, size_t vl);
vfloat64m4_t __riscv_vfsub_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsub_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              double rs1, size_t vl);
vfloat64m8_t __riscv_vfsub_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsub_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              double rs1, size_t vl);
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vfloat16mf4_t __riscv_vfrsub_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrsub_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrsub_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrsub_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrsub_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrsub_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrsub_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfrsub_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, size_t vl);
vfloat32m2_t __riscv_vfrsub_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, size_t vl);
vfloat32m4_t __riscv_vfrsub_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, size_t vl);
vfloat32m8_t __riscv_vfrsub_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, size_t vl);
vfloat64m1_t __riscv_vfrsub_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, size_t vl);
vfloat64m2_t __riscv_vfrsub_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, size_t vl);
vfloat64m4_t __riscv_vfrsub_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, size_t vl);
vfloat64m8_t __riscv_vfrsub_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, size_t vl);
vfloat16mf4_t __riscv_vfneg_mu(vbool64_t vm, vfloat16mf4_t vd, vfloat16mf4_t vs,
                               size_t vl);
vfloat16mf2_t __riscv_vfneg_mu(vbool32_t vm, vfloat16mf2_t vd, vfloat16mf2_t vs,
                               size_t vl);
vfloat16m1_t __riscv_vfneg_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs,
                              size_t vl);
vfloat16m2_t __riscv_vfneg_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs,
                              size_t vl);
vfloat16m4_t __riscv_vfneg_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs,
                              size_t vl);
vfloat16m8_t __riscv_vfneg_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs,
                              size_t vl);
vfloat32mf2_t __riscv_vfneg_mu(vbool64_t vm, vfloat32mf2_t vd, vfloat32mf2_t vs,
                               size_t vl);
vfloat32m1_t __riscv_vfneg_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs,
                              size_t vl);
vfloat32m2_t __riscv_vfneg_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs,
                              size_t vl);
vfloat32m4_t __riscv_vfneg_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs,
                              size_t vl);
vfloat32m8_t __riscv_vfneg_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs,
                              size_t vl);
vfloat64m1_t __riscv_vfneg_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs,
                              size_t vl);
vfloat64m2_t __riscv_vfneg_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs,
                              size_t vl);
vfloat64m4_t __riscv_vfneg_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs,
                              size_t vl);
vfloat64m8_t __riscv_vfneg_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs,
                              size_t vl);
vfloat16mf4_t __riscv_vfadd_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfadd_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
```

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                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, unsigned int frm, size_t vl);
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vfloat16m2_t __riscv_vfsub_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrsub_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrsub_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrsub_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrsub_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrsub_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrsub_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrsub_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrsub_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrsub_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrsub_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrsub_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
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                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrsub_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrsub_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrsub_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrsub_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                                unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfadd_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfadd_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
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                                double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfsub_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, unsigned int frm, size_t vl);
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                               float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, unsigned int frm, size_t vl);
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vfloat64m4_t __riscv_vfsub_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrsub_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrsub_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrsub_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrsub_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrsub_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrsub_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrsub_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfrsub_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrsub_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, unsigned int frm, size_t vl);
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                                float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrsub_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrsub_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrsub_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrsub_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrsub_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfadd_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
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                                vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfadd_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, unsigned int frm, size_t vl);
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                                vfloat32m2_t vs1, unsigned int frm, size_t vl);
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                                float rs1, unsigned int frm, size_t vl);
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                                vfloat32m4_t vs1, unsigned int frm, size_t vl);
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                                float rs1, unsigned int frm, size_t vl);
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                                vfloat32m8_t vs1, unsigned int frm, size_t vl);
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                                float rs1, unsigned int frm, size_t vl);
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                                vfloat64m1_t vs1, unsigned int frm, size_t vl);
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                                double rs1, unsigned int frm, size_t vl);
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                                vfloat64m2_t vs1, unsigned int frm, size_t vl);
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                                double rs1, unsigned int frm, size_t vl);
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                                vfloat64m4_t vs1, unsigned int frm, size_t vl);
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                                double rs1, unsigned int frm, size_t vl);
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                                vfloat64m8_t vs1, unsigned int frm, size_t vl);
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                                double rs1, unsigned int frm, size_t vl);
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                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
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                                vfloat16m1_t vs1, unsigned int frm, size_t vl);
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                                _Float16 rs1, unsigned int frm, size_t vl);
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                                vfloat16m2_t vs1, unsigned int frm, size_t vl);
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                                _Float16 rs1, unsigned int frm, size_t vl);
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                                vfloat16m4_t vs1, unsigned int frm, size_t vl);
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                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, unsigned int frm, size_t vl);
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vfloat16m8_t __riscv_vfsub_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfsub_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
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                                float rs1, unsigned int frm, size_t vl);
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                                vfloat32m2_t vs1, unsigned int frm, size_t vl);
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                                vfloat32m8_t vs1, unsigned int frm, size_t vl);
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                                vfloat64m1_t vs1, unsigned int frm, size_t vl);
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                                double rs1, unsigned int frm, size_t vl);
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                                vfloat64m2_t vs1, unsigned int frm, size_t vl);
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                                double rs1, unsigned int frm, size_t vl);
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                                vfloat64m4_t vs1, unsigned int frm, size_t vl);
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                                double rs1, unsigned int frm, size_t vl);
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                                vfloat64m8_t vs1, unsigned int frm, size_t vl);
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                                double rs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrsub_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrsub_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrsub_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrsub_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrsub_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrsub_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrsub_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, float rs1,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrsub_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m2_t __riscv_vfrsub_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m4_t __riscv_vfrsub_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrsub_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
```

```
                                float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrsub_tumu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs2, double rs1, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfrsub_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs2, double rs1, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfrsub_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs2, double rs1, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfrsub_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfadd_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfadd_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfadd_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfadd_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfadd_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfadd_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfadd_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfadd_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat32m1_t __riscv_vfadd_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfadd_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfadd_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfadd_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfadd_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfadd_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              double rs1, unsigned int frm, size_t vl);
```

```
vfloat64m2_t __riscv_vfadd_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfadd_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfadd_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfadd_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              double rs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfsub_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsub_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsub_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsub_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsub_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsub_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsub_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat32m1_t __riscv_vfsub_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsub_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsub_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsub_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsub_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsub_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
```

```
                                vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsub_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsub_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsub_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrsub_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrsub_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrsub_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrsub_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrsub_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrsub_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrsub_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfrsub_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrsub_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrsub_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrsub_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrsub_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrsub_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrsub_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrsub_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, unsigned int frm, size_t vl);
```

D.5.2. Vector Widening Floating-Point Add/Subtract Intrinsics

```
vfloat32mf2_t __riscv_vfwadd_vv_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                   vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                   _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                   vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                   _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                  vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                  vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
```

```
vfloat32m2_t __riscv_vfwadd_vf_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                  vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                  vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                  vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                  vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                  vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_tu(vfloat64m1_t vd, vfloat32mf2_t vs2, float rs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                  vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_tu(vfloat64m1_t vd, vfloat64m1_t vs2, float rs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_tu(vfloat64m2_t vd, vfloat32m1_t vs2, float rs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_tu(vfloat64m2_t vd, vfloat64m2_t vs2, float rs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                  vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_tu(vfloat64m4_t vd, vfloat32m2_t vs2, float rs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                  vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_tu(vfloat64m4_t vd, vfloat64m4_t vs2, float rs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                  vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_tu(vfloat64m8_t vd, vfloat32m4_t vs2, float rs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                  vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_tu(vfloat64m8_t vd, vfloat64m8_t vs2, float rs1,
                                  size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                   vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                   _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                   vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                   _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                  vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
```

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                                  vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                  vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                  vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                  vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                  vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                  _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                  vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_tu(vfloat64m1_t vd, vfloat32mf2_t vs2, float rs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                  vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_tu(vfloat64m1_t vd, vfloat64m1_t vs2, float rs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_tu(vfloat64m2_t vd, vfloat32m1_t vs2, float rs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_tu(vfloat64m2_t vd, vfloat64m2_t vs2, float rs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                  vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_tu(vfloat64m4_t vd, vfloat32m2_t vs2, float rs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                  vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_tu(vfloat64m4_t vd, vfloat64m4_t vs2, float rs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                  vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_tu(vfloat64m8_t vd, vfloat32m4_t vs2, float rs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                  vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_tu(vfloat64m8_t vd, vfloat64m8_t vs2, float rs1,
                                  size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                    size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_tum(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, vfloat16mf4_t vs1,
```

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                                    size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_tum(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_tum(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_tum(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_tum(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_tum(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_tum(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_tum(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_tum(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_tum(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_tum(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat16m2_t vs2, vfloat16m2_t vs1,
                                   size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_tum(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_tum(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, vfloat16m2_t vs1,
                                   size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_tum(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_tum(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat16m4_t vs2, vfloat16m4_t vs1,
                                   size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_tum(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_tum(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, vfloat16m4_t vs1,
                                   size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_tum(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_tum(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                   size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_tum(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_tum(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                   size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_tum(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_tum(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat32m1_t vs2, vfloat32m1_t vs1,
                                   size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_tum(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_tum(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat64m2_t vs2, vfloat32m1_t vs1,
                                   size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_tum(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat64m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_tum(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat32m2_t vs2, vfloat32m2_t vs1,
                                   size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_tum(vbool16_t vm, vfloat64m4_t vd,
```

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                                  vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, vfloat32m2_t vs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs2, vfloat32m4_t vs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, vfloat32m4_t vs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, float rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_tum(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs2, vfloat16m2_t vs1,
                                  size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_tum(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_tum(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, vfloat16m2_t vs1,
                                  size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_tum(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_tum(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs2, vfloat16m4_t vs1,
                                  size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_tum(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_tum(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, vfloat16m4_t vs1,
                                  size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_tum(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_tum(vbool64_t vm, vfloat64m1_t vd,
```

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                                  vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_tum(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_tum(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_tum(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_tum(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_tum(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_tum(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_tum(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs2, vfloat32m2_t vs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, vfloat32m2_t vs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs2, vfloat32m4_t vs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, vfloat32m4_t vs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, float rs1, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                    size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat16mf4_t vs2, _Float16 rs1,
                                    size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                    size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, _Float16 rs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs2, _Float16 rs1, size_t vl);
```

```
vfloat32m2_t __riscv_vfwadd_wv_tumu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_tumu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs2, vfloat32m2_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, vfloat32m2_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, float rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat16mf4_t vs2, vfloat16mf4_t vs1,
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                                     size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat16mf4_t vs2, _Float16 rs1,
                                     size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                     size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat32mf2_t vs2, _Float16 rs1,
                                     size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_tumu(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_tumu(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_tumu(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_tumu(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_tumu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_tumu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_tumu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_tumu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, vfloat16m2_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, vfloat16m4_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, vfloat32m1_t vs1,
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                                    size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs2, vfloat32m2_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, vfloat32m2_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, vfloat32m4_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, float rs1, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs2, vfloat16m2_t vs1,
                                  size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, vfloat16m2_t vs1,
                                  size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs2, vfloat16m4_t vs1,
                                  size_t vl);
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vfloat32m8_t __riscv_vfwadd_vf_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, vfloat16m4_t vs1,
                                  size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs2, vfloat32m2_t vs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, vfloat32m2_t vs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs2, vfloat32m4_t vs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, vfloat32m4_t vs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, float rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, _Float16 rs1, size_t vl);
```

```
vfloat32m2_t __riscv_vfwsub_vv_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs2, vfloat16m2_t vs1,
                                  size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, vfloat16m2_t vs1,
                                  size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs2, vfloat16m4_t vs1,
                                  size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, vfloat16m4_t vs1,
                                  size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs2, vfloat32m2_t vs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, vfloat32m2_t vs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs2, vfloat32m4_t vs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, vfloat32m4_t vs1,
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                                  size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, float rs1, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vv_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                   vfloat16mf4_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                   _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                   vfloat16mf4_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                   _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                  vfloat16mf2_t vs1, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                  _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                  vfloat16mf2_t vs1, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                  _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                  vfloat16m1_t vs1, unsigned int frm,
                                  size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                  _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                  vfloat16m1_t vs1, unsigned int frm,
                                  size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                  _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                  vfloat16m2_t vs1, unsigned int frm,
                                  size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                  _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                  vfloat16m2_t vs1, unsigned int frm,
                                  size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                  _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                  vfloat16m4_t vs1, unsigned int frm,
                                  size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                  _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                  vfloat16m4_t vs1, unsigned int frm,
                                  size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                  _Float16 rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                  vfloat32mf2_t vs1, unsigned int frm,
                                  size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_tu(vfloat64m1_t vd, vfloat32mf2_t vs2, float rs1,
                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                  vfloat32mf2_t vs1, unsigned int frm,
                                  size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_tu(vfloat64m1_t vd, vfloat64m1_t vs2, float rs1,
                                  unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                  vfloat32m1_t vs1, unsigned int frm,
                                  size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_tu(vfloat64m2_t vd, vfloat32m1_t vs2, float rs1,
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                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat32m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_tu(vfloat64m2_t vd, vfloat64m2_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_tu(vfloat64m4_t vd, vfloat32m2_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat32m2_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_tu(vfloat64m4_t vd, vfloat64m4_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_tu(vfloat64m8_t vd, vfloat32m4_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat32m4_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_tu(vfloat64m8_t vd, vfloat64m8_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                 vfloat16mf4_t vs1, unsigned int frm,
                                 size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                 _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                 vfloat16mf4_t vs1, unsigned int frm,
                                 size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                 _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                vfloat16mf2_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat16mf2_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat16m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat16m2_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
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                                vfloat16m4_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat16m4_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                vfloat32mf2_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_tu(vfloat64m1_t vd, vfloat32mf2_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat32mf2_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_tu(vfloat64m1_t vd, vfloat64m1_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_tu(vfloat64m2_t vd, vfloat32m1_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat32m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_tu(vfloat64m2_t vd, vfloat64m2_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_tu(vfloat64m4_t vd, vfloat32m2_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat32m2_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_tu(vfloat64m4_t vd, vfloat64m4_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_tu(vfloat64m8_t vd, vfloat32m4_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat32m4_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_tu(vfloat64m8_t vd, vfloat64m8_t vs2, float rs1,
                                unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1,
```

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                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_tum(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_tum(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat16m1_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_tum(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_tum(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_tum(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_tum(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat16m2_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_tum(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, vfloat16m2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_tum(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_tum(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_tum(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat16m4_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_tum(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, vfloat16m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_tum(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_tum(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_tum(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_tum(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_tum(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
```

```
vfloat64m4_t __riscv_vfwadd_vv_tum(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat32m2_t vs2, vfloat32m2_t vs1,
                                   unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_tum(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat32m2_t vs2, float rs1,
                                   unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_tum(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat64m4_t vs2, vfloat32m2_t vs1,
                                   unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_tum(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat64m4_t vs2, float rs1,
                                   unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_tum(vbool8_t vm, vfloat64m8_t vd,
                                   vfloat32m4_t vs2, vfloat32m4_t vs1,
                                   unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_tum(vbool8_t vm, vfloat64m8_t vd,
                                   vfloat32m4_t vs2, float rs1,
                                   unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_tum(vbool8_t vm, vfloat64m8_t vd,
                                   vfloat64m8_t vs2, vfloat32m4_t vs1,
                                   unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_tum(vbool8_t vm, vfloat64m8_t vd,
                                   vfloat64m8_t vs2, float rs1,
                                   unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_tum(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat16mf4_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_tum(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_tum(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_tum(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_tum(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_tum(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_tum(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs2, vfloat16m1_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_tum(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_tum(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, vfloat16m1_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_tum(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_tum(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat16m2_t vs2, vfloat16m2_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_tum(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat16m2_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_tum(vbool8_t vm, vfloat32m4_t vd,
```

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                                    vfloat32m4_t vs2, vfloat16m2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_tum(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_tum(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_tum(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat16m4_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_tum(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, vfloat16m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_tum(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_tum(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_tum(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_tum(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_tum(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_tum(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs2, vfloat32m2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_tum(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_tum(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, vfloat32m2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_tum(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_tum(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_tum(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_tum(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, vfloat32m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_tum(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_tumu(vbool64_t vm, vfloat32mf2_t vd,
```

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                                    vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat16mf4_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs2, vfloat16m1_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, vfloat16m1_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat16m2_t vs2, vfloat16m2_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat16m2_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, vfloat16m2_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat16m4_t vs2, vfloat16m4_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat16m4_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, vfloat16m4_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                   unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat32mf2_t vs2, float rs1,
                                   unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, vfloat32mf2_t vs1,
```

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                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs2, vfloat32m2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, vfloat32m2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, vfloat32m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                     unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat16mf4_t vs2, _Float16 rs1,
                                     unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                     unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat32mf2_t vs2, _Float16 rs1,
                                     unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_tumu(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_tumu(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat16mf2_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_tumu(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_tumu(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_tumu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
```

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vfloat32m2_t __riscv_vfwsub_vf_tumu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat16m1_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_tumu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_tumu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat16m2_t vs2, vfloat16m2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat16m2_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, vfloat16m2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat16m4_t vs2, vfloat16m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat16m4_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, vfloat16m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, _Float16 rs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wv_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs2, vfloat32m2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, vfloat32m2_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_tumu(vbool16_t vm, vfloat64m4_t vd,
```

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                                    vfloat64m4_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs2, vfloat32m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, vfloat32m4_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, float rs1,
                                    unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwadd_vv_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_vf_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wv_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                   unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwadd_wf_mu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, _Float16 rs1,
                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vv_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_vf_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wv_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwadd_wf_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vv_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, vfloat16m1_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_vf_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wv_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, vfloat16m1_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwadd_wf_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vv_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs2, vfloat16m2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_vf_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wv_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, vfloat16m2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwadd_wf_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vv_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs2, vfloat16m4_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_vf_mu(vbool4_t vm, vfloat32m8_t vd,
```

```
                                vfloat16m4_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wv_mu(vbool4_t vm, vfloat32m8_t vd,
                                vfloat32m8_t vs2, vfloat16m4_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwadd_wf_mu(vbool4_t vm, vfloat32m8_t vd,
                                vfloat32m8_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vv_mu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_vf_mu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wv_mu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwadd_wf_mu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfwadd_vv_mu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat32m1_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_vf_mu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat32m1_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfwadd_wv_mu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs2, vfloat32m1_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwadd_wf_mu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfwadd_vv_mu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat32m2_t vs2, vfloat32m2_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_vf_mu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat32m2_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfwadd_wv_mu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs2, vfloat32m2_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwadd_wf_mu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfwadd_vv_mu(vbool8_t vm, vfloat64m8_t vd,
                                vfloat32m4_t vs2, vfloat32m4_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_vf_mu(vbool8_t vm, vfloat64m8_t vd,
                                vfloat32m4_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfwadd_wv_mu(vbool8_t vm, vfloat64m8_t vd,
                                vfloat64m8_t vs2, vfloat32m4_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwadd_wf_mu(vbool8_t vm, vfloat64m8_t vd,
                                vfloat64m8_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat32mf2_t __riscv_vfwsub_vv_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_vf_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wv_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat16mf4_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwsub_wf_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, _Float16 rs1,
```

```
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vv_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_vf_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wv_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, vfloat16mf2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwsub_wf_mu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vv_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, vfloat16m1_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_vf_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wv_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, vfloat16m1_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwsub_wf_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vv_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs2, vfloat16m2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_vf_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wv_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, vfloat16m2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwsub_wf_mu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vv_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs2, vfloat16m4_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_vf_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wv_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, vfloat16m4_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwsub_wf_mu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vv_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_vf_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs2, float rs1,
                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wv_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, vfloat32mf2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwsub_wf_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, float rs1, unsigned int frm,
                                  size_t vl);
vfloat64m2_t __riscv_vfwsub_vv_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs2, vfloat32m1_t vs1,
                                  unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_vf_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs2, float rs1, unsigned int frm,
                                  size_t vl);
```

```
vfloat64m2_t __riscv_vfwsub_wv_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, vfloat32m1_t vs1,
                                  unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwsub_wf_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, float rs1, unsigned int frm,
                                  size_t vl);
vfloat64m4_t __riscv_vfwsub_vv_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs2, vfloat32m2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_vf_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs2, float rs1, unsigned int frm,
                                  size_t vl);
vfloat64m4_t __riscv_vfwsub_wv_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, vfloat32m2_t vs1,
                                  unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwsub_wf_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, float rs1, unsigned int frm,
                                  size_t vl);
vfloat64m8_t __riscv_vfwsub_vv_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs2, vfloat32m4_t vs1,
                                  unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_vf_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs2, float rs1, unsigned int frm,
                                  size_t vl);
vfloat64m8_t __riscv_vfwsub_wv_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, vfloat32m4_t vs1,
                                  unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwsub_wf_mu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, float rs1, unsigned int frm,
                                  size_t vl);
```

D.5.3. Vector Single-Width Floating-Point Multiply/Divide Intrinsics

```
vfloat16mf4_t __riscv_vfmul_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmul_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmul_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmul_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmul_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmul_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m2_t __riscv_vfmul_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmul_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m4_t __riscv_vfmul_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmul_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m8_t __riscv_vfmul_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmul_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                              size_t vl);
vfloat32mf2_t __riscv_vfmul_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmul_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                               size_t vl);
vfloat32m1_t __riscv_vfmul_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmul_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                              size_t vl);
```

```
vfloat32m2_t __riscv_vfmul_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmul_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                              size_t vl);
vfloat32m4_t __riscv_vfmul_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmul_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                              size_t vl);
vfloat32m8_t __riscv_vfmul_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmul_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                              size_t vl);
vfloat64m1_t __riscv_vfmul_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmul_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                              size_t vl);
vfloat64m2_t __riscv_vfmul_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmul_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                              size_t vl);
vfloat64m4_t __riscv_vfmul_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmul_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                              size_t vl);
vfloat64m8_t __riscv_vfmul_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmul_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                              size_t vl);
vfloat16mf4_t __riscv_vfdiv_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfdiv_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfdiv_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m2_t __riscv_vfdiv_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m4_t __riscv_vfdiv_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m8_t __riscv_vfdiv_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                              size_t vl);
vfloat32mf2_t __riscv_vfdiv_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                               size_t vl);
vfloat32m1_t __riscv_vfdiv_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                              size_t vl);
vfloat32m2_t __riscv_vfdiv_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                              size_t vl);
vfloat32m4_t __riscv_vfdiv_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
```

```
                              size_t vl);
vfloat32m8_t __riscv_vfdiv_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                              size_t vl);
vfloat64m1_t __riscv_vfdiv_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                              size_t vl);
vfloat64m2_t __riscv_vfdiv_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                              size_t vl);
vfloat64m4_t __riscv_vfdiv_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                              size_t vl);
vfloat64m8_t __riscv_vfdiv_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                              size_t vl);
vfloat16mf4_t __riscv_vfrdiv_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrdiv_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                               size_t vl);
vfloat16m2_t __riscv_vfrdiv_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                               size_t vl);
vfloat16m4_t __riscv_vfrdiv_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                               size_t vl);
vfloat16m8_t __riscv_vfrdiv_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32mf2_t __riscv_vfrdiv_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                                size_t vl);
vfloat32m1_t __riscv_vfrdiv_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                               size_t vl);
vfloat32m2_t __riscv_vfrdiv_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                               size_t vl);
vfloat32m4_t __riscv_vfrdiv_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                               size_t vl);
vfloat32m8_t __riscv_vfrdiv_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                               size_t vl);
vfloat64m1_t __riscv_vfrdiv_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                               size_t vl);
vfloat64m2_t __riscv_vfrdiv_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                               size_t vl);
vfloat64m4_t __riscv_vfrdiv_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                               size_t vl);
vfloat64m8_t __riscv_vfrdiv_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                               size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                size_t vl);
vfloat16mf4_t __riscv_vfmul_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmul_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                size_t vl);
vfloat16mf2_t __riscv_vfmul_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmul_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmul_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmul_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
```

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                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmul_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmul_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmul_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmul_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmul_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmul_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vfmul_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmul_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmul_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfmul_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmul_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat32m4_t __riscv_vfmul_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmul_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
vfloat32m8_t __riscv_vfmul_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmul_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfmul_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmul_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfmul_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmul_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
vfloat64m4_t __riscv_vfmul_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmul_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
vfloat64m8_t __riscv_vfmul_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmul_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 size_t vl);
vfloat16mf4_t __riscv_vfdiv_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfdiv_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vfdiv_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
```

```
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfdiv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrdiv_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrdiv_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrdiv_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrdiv_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfrdiv_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfrdiv_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat32m4_t __riscv_vfrdiv_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
vfloat32m8_t __riscv_vfrdiv_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfrdiv_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
```

```
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfrdiv_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
vfloat64m4_t __riscv_vfrdiv_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
vfloat64m8_t __riscv_vfrdiv_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 size_t vl);
vfloat16mf4_t __riscv_vfmul_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmul_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vfmul_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmul_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmul_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmul_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmul_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmul_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmul_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmul_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmul_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmul_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vfmul_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmul_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmul_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfmul_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmul_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat32m4_t __riscv_vfmul_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmul_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
vfloat32m8_t __riscv_vfmul_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmul_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfmul_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmul_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfmul_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmul_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
vfloat64m4_t __riscv_vfmul_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmul_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
```

```
vfloat64m8_t __riscv_vfmul_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmul_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 size_t vl);
vfloat16mf4_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
```

```
vfloat16mf4_t __riscv_vfrdiv_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrdiv_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrdiv_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrdiv_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrdiv_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfrdiv_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfrdiv_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfrdiv_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 float rs1, size_t vl);
vfloat32m8_t __riscv_vfrdiv_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 float rs1, size_t vl);
vfloat64m1_t __riscv_vfrdiv_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfrdiv_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfrdiv_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfrdiv_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmul_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmul_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmul_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmul_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmul_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmul_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmul_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmul_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmul_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmul_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmul_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmul_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmul_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmul_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmul_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              float rs1, size_t vl);
vfloat32m2_t __riscv_vfmul_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmul_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              float rs1, size_t vl);
```

```
vfloat32m4_t __riscv_vfmul_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmul_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              float rs1, size_t vl);
vfloat32m8_t __riscv_vfmul_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmul_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              float rs1, size_t vl);
vfloat64m1_t __riscv_vfmul_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmul_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              double rs1, size_t vl);
vfloat64m2_t __riscv_vfmul_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmul_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              double rs1, size_t vl);
vfloat64m4_t __riscv_vfmul_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmul_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              double rs1, size_t vl);
vfloat64m8_t __riscv_vfmul_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmul_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              double rs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfdiv_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfdiv_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfdiv_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfdiv_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfdiv_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfdiv_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfdiv_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfdiv_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfdiv_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              float rs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfdiv_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              float rs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfdiv_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              float rs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfdiv_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
```

```
                              float rs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfdiv_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              double rs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfdiv_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              double rs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfdiv_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              double rs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfdiv_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              double rs1, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfrdiv_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfrdiv_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfrdiv_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfrdiv_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfrdiv_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, size_t vl);
vfloat32m2_t __riscv_vfrdiv_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, size_t vl);
vfloat32m4_t __riscv_vfrdiv_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, size_t vl);
vfloat32m8_t __riscv_vfrdiv_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, size_t vl);
vfloat64m1_t __riscv_vfrdiv_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, size_t vl);
vfloat64m2_t __riscv_vfrdiv_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, size_t vl);
vfloat64m4_t __riscv_vfrdiv_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, size_t vl);
vfloat64m8_t __riscv_vfrdiv_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, size_t vl);
vfloat16mf4_t __riscv_vfmul_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmul_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
```

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vfloat16m8_t __riscv_vfmul_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
```

```
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrdiv_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrdiv_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrdiv_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrdiv_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrdiv_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrdiv_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrdiv_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrdiv_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrdiv_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrdiv_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrdiv_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrdiv_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                               unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                unsigned int frm, size_t vl);
```

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vfloat16mf4_t __riscv_vfmul_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfmul_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_tum(vbool64_t vm, vfloat16mf4_t vd,
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                                vfloat16mf4_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfdiv_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1,
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                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrdiv_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrdiv_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrdiv_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrdiv_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfrdiv_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrdiv_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrdiv_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrdiv_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrdiv_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrdiv_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrdiv_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrdiv_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmul_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmul_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfmul_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, unsigned int frm, size_t vl);
```

```
vfloat32m2_t __riscv_vfmul_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
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                                vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrdiv_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrdiv_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrdiv_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrdiv_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, float rs1,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrdiv_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m2_t __riscv_vfrdiv_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat32m4_t __riscv_vfrdiv_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrdiv_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrdiv_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, double rs1, unsigned int frm,
                                 size_t vl);
vfloat64m2_t __riscv_vfrdiv_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, double rs1, unsigned int frm,
                                 size_t vl);
vfloat64m4_t __riscv_vfrdiv_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, double rs1, unsigned int frm,
                                 size_t vl);
vfloat64m8_t __riscv_vfrdiv_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 double rs1, unsigned int frm, size_t vl);
// masked functions
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vfloat16mf4_t __riscv_vfmul_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmul_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmul_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmul_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmul_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmul_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmul_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmul_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, float rs1, unsigned int frm,
                               size_t vl);
vfloat32m1_t __riscv_vfmul_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmul_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmul_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmul_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmul_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmul_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmul_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmul_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmul_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              double rs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_mu(vbool64_t vm, vfloat16mf4_t vd,
```

```
                              vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                              unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfdiv_mu(vbool64_t vm, vfloat16mf4_t vd,
                              vfloat16mf4_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_mu(vbool32_t vm, vfloat16mf2_t vd,
                              vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                              unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfdiv_mu(vbool32_t vm, vfloat16mf2_t vd,
                              vfloat16mf2_t vs2, _Float16 rs1,
                              unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                             vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfdiv_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                             _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                             vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfdiv_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                             _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                             vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfdiv_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                             _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                             vfloat16m8_t vs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfdiv_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                             _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_mu(vbool64_t vm, vfloat32mf2_t vd,
                              vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfdiv_mu(vbool64_t vm, vfloat32mf2_t vd,
                              vfloat32mf2_t vs2, float rs1, unsigned int frm,
                              size_t vl);
vfloat32m1_t __riscv_vfdiv_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                             vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfdiv_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                             float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                             vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfdiv_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                             float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                             vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfdiv_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                             float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                             vfloat32m8_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfdiv_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                             float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                             vfloat64m1_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfdiv_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                             double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                             vfloat64m2_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfdiv_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                             double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                             vfloat64m4_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfdiv_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                             double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                             vfloat64m8_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfdiv_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                             double rs1, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfrdiv_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, _Float16 rs1,
```

```
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrdiv_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrdiv_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrdiv_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrdiv_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrdiv_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrdiv_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfrdiv_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrdiv_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrdiv_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrdiv_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrdiv_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrdiv_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrdiv_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrdiv_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, unsigned int frm, size_t vl);
```

D.5.4. Vector Widening Floating-Point Multiply Intrinsics

```
vfloat32mf2_t __riscv_vfwmul_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                vfloat16mf4_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfwmul_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwmul_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwmul_tu(vfloat32m1_t vd, vfloat16mf2_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32m2_t __riscv_vfwmul_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwmul_tu(vfloat32m2_t vd, vfloat16m1_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32m4_t __riscv_vfwmul_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_tu(vfloat32m4_t vd, vfloat16m2_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32m8_t __riscv_vfwmul_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_tu(vfloat32m8_t vd, vfloat16m4_t vs2, _Float16 rs1,
                               size_t vl);
vfloat64m1_t __riscv_vfwmul_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwmul_tu(vfloat64m1_t vd, vfloat32mf2_t vs2, float rs1,
                               size_t vl);
vfloat64m2_t __riscv_vfwmul_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_tu(vfloat64m2_t vd, vfloat32m1_t vs2, float rs1,
                               size_t vl);
vfloat64m4_t __riscv_vfwmul_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_tu(vfloat64m4_t vd, vfloat32m2_t vs2, float rs1,
```

```
                              size_t vl);
vfloat64m8_t __riscv_vfwmul_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_tu(vfloat64m8_t vd, vfloat32m4_t vs2, float rs1,
                              size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vfwmul_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwmul_tum(vbool32_t vm, vfloat32m1_t vd,
                                vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                size_t vl);
vfloat32m1_t __riscv_vfwmul_tum(vbool32_t vm, vfloat32m1_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwmul_tum(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwmul_tum(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_tum(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_tum(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_tum(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_tum(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwmul_tum(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                size_t vl);
vfloat64m1_t __riscv_vfwmul_tum(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_tum(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_tum(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_tum(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_tum(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_tum(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_tum(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                  size_t vl);
vfloat32mf2_t __riscv_vfwmul_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwmul_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 size_t vl);
vfloat32m1_t __riscv_vfwmul_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwmul_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwmul_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                                 vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                                 vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
```

```
                                _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwmul_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 size_t vl);
vfloat64m1_t __riscv_vfwmul_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat32m1_t vs2, float rs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat32m2_t vs2, float rs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                                 vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                                 float rs1, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfwmul_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat32m1_t __riscv_vfwmul_mu(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwmul_mu(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat32m2_t __riscv_vfwmul_mu(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat32m2_t __riscv_vfwmul_mu(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, size_t vl);
vfloat32m4_t __riscv_vfwmul_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, size_t vl);
vfloat32m8_t __riscv_vfwmul_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat64m1_t __riscv_vfwmul_mu(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwmul_mu(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs2,
                               float rs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_mu(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat64m2_t __riscv_vfwmul_mu(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs2,
                               float rs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_mu(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, size_t vl);
vfloat64m4_t __riscv_vfwmul_mu(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs2,
                               float rs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, size_t vl);
vfloat64m8_t __riscv_vfwmul_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                               float rs1, size_t vl);
vfloat32mf2_t __riscv_vfwmul_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                vfloat16mf4_t vs1, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmul_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_tu(vfloat32m1_t vd, vfloat16mf2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_tu(vfloat32m2_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_tu(vfloat32m2_t vd, vfloat16m1_t vs2, _Float16 rs1,
```

```
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_tu(vfloat32m4_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_tu(vfloat32m4_t vd, vfloat16m2_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_tu(vfloat32m8_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_tu(vfloat32m8_t vd, vfloat16m4_t vs2, _Float16 rs1,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_tu(vfloat64m1_t vd, vfloat32mf2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_tu(vfloat64m2_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_tu(vfloat64m2_t vd, vfloat32m1_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_tu(vfloat64m4_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_tu(vfloat64m4_t vd, vfloat32m2_t vs2, float rs1,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_tu(vfloat64m8_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_tu(vfloat64m8_t vd, vfloat32m4_t vs2, float rs1,
                               unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmul_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_tum(vbool32_t vm, vfloat32m1_t vd,
                                vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_tum(vbool32_t vm, vfloat32m1_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_tum(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_tum(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_tum(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_tum(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_tum(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_tum(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_tum(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_tum(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfwmul_tum(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_tum(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_tum(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_tum(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs2,
                                float rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_tum(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_tum(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
```

```
                                float rs1, unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmul_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs2, _Float16 rs1,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat16m1_t vs2, vfloat16m1_t vs1,
                                 unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat16m1_t vs2, _Float16 rs1,
                                 unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                                 vfloat16m2_t vs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                                 _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                                 vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                                 _Float16 rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat32mf2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat64m2_t __riscv_vfwmul_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat32m1_t vs2, vfloat32m1_t vs1,
                                 unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat32m1_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat64m4_t __riscv_vfwmul_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat32m2_t vs2, vfloat32m2_t vs1,
                                 unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat32m2_t vs2, float rs1, unsigned int frm,
                                 size_t vl);
vfloat64m8_t __riscv_vfwmul_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                                 vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                                 float rs1, unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmul_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmul_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_mu(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmul_mu(vbool32_t vm, vfloat32m1_t vd, vfloat16mf2_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_mu(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmul_mu(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmul_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, unsigned int frm, size_t vl);
```

```
vfloat32m4_t __riscv_vfwmul_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmul_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_mu(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmul_mu(vbool64_t vm, vfloat64m1_t vd, vfloat32mf2_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_mu(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmul_mu(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_mu(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmul_mu(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs2,
                               float rs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmul_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                               float rs1, unsigned int frm, size_t vl);
```

D.5.5. Vector Single-Width Floating-Point Fused Multiply-Add Intrinsics

```
vfloat16mf4_t __riscv_vfmacc_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmacc_tu(vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc_tu(vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                               size_t vl);
vfloat16m2_t __riscv_vfmacc_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                               size_t vl);
vfloat16m4_t __riscv_vfmacc_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                               size_t vl);
vfloat16m8_t __riscv_vfmacc_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                               size_t vl);
vfloat32mf2_t __riscv_vfmacc_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat32m1_t __riscv_vfmacc_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                               size_t vl);
vfloat32m2_t __riscv_vfmacc_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                               size_t vl);
vfloat32m4_t __riscv_vfmacc_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                               size_t vl);
```

```
vfloat32m8_t __riscv_vfmacc_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                               size_t vl);
vfloat64m1_t __riscv_vfmacc_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                               size_t vl);
vfloat64m2_t __riscv_vfmacc_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                               size_t vl);
vfloat64m4_t __riscv_vfmacc_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                               size_t vl);
vfloat64m8_t __riscv_vfmacc_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                               size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tu(vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tu(vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                                size_t vl);
vfloat16m2_t __riscv_vfnmacc_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                                size_t vl);
vfloat16m4_t __riscv_vfnmacc_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                                size_t vl);
vfloat16m8_t __riscv_vfnmacc_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat32m1_t __riscv_vfnmacc_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                                size_t vl);
vfloat32m2_t __riscv_vfnmacc_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                                size_t vl);
vfloat32m4_t __riscv_vfnmacc_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfnmacc_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfnmacc_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
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                                size_t vl);
vfloat64m2_t __riscv_vfnmacc_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfnmacc_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfnmacc_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                                size_t vl);
vfloat16mf4_t __riscv_vfmsac_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac_tu(vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac_tu(vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                               size_t vl);
vfloat16m2_t __riscv_vfmsac_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                               size_t vl);
vfloat16m4_t __riscv_vfmsac_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                               size_t vl);
vfloat16m8_t __riscv_vfmsac_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                               size_t vl);
vfloat32mf2_t __riscv_vfmsac_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat32m1_t __riscv_vfmsac_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                               size_t vl);
vfloat32m2_t __riscv_vfmsac_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                               size_t vl);
vfloat32m4_t __riscv_vfmsac_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                               size_t vl);
vfloat32m8_t __riscv_vfmsac_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                               size_t vl);
vfloat64m1_t __riscv_vfmsac_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                               size_t vl);
vfloat64m2_t __riscv_vfmsac_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                               size_t vl);
vfloat64m4_t __riscv_vfmsac_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, size_t vl);
```

```
vfloat64m4_t __riscv_vfmsac_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                               size_t vl);
vfloat64m8_t __riscv_vfmsac_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                               size_t vl);
vfloat16mf4_t __riscv_vfnmsac_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_tu(vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tu(vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                                size_t vl);
vfloat16m2_t __riscv_vfnmsac_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                                size_t vl);
vfloat16m4_t __riscv_vfnmsac_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                                size_t vl);
vfloat16m8_t __riscv_vfnmsac_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat32m1_t __riscv_vfnmsac_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                                size_t vl);
vfloat32m2_t __riscv_vfnmsac_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                                size_t vl);
vfloat32m4_t __riscv_vfnmsac_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfnmsac_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfnmsac_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                                size_t vl);
vfloat64m2_t __riscv_vfnmsac_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfnmsac_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfnmsac_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                                size_t vl);
vfloat16mf4_t __riscv_vfmadd_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
```

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                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd_tu(vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd_tu(vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                               size_t vl);
vfloat16m2_t __riscv_vfmadd_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                               size_t vl);
vfloat16m4_t __riscv_vfmadd_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                               size_t vl);
vfloat16m8_t __riscv_vfmadd_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                               size_t vl);
vfloat32mf2_t __riscv_vfmadd_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat32m1_t __riscv_vfmadd_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmadd_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                               size_t vl);
vfloat32m2_t __riscv_vfmadd_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                               size_t vl);
vfloat32m4_t __riscv_vfmadd_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                               size_t vl);
vfloat32m8_t __riscv_vfmadd_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                               size_t vl);
vfloat64m1_t __riscv_vfmadd_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                               size_t vl);
vfloat64m2_t __riscv_vfmadd_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmadd_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                               size_t vl);
vfloat64m4_t __riscv_vfmadd_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                               size_t vl);
vfloat64m8_t __riscv_vfmadd_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                               size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tu(vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tu(vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, size_t vl);
```

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vfloat16m1_t __riscv_vfnmadd_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                                size_t vl);
vfloat16m2_t __riscv_vfnmadd_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                                size_t vl);
vfloat16m4_t __riscv_vfnmadd_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                                size_t vl);
vfloat16m8_t __riscv_vfnmadd_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmadd_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat32m1_t __riscv_vfnmadd_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                                size_t vl);
vfloat32m2_t __riscv_vfnmadd_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                                size_t vl);
vfloat32m4_t __riscv_vfnmadd_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfnmadd_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfnmadd_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                                size_t vl);
vfloat64m2_t __riscv_vfnmadd_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfnmadd_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfnmadd_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                                size_t vl);
vfloat16mf4_t __riscv_vfmsub_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub_tu(vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub_tu(vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                               size_t vl);
vfloat16m2_t __riscv_vfmsub_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
```

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                                size_t vl);
vfloat16m4_t __riscv_vfmsub_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                               size_t vl);
vfloat16m8_t __riscv_vfmsub_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                               size_t vl);
vfloat32mf2_t __riscv_vfmsub_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat32m1_t __riscv_vfmsub_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                               size_t vl);
vfloat32m2_t __riscv_vfmsub_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                               size_t vl);
vfloat32m4_t __riscv_vfmsub_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                               size_t vl);
vfloat32m8_t __riscv_vfmsub_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                               size_t vl);
vfloat64m1_t __riscv_vfmsub_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                               size_t vl);
vfloat64m2_t __riscv_vfmsub_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                               size_t vl);
vfloat64m4_t __riscv_vfmsub_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                               size_t vl);
vfloat64m8_t __riscv_vfmsub_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                               size_t vl);
vfloat16mf4_t __riscv_vfnmsub_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_tu(vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tu(vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                                size_t vl);
vfloat16m2_t __riscv_vfnmsub_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                                size_t vl);
vfloat16m4_t __riscv_vfnmsub_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                                size_t vl);
vfloat16m8_t __riscv_vfnmsub_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, size_t vl);
```

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vfloat16m8_t __riscv_vfnmsub_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat32m1_t __riscv_vfnmsub_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsub_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                                size_t vl);
vfloat32m2_t __riscv_vfnmsub_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsub_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                                size_t vl);
vfloat32m4_t __riscv_vfnmsub_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfnmsub_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsub_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfnmsub_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                                size_t vl);
vfloat64m2_t __riscv_vfnmsub_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfnmsub_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfnmsub_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                                size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vfmacc_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 size_t vl);
vfloat16mf2_t __riscv_vfmacc_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
```

```
                                size_t vl);
vfloat32mf2_t __riscv_vfmacc_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat32m1_t vd,
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                                vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat32m2_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs1, vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                size_t vl);
vfloat16mf4_t __riscv_vfmsac_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                size_t vl);
vfloat16mf2_t __riscv_vfmsac_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfmsac_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
```

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                                vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vfnmsac_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                 vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                 vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
```

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                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac_tum(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs1, vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                size_t vl);
vfloat16mf4_t __riscv_vfmadd_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                size_t vl);
vfloat16mf2_t __riscv_vfmadd_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfmadd_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmadd_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmadd_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
```

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                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmadd_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmadd_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmadd_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmadd_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                 vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                 vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                 vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                 vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat64m1_t vd,
```

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                                vfloat64m1_t vs1, vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                size_t vl);
vfloat16mf4_t __riscv_vfmsub_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                size_t vl);
vfloat16mf2_t __riscv_vfmsub_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfmsub_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
```

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                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                 vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                 vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsub_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                 vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsub_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                 vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs1, vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                 vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs1, vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                 vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat64m4_t vd,
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                                vfloat64m4_t vs1, vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 size_t vl);
vfloat16mf2_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat16m1_t vd,
                                vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat32m1_t vd,
                                vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat32m2_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs1, vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
```

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vfloat64m8_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                 vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                 vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                   vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                   size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                   vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  size_t vl);
vfloat16m1_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                  vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat16m2_t vs1, vfloat16m2_t vs2,
                                  size_t vl);
vfloat16m2_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                  vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc_tumu(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat16m4_t vs1, vfloat16m4_t vs2,
                                  size_t vl);
vfloat16m4_t __riscv_vfnmacc_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                  vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc_tumu(vbool2_t vm, vfloat16m8_t vd,
                                  vfloat16m8_t vs1, vfloat16m8_t vs2,
                                  size_t vl);
vfloat16m8_t __riscv_vfnmacc_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                  vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                   vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs1, vfloat32m1_t vs2,
                                  size_t vl);
vfloat32m1_t __riscv_vfnmacc_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                  vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs1, vfloat32m2_t vs2,
                                  size_t vl);
vfloat32m2_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                  vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs1, vfloat32m4_t vs2,
                                  size_t vl);
vfloat32m4_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                  vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc_tumu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs1, vfloat32m8_t vs2,
                                  size_t vl);
vfloat32m8_t __riscv_vfnmacc_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                  vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs1, vfloat64m1_t vs2,
                                  size_t vl);
vfloat64m1_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                  vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc_tumu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs1, vfloat64m2_t vs2,
                                  size_t vl);
```

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vfloat64m2_t __riscv_vfnmacc_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                  vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs1, vfloat64m4_t vs2,
                                  size_t vl);
vfloat64m4_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                  vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs1, vfloat64m8_t vs2,
                                  size_t vl);
vfloat64m8_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                  vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                 vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                 vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                 vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                 vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs1, vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                 vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs1, vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                 vfloat64m2_t vs2, size_t vl);
```

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vfloat64m4_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs1, vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                 vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                 vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                 vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   size_t vl);
vfloat16mf4_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                   vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                   size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                   vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  size_t vl);
vfloat16m1_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                  vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat16m2_t vs1, vfloat16m2_t vs2,
                                  size_t vl);
vfloat16m2_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                  vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac_tumu(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat16m4_t vs1, vfloat16m4_t vs2,
                                  size_t vl);
vfloat16m4_t __riscv_vfnmsac_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                  vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac_tumu(vbool2_t vm, vfloat16m8_t vd,
                                  vfloat16m8_t vs1, vfloat16m8_t vs2,
                                  size_t vl);
vfloat16m8_t __riscv_vfnmsac_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                  vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                   vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs1, vfloat32m1_t vs2,
                                  size_t vl);
vfloat32m1_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                  vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs1, vfloat32m2_t vs2,
                                  size_t vl);
vfloat32m2_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                  vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs1, vfloat32m4_t vs2,
                                  size_t vl);
vfloat32m4_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                  vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac_tumu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs1, vfloat32m8_t vs2,
                                  size_t vl);
vfloat32m8_t __riscv_vfnmsac_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                  vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs1, vfloat64m1_t vs2,
                                  size_t vl);
vfloat64m1_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
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                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2,
                                size_t vl);
vfloat64m2_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat64m8_t vd,
                                vfloat64m8_t vs1, vfloat64m8_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                size_t vl);
vfloat16mf4_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                size_t vl);
vfloat16mf2_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat16m1_t vd,
                               vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat32m1_t vd,
                               vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat32m2_t vd,
                               vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat64m1_t vd,
                               vfloat64m1_t vs1, vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                               vfloat64m1_t vs2, size_t vl);
```

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vfloat64m2_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs1, vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                 vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs1, vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                 vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                 vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                 vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                   vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                   size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                   vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  size_t vl);
vfloat16m1_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                  vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat16m2_t vs1, vfloat16m2_t vs2,
                                  size_t vl);
vfloat16m2_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                  vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd_tumu(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat16m4_t vs1, vfloat16m4_t vs2,
                                  size_t vl);
vfloat16m4_t __riscv_vfnmadd_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                  vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmadd_tumu(vbool2_t vm, vfloat16m8_t vd,
                                  vfloat16m8_t vs1, vfloat16m8_t vs2,
                                  size_t vl);
vfloat16m8_t __riscv_vfnmadd_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                  vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                   vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs1, vfloat32m1_t vs2,
                                  size_t vl);
vfloat32m1_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                  vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs1, vfloat32m2_t vs2,
                                  size_t vl);
vfloat32m2_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                  vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs1, vfloat32m4_t vs2,
                                  size_t vl);
vfloat32m4_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                  vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd_tumu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs1, vfloat32m8_t vs2,
                                  size_t vl);
vfloat32m8_t __riscv_vfnmadd_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                  vfloat32m8_t vs2, size_t vl);
```

```
vfloat64m1_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs1, vfloat64m1_t vs2,
                                  size_t vl);
vfloat64m1_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                  vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs1, vfloat64m2_t vs2,
                                  size_t vl);
vfloat64m2_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                  vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs1, vfloat64m4_t vs2,
                                  size_t vl);
vfloat64m4_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                  vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs1, vfloat64m8_t vs2,
                                  size_t vl);
vfloat64m8_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                  vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                 vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                 vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                 vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                 vfloat32m8_t vs2, size_t vl);
```

```
vfloat64m1_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs1, vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                 vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs1, vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                 vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs1, vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                 vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                 vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                 vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   size_t vl);
vfloat16mf4_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                   vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                   size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                   vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  size_t vl);
vfloat16m1_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                  vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat16m2_t vs1, vfloat16m2_t vs2,
                                  size_t vl);
vfloat16m2_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                  vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub_tumu(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat16m4_t vs1, vfloat16m4_t vs2,
                                  size_t vl);
vfloat16m4_t __riscv_vfnmsub_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                  vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub_tumu(vbool2_t vm, vfloat16m8_t vd,
                                  vfloat16m8_t vs1, vfloat16m8_t vs2,
                                  size_t vl);
vfloat16m8_t __riscv_vfnmsub_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                  vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                   vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs1, vfloat32m1_t vs2,
                                  size_t vl);
vfloat32m1_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                  vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs1, vfloat32m2_t vs2,
                                  size_t vl);
vfloat32m2_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                  vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs1, vfloat32m4_t vs2,
                                  size_t vl);
vfloat32m4_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                  vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsub_tumu(vbool4_t vm, vfloat32m8_t vd,
```

```
                                vfloat32m8_t vs1, vfloat32m8_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfnmsub_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs1, vfloat64m1_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2,
                                size_t vl);
vfloat64m2_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat64m8_t vd,
                                vfloat64m8_t vs1, vfloat64m8_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                               size_t vl);
vfloat16mf4_t __riscv_vfmacc_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                               vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmacc_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                               size_t vl);
vfloat16mf2_t __riscv_vfmacc_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                               vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                              vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmacc_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                              vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                              vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmacc_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                              vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                              vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmacc_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                              vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                              vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmacc_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                              vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmacc_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                               size_t vl);
vfloat32mf2_t __riscv_vfmacc_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                               vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                              vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmacc_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                              vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                              vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmacc_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                              vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                              vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmacc_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
```

```
                                vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmacc_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmacc_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmacc_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmacc_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                               vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmacc_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmacc_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmacc_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmacc_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
```

```
                                vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsac_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                size_t vl);
vfloat16mf4_t __riscv_vfmsac_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsac_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                size_t vl);
vfloat16mf2_t __riscv_vfmsac_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsac_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsac_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsac_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsac_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsac_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfmsac_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsac_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsac_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsac_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsac_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsac_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
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                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsac_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsac_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                               vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsac_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsac_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsac_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsac_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsac_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsac_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
```

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                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsac_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmadd_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                size_t vl);
vfloat16mf4_t __riscv_vfmadd_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmadd_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                size_t vl);
vfloat16mf2_t __riscv_vfmadd_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmadd_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmadd_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmadd_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmadd_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmadd_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfmadd_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmadd_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmadd_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmadd_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmadd_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmadd_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmadd_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmadd_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmadd_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmadd_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
```

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                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmadd_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vfnmadd_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmadd_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmadd_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmadd_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmadd_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmadd_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmadd_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfnmadd_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmadd_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmadd_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmadd_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmadd_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmadd_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmadd_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmadd_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmadd_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
```

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                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmsub_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                size_t vl);
vfloat16mf4_t __riscv_vfmsub_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfmsub_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                size_t vl);
vfloat16mf2_t __riscv_vfmsub_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfmsub_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfmsub_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfmsub_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfmsub_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfmsub_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfmsub_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfmsub_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfmsub_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfmsub_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfmsub_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                               vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfmsub_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                               vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfmsub_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                               vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfmsub_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                               vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfmsub_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                               vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 size_t vl);
```

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vfloat16mf4_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfnmsub_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat16m8_t __riscv_vfnmsub_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsub_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat32m8_t __riscv_vfnmsub_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m1_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m4_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat64m8_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfmacc_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmacc_tu(vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_tu(vfloat16mf2_t vd, _Float16 rs1,
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                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tu(vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tu(vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfnmacc_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
```

```
vfloat16m1_t __riscv_vfnmacc_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_tu(vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_tu(vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                               unsigned int frm, size_t vl);
```

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vfloat16m4_t __riscv_vfmsac_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf4_t __riscv_vfnmsac_tu(vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tu(vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfnmsac_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
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                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_tu(vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_tu(vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
```

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                                vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tu(vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tu(vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfnmadd_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
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                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_tu(vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_tu(vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, unsigned int frm, size_t vl);
```

```
vfloat32m2_t __riscv_vfmsub_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf4_t __riscv_vfnmsub_tu(vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tu(vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfnmsub_tu(vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_tu(vfloat16m1_t vd, _Float16 rs1, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_tu(vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_tu(vfloat16m2_t vd, _Float16 rs1, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_tu(vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_tu(vfloat16m4_t vd, _Float16 rs1, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_tu(vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_tu(vfloat16m8_t vd, _Float16 rs1, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tu(vfloat32mf2_t vd, float rs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_tu(vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_tu(vfloat32m1_t vd, float rs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_tu(vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_tu(vfloat32m2_t vd, float rs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
```

```
vfloat32m4_t __riscv_vfnmsub_tu(vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_tu(vfloat32m4_t vd, float rs1, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_tu(vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_tu(vfloat32m8_t vd, float rs1, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_tu(vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_tu(vfloat64m1_t vd, double rs1, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_tu(vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_tu(vfloat64m2_t vd, double rs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_tu(vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_tu(vfloat64m4_t vd, double rs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_tu(vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_tu(vfloat64m8_t vd, double rs1, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmacc_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfmacc_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfmacc_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfmacc_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
```

```
vfloat32m4_t __riscv_vfmacc_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                  vfloat32mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                 vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
```

```
vfloat32m2_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                 vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                 vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                 vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs1, vfloat64m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                 vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs1, vfloat64m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                 vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs1, vfloat64m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                 vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                 vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                 vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfmsac_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfmsac_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfmsac_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
```

```
vfloat32m2_t __riscv_vfmsac_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
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                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
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                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                  vfloat32mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
```

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                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat32m2_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_tum(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs1, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, unsigned int frm,
                                size_t vl);
vfloat16mf2_t __riscv_vfmadd_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat16m1_t __riscv_vfmadd_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, unsigned int frm,
                                size_t vl);
```

```
vfloat32m1_t __riscv_vfmadd_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                  vfloat32mf2_t vs2, unsigned int frm,
                                  size_t vl);
```

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vfloat32m1_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                 vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                 vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                 vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                 vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs1, vfloat64m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                 vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs1, vfloat64m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                 vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs1, vfloat64m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                 vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                 vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                 vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfmsub_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfmsub_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
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                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfmsub_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_tum(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_tum(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
```

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                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat32m1_t vd,
                                vfloat32m1_t vs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat32m2_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_tum(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs1, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_tum(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_tum(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_tum(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_tum(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat16m1_t vd,
                                vfloat16m1_t vs1, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
```

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vfloat16m8_t __riscv_vfmacc_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                  vfloat32mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                 vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                 vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                 vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                 vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs1, vfloat64m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                 vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs1, vfloat64m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                 vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs1, vfloat64m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                 vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                 vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                 vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                   vfloat16mf4_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                   unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                   vfloat16mf2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16m1_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                  vfloat16m1_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m2_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat16m2_t vs1, vfloat16m2_t vs2,
```

```
                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, unsigned int frm,
                                size_t vl);
vfloat16m4_t __riscv_vfnmacc_tumu(vbool4_t vm, vfloat16m4_t vd,
                                vfloat16m4_t vs1, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, unsigned int frm,
                                size_t vl);
vfloat16m8_t __riscv_vfnmacc_tumu(vbool2_t vm, vfloat16m8_t vd,
                                vfloat16m8_t vs1, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, unsigned int frm,
                                size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfnmacc_tumu(vbool32_t vm, vfloat32m1_t vd,
                                vfloat32m1_t vs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m2_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat32m2_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m4_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat32m4_t vd,
                                vfloat32m4_t vs1, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m8_t __riscv_vfnmacc_tumu(vbool4_t vm, vfloat32m8_t vd,
                                vfloat32m8_t vs1, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs1, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfnmacc_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
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                                vfloat64m2_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat64m8_t vd,
                                vfloat64m8_t vs1, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
```

```
vfloat64m8_t __riscv_vfnmacc_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                  vfloat64m8_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16mf4_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16mf2_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                 vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                  vfloat32mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                 vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                 vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                 vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                 vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs1, vfloat64m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                 vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs1, vfloat64m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                 vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat64m4_t vd,
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                                vfloat64m4_t vs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                   vfloat16mf4_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                   unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                   vfloat16mf2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16m1_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                  vfloat16m1_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m2_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat16m2_t vs1, vfloat16m2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                  vfloat16m2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m4_t __riscv_vfnmsac_tumu(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat16m4_t vs1, vfloat16m4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                  vfloat16m4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m8_t __riscv_vfnmsac_tumu(vbool2_t vm, vfloat16m8_t vd,
                                  vfloat16m8_t vs1, vfloat16m8_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                  vfloat16m8_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                   unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                   vfloat32mf2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs1, vfloat32m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                  vfloat32m1_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m2_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs1, vfloat32m2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                  vfloat32m2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m4_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs1, vfloat32m4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                  vfloat32m4_t vs2, unsigned int frm,
```

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                                size_t vl);
vfloat32m8_t __riscv_vfnmsac_tumu(vbool4_t vm, vfloat32m8_t vd,
                                vfloat32m8_t vs1, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs1, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat64m8_t vd,
                                vfloat64m8_t vs1, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm,
                                size_t vl);
vfloat16mf4_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, unsigned int frm,
                                size_t vl);
vfloat16mf2_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat16m1_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat16m1_t vd,
                               vfloat16m1_t vs1, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmadd_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat32m1_t vd,
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                                vfloat32m1_t vs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat32m2_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs1, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                 vfloat16m1_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m2_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat16m2_t vd,
                                 vfloat16m2_t vs1, vfloat16m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                 vfloat16m2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m4_t __riscv_vfnmadd_tumu(vbool4_t vm, vfloat16m4_t vd,
                                 vfloat16m4_t vs1, vfloat16m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmadd_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                 vfloat16m4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m8_t __riscv_vfnmadd_tumu(vbool2_t vm, vfloat16m8_t vd,
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                                vfloat16m8_t vs1, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, unsigned int frm,
                                size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat32m1_t vd,
                                vfloat32m1_t vs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m2_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat32m2_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m4_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat32m4_t vd,
                                vfloat32m4_t vs1, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m8_t __riscv_vfnmadd_tumu(vbool4_t vm, vfloat32m8_t vd,
                                vfloat32m8_t vs1, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmadd_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs1, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmadd_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmadd_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat64m8_t vd,
                                vfloat64m8_t vs1, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm,
                                size_t vl);
vfloat16mf4_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, unsigned int frm,
                                size_t vl);
vfloat16mf2_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
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                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat16m1_t vd,
                                vfloat16m1_t vs1, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat32m1_t vd,
                                vfloat32m1_t vs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat32m2_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs1, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
```

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vfloat16mf4_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                   vfloat16mf4_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                   unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                   vfloat16mf2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16m1_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                  vfloat16m1_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m2_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat16m2_t vs1, vfloat16m2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                  vfloat16m2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m4_t __riscv_vfnmsub_tumu(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat16m4_t vs1, vfloat16m4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_tumu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                  vfloat16m4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m8_t __riscv_vfnmsub_tumu(vbool2_t vm, vfloat16m8_t vd,
                                  vfloat16m8_t vs1, vfloat16m8_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_tumu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                  vfloat16m8_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                   unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                   vfloat32mf2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs1, vfloat32m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                  vfloat32m1_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m2_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs1, vfloat32m2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                  vfloat32m2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m4_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs1, vfloat32m4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                  vfloat32m4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m8_t __riscv_vfnmsub_tumu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs1, vfloat32m8_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_tumu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                  vfloat32m8_t vs2, unsigned int frm,
                                  size_t vl);
vfloat64m1_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs1, vfloat64m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_tumu(vbool64_t vm, vfloat64m1_t vd, double rs1,
```

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                                vfloat64m1_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs1, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_tumu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs1, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_tumu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat64m8_t vd,
                                vfloat64m8_t vs1, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_tumu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm,
                                size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmacc_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                               unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmacc_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                               vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmacc_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                               vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                              vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmacc_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                              vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                              vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmacc_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                              vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                              vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmacc_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                              vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                              vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmacc_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                              vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmacc_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                               vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                              vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmacc_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                              vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                              vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmacc_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                              vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                              vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmacc_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                              vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                              vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmacc_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
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                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmacc_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmacc_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmacc_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                               vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmacc_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmacc_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmacc_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmacc_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
```

```
vfloat64m1_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmacc_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmacc_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmacc_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmacc_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsac_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsac_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsac_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsac_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsac_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsac_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsac_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsac_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                               vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsac_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                               vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsac_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                               vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsac_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                               vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsac_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
```

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vfloat64m2_t __riscv_vfmsac_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsac_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsac_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                               vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsac_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfnmsac_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsac_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsac_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsac_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsac_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
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                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsac_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsac_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
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                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsac_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsac_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsac_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmadd_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmadd_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmadd_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
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                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
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                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
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                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
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                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
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                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
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                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmadd_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmadd_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmadd_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                               vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmadd_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                               vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmadd_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                               vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmadd_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                               vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmadd_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmadd_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
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                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmadd_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                               vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmadd_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
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                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmadd_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
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vfloat16mf4_t __riscv_vfnmadd_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
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                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
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                                 vfloat16mf2_t vs2, unsigned int frm,
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                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
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                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
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                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
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                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmadd_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmadd_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfnmadd_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
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                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmadd_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
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                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
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                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
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vfloat64m2_t __riscv_vfnmadd_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmadd_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
```

```
vfloat64m4_t __riscv_vfnmadd_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmadd_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfmsub_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfmsub_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfmsub_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfmsub_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfmsub_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfmsub_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                               vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfmsub_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfmsub_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                               vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfmsub_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                               vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfmsub_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                               vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                               vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfmsub_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                               vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfmsub_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                               vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfmsub_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                               vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                               vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfmsub_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                               vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfmsub_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
```

```
vfloat64m8_t __riscv_vfmsub_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
                               vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat16mf4_t vd, _Float16 rs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat16mf2_t vd, _Float16 rs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat16m1_t vd, _Float16 rs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat16m2_t vd, _Float16 rs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfnmsub_mu(vbool4_t vm, vfloat16m4_t vd, _Float16 rs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfnmsub_mu(vbool2_t vm, vfloat16m8_t vd, _Float16 rs1,
                                vfloat16m8_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat32mf2_t vd, float rs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat32m1_t vd, float rs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat32m2_t vd, float rs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat32m4_t vd, float rs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfnmsub_mu(vbool4_t vm, vfloat32m8_t vd, float rs1,
                                vfloat32m8_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfnmsub_mu(vbool64_t vm, vfloat64m1_t vd, double rs1,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfnmsub_mu(vbool32_t vm, vfloat64m2_t vd, double rs1,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfnmsub_mu(vbool16_t vm, vfloat64m4_t vd, double rs1,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs1,
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfnmsub_mu(vbool8_t vm, vfloat64m8_t vd, double rs1,
```

```
                                vfloat64m8_t vs2, unsigned int frm, size_t vl);
```

D.5.6. Vector Widening Floating-Point Fused Multiply-Add Intrinsics

```
vfloat32mf2_t __riscv_vfwmacc_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_tu(vfloat32mf2_t vd, _Float16 vs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc_tu(vfloat32m1_t vd, _Float16 vs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc_tu(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
                                size_t vl);
vfloat32m4_t __riscv_vfwmacc_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc_tu(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfwmacc_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc_tu(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfwmacc_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmacc_tu(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat64m2_t __riscv_vfwmacc_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc_tu(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfwmacc_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc_tu(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfwmacc_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc_tu(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_tu(vfloat32mf2_t vd, _Float16 vs1,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tu(vfloat32m1_t vd, _Float16 vs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                 vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tu(vfloat32m2_t vd, _Float16 vs1,
                                 vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tu(vfloat32m4_t vd, _Float16 vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tu(vfloat32m8_t vd, _Float16 vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_tu(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
```

```
                                vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tu(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tu(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tu(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tu(vfloat32mf2_t vd, _Float16 vs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmsac_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                               vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmsac_tu(vfloat32m1_t vd, _Float16 vs1,
                               vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac_tu(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
                               size_t vl);
vfloat32m4_t __riscv_vfwmsac_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac_tu(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                               size_t vl);
vfloat32m8_t __riscv_vfwmsac_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac_tu(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
                               size_t vl);
vfloat64m1_t __riscv_vfwmsac_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                               vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmsac_tu(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                               size_t vl);
vfloat64m2_t __riscv_vfwmsac_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac_tu(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                               size_t vl);
vfloat64m4_t __riscv_vfwmsac_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac_tu(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                               size_t vl);
vfloat64m8_t __riscv_vfwmsac_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac_tu(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                               size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tu(vfloat32mf2_t vd, _Float16 vs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tu(vfloat32m1_t vd, _Float16 vs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tu(vfloat32m2_t vd, _Float16 vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tu(vfloat32m4_t vd, _Float16 vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tu(vfloat32m8_t vd, _Float16 vs1,
                                vfloat16m4_t vs2, size_t vl);
```

```
vfloat64m1_t __riscv_vfwnmsac_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_tu(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                 vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tu(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                                 size_t vl);
vfloat64m4_t __riscv_vfwnmsac_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                 vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_tu(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                                 size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tu(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                                 size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfwmacc_tum(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 size_t vl);
vfloat32m1_t __riscv_vfwmacc_tum(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc_tum(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc_tum(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                 vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc_tum(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc_tum(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc_tum(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc_tum(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmacc_tum(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat64m1_t __riscv_vfwmacc_tum(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc_tum(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc_tum(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                 vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc_tum(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc_tum(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                 vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc_tum(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc_tum(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_tum(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                   vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tum(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tum(vbool16_t vm, vfloat32m2_t vd,
```

```
                                vfloat16m1_t vs1, vfloat16m1_t vs2,
                                size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tum(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tum(vbool8_t vm, vfloat32m4_t vd,
                                vfloat16m2_t vs1, vfloat16m2_t vs2,
                                size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tum(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tum(vbool4_t vm, vfloat32m8_t vd,
                                vfloat16m4_t vs1, vfloat16m4_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tum(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_tum(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfwnmacc_tum(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tum(vbool32_t vm, vfloat64m2_t vd,
                                vfloat32m1_t vs1, vfloat32m1_t vs2,
                                size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tum(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tum(vbool16_t vm, vfloat64m4_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tum(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tum(vbool8_t vm, vfloat64m8_t vd,
                                vfloat32m4_t vs1, vfloat32m4_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tum(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tum(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmsac_tum(vbool32_t vm, vfloat32m1_t vd,
                               vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                               size_t vl);
vfloat32m1_t __riscv_vfwmsac_tum(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                               vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac_tum(vbool16_t vm, vfloat32m2_t vd,
                               vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac_tum(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                               vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac_tum(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac_tum(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                               vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac_tum(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac_tum(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                               vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmsac_tum(vbool64_t vm, vfloat64m1_t vd,
                               vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                               size_t vl);
vfloat64m1_t __riscv_vfwmsac_tum(vbool64_t vm, vfloat64m1_t vd, float vs1,
                               vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac_tum(vbool32_t vm, vfloat64m2_t vd,
                               vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac_tum(vbool32_t vm, vfloat64m2_t vd, float vs1,
                               vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac_tum(vbool16_t vm, vfloat64m4_t vd,
                               vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
```

```
vfloat64m4_t __riscv_vfwmsac_tum(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                 vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac_tum(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac_tum(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tum(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                   vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tum(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tum(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                  vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tum(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs1, vfloat16m2_t vs2,
                                  size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tum(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                  vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tum(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs1, vfloat16m4_t vs2,
                                  size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tum(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                  vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_tum(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  size_t vl);
vfloat64m1_t __riscv_vfwnmsac_tum(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tum(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs1, vfloat32m1_t vs2,
                                  size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tum(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                  vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs1, vfloat32m2_t vs2,
                                  size_t vl);
vfloat64m4_t __riscv_vfwnmsac_tum(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                  vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs1, vfloat32m4_t vs2,
                                  size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tum(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                  vfloat32m4_t vs2, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwmacc_tumu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                   vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  size_t vl);
vfloat32m1_t __riscv_vfwmacc_tumu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  size_t vl);
vfloat32m2_t __riscv_vfwmacc_tumu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                  vfloat16m1_t vs2, size_t vl);
```

```
vfloat32m4_t __riscv_vfwmacc_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs1, vfloat16m2_t vs2,
                                  size_t vl);
vfloat32m4_t __riscv_vfwmacc_tumu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                  vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc_tumu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs1, vfloat16m4_t vs2,
                                  size_t vl);
vfloat32m8_t __riscv_vfwmacc_tumu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                  vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmacc_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  size_t vl);
vfloat64m1_t __riscv_vfwmacc_tumu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc_tumu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs1, vfloat32m1_t vs2,
                                  size_t vl);
vfloat64m2_t __riscv_vfwmacc_tumu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                  vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs1, vfloat32m2_t vs2,
                                  size_t vl);
vfloat64m4_t __riscv_vfwmacc_tumu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                  vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs1, vfloat32m4_t vs2,
                                  size_t vl);
vfloat64m8_t __riscv_vfwmacc_tumu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                  vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                    size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    _Float16 vs1, vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                   size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tumu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                   vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs1, vfloat16m1_t vs2,
                                   size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tumu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                   vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat16m2_t vs1, vfloat16m2_t vs2,
                                   size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tumu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                   vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat16m4_t vs1, vfloat16m4_t vs2,
                                   size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tumu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                   vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                   size_t vl);
vfloat64m1_t __riscv_vfwnmacc_tumu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                   vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat32m1_t vs1, vfloat32m1_t vs2,
                                   size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tumu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                   vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tumu(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat32m2_t vs1, vfloat32m2_t vs2,
```

```
                                    size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tumu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs1, vfloat32m4_t vs2,
                                    size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tumu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                    vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                    size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tumu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                    vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmsac_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                   size_t vl);
vfloat32m1_t __riscv_vfwmsac_tumu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                   vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs1, vfloat16m1_t vs2,
                                   size_t vl);
vfloat32m2_t __riscv_vfwmsac_tumu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                   vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat16m2_t vs1, vfloat16m2_t vs2,
                                   size_t vl);
vfloat32m4_t __riscv_vfwmsac_tumu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                   vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat16m4_t vs1, vfloat16m4_t vs2,
                                   size_t vl);
vfloat32m8_t __riscv_vfwmsac_tumu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                   vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmsac_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                   size_t vl);
vfloat64m1_t __riscv_vfwmsac_tumu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                   vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat32m1_t vs1, vfloat32m1_t vs2,
                                   size_t vl);
vfloat64m2_t __riscv_vfwmsac_tumu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                   vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac_tumu(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat32m2_t vs1, vfloat32m2_t vs2,
                                   size_t vl);
vfloat64m4_t __riscv_vfwmsac_tumu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                   vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac_tumu(vbool8_t vm, vfloat64m8_t vd,
                                   vfloat32m4_t vs1, vfloat32m4_t vs2,
                                   size_t vl);
vfloat64m8_t __riscv_vfwmsac_tumu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                   vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                     size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                     _Float16 vs1, vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tumu(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                    size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tumu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                    vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tumu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat16m1_t vs1, vfloat16m1_t vs2,
                                    size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tumu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
```

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                                    vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tumu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat16m2_t vs1, vfloat16m2_t vs2,
                                    size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tumu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                    vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tumu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat16m4_t vs1, vfloat16m4_t vs2,
                                    size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tumu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                    vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                    size_t vl);
vfloat64m1_t __riscv_vfwnmsac_tumu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                    vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs1, vfloat32m1_t vs2,
                                    size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tumu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                    vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs1, vfloat32m2_t vs2,
                                    size_t vl);
vfloat64m4_t __riscv_vfwnmsac_tumu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                    vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs1, vfloat32m4_t vs2,
                                    size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tumu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                    vfloat32m4_t vs2, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfwmacc_mu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmacc_mu(vbool32_t vm, vfloat32m1_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                size_t vl);
vfloat32m1_t __riscv_vfwmacc_mu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc_mu(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmacc_mu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmacc_mu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmacc_mu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmacc_mu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfwmacc_mu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc_mu(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmacc_mu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc_mu(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmacc_mu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                vfloat32m2_t vs2, size_t vl);
```

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vfloat64m8_t __riscv_vfwmacc_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmacc_mu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_mu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_mu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 size_t vl);
vfloat32m1_t __riscv_vfwnmacc_mu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_mu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_mu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                 vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_mu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_mu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_mu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat64m1_t __riscv_vfwnmacc_mu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_mu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_mu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                 vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_mu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_mu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                 vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_mu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfwmsac_mu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwmsac_mu(vbool32_t vm, vfloat32m1_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                size_t vl);
vfloat32m1_t __riscv_vfwmsac_mu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac_mu(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwmsac_mu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwmsac_mu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwmsac_mu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwmsac_mu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
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                                size_t vl);
vfloat64m1_t __riscv_vfwmsac_mu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac_mu(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwmsac_mu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac_mu(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwmsac_mu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwmsac_mu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_mu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_mu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 size_t vl);
vfloat32m1_t __riscv_vfwnmsac_mu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_mu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_mu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                 vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_mu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                 vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_mu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                 vfloat16m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_mu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 size_t vl);
vfloat64m1_t __riscv_vfwnmsac_mu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_mu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_mu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                 vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_mu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_mu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                 vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_mu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                 vfloat32m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32mf2_t __riscv_vfwmacc_tu(vfloat32mf2_t vd, _Float16 vs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfwmacc_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_tu(vfloat32m1_t vd, _Float16 vs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_tu(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
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                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_tu(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_tu(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_tu(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_tu(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_tu(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_tu(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_tu(vfloat32mf2_t vd, _Float16 vs1,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tu(vfloat32m1_t vd, _Float16 vs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                 vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tu(vfloat32m2_t vd, _Float16 vs1,
                                 vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tu(vfloat32m4_t vd, _Float16 vs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tu(vfloat32m8_t vd, _Float16 vs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat64m1_t __riscv_vfwnmacc_tu(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                                 vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tu(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                 vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tu(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tu(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
```

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                                vfloat16mf4_t vs2, unsigned int frm,
                                size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tu(vfloat32mf2_t vd, _Float16 vs1,
                                vfloat16mf4_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfwmsac_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                               vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_tu(vfloat32m1_t vd, _Float16 vs1,
                               vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_tu(vfloat32m2_t vd, _Float16 vs1, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_tu(vfloat32m4_t vd, _Float16 vs1, vfloat16m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_tu(vfloat32m8_t vd, _Float16 vs1, vfloat16m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                               vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_tu(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
                               vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_tu(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                               vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_tu(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                               vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_tu(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tu(vfloat32mf2_t vd, vfloat16mf4_t vs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tu(vfloat32mf2_t vd, _Float16 vs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tu(vfloat32m1_t vd, vfloat16mf2_t vs1,
                                vfloat16mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tu(vfloat32m1_t vd, _Float16 vs1,
                                vfloat16mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tu(vfloat32m2_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tu(vfloat32m2_t vd, _Float16 vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tu(vfloat32m4_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tu(vfloat32m4_t vd, _Float16 vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tu(vfloat32m8_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tu(vfloat32m8_t vd, _Float16 vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_tu(vfloat64m1_t vd, vfloat32mf2_t vs1,
                                vfloat32mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfwnmsac_tu(vfloat64m1_t vd, float vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tu(vfloat64m2_t vd, vfloat32m1_t vs1,
```

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                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tu(vfloat64m2_t vd, float vs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_tu(vfloat64m4_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_tu(vfloat64m4_t vd, float vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tu(vfloat64m8_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tu(vfloat64m8_t vd, float vs1, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_tum(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfwmacc_tum(vbool32_t vm, vfloat32m1_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_tum(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                vfloat16mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m2_t __riscv_vfwmacc_tum(vbool16_t vm, vfloat32m2_t vd,
                                vfloat16m1_t vs1, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_tum(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_tum(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_tum(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_tum(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_tum(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_tum(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_tum(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                vfloat32mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfwmacc_tum(vbool32_t vm, vfloat64m2_t vd,
                                vfloat32m1_t vs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_tum(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_tum(vbool16_t vm, vfloat64m4_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_tum(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_tum(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_tum(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_tum(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                   vfloat16mf4_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tum(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
```

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                                vfloat16mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tum(vbool16_t vm, vfloat32m2_t vd,
                                vfloat16m1_t vs1, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tum(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                vfloat16m1_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tum(vbool8_t vm, vfloat32m4_t vd,
                                vfloat16m2_t vs1, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tum(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                vfloat16m2_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tum(vbool4_t vm, vfloat32m8_t vd,
                                vfloat16m4_t vs1, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tum(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                vfloat16m4_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfwnmacc_tum(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_tum(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                vfloat32mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tum(vbool32_t vm, vfloat64m2_t vd,
                                vfloat32m1_t vs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tum(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                vfloat32m1_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tum(vbool16_t vm, vfloat64m4_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tum(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                vfloat32m2_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tum(vbool8_t vm, vfloat64m8_t vd,
                                vfloat32m4_t vs1, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tum(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                vfloat32m4_t vs2, unsigned int frm,
                                size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tum(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                vfloat16mf4_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfwmsac_tum(vbool32_t vm, vfloat32m1_t vd,
                               vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_tum(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                               vfloat16mf2_t vs2, unsigned int frm,
                               size_t vl);
vfloat32m2_t __riscv_vfwmsac_tum(vbool16_t vm, vfloat32m2_t vd,
                               vfloat16m1_t vs1, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_tum(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_tum(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_tum(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_tum(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
```

```
vfloat32m8_t __riscv_vfwmsac_tum(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_tum(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_tum(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat64m2_t __riscv_vfwmsac_tum(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_tum(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                 vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_tum(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_tum(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                 vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_tum(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_tum(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tum(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                   vfloat16mf4_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tum(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tum(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                  vfloat16m1_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tum(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs1, vfloat16m2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tum(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                  vfloat16m2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tum(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs1, vfloat16m4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tum(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                  vfloat16m4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat64m1_t __riscv_vfwnmsac_tum(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_tum(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                  vfloat32mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tum(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs1, vfloat32m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tum(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                  vfloat32m1_t vs2, unsigned int frm,
                                  size_t vl);
vfloat64m4_t __riscv_vfwnmsac_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs1, vfloat32m2_t vs2,
                                  unsigned int frm, size_t vl);
```

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vfloat64m4_t __riscv_vfwnmsac_tum(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                  vfloat32m2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs1, vfloat32m4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tum(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                  vfloat32m4_t vs2, unsigned int frm,
                                  size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_tumu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                   vfloat16mf4_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwmacc_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_tumu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m2_t __riscv_vfwmacc_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_tumu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                  vfloat16m1_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m4_t __riscv_vfwmacc_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs1, vfloat16m2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_tumu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                  vfloat16m2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m8_t __riscv_vfwmacc_tumu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs1, vfloat16m4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_tumu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                  vfloat16m4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat64m1_t __riscv_vfwmacc_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_tumu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                  vfloat32mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat64m2_t __riscv_vfwmacc_tumu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs1, vfloat32m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_tumu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                  vfloat32m1_t vs2, unsigned int frm,
                                  size_t vl);
vfloat64m4_t __riscv_vfwmacc_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs1, vfloat32m2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_tumu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                  vfloat32m2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat64m8_t __riscv_vfwmacc_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs1, vfloat32m4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_tumu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                  vfloat32m4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                    unsigned int frm, size_t vl);
```

```
vfloat32mf2_t __riscv_vfwnmacc_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    _Float16 vs1, vfloat16mf4_t vs2,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                   unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_tumu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                   vfloat16mf2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs1, vfloat16m1_t vs2,
                                   unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_tumu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                   vfloat16m1_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat16m2_t vs1, vfloat16m2_t vs2,
                                   unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_tumu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                   vfloat16m2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat16m4_t vs1, vfloat16m4_t vs2,
                                   unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_tumu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                   vfloat16m4_t vs2, unsigned int frm,
                                   size_t vl);
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                                   vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                   unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_tumu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                   vfloat32mf2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat32m1_t vs1, vfloat32m1_t vs2,
                                   unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_tumu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                   vfloat32m1_t vs2, unsigned int frm,
                                   size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tumu(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat32m2_t vs1, vfloat32m2_t vs2,
                                   unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_tumu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                   vfloat32m2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tumu(vbool8_t vm, vfloat64m8_t vd,
                                   vfloat32m4_t vs1, vfloat32m4_t vs2,
                                   unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_tumu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                   vfloat32m4_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                   unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_tumu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                   vfloat16mf4_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwmsac_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_tumu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m2_t __riscv_vfwmsac_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs1, vfloat16m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_tumu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
```

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                                vfloat16m1_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m4_t __riscv_vfwmsac_tumu(vbool8_t vm, vfloat32m4_t vd,
                                vfloat16m2_t vs1, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_tumu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                vfloat16m2_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m8_t __riscv_vfwmsac_tumu(vbool4_t vm, vfloat32m8_t vd,
                                vfloat16m4_t vs1, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
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                                vfloat16m4_t vs2, unsigned int frm,
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                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_tumu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                vfloat32mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfwmsac_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat32m1_t vs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
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                                vfloat32m1_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m4_t __riscv_vfwmsac_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
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                                vfloat32m2_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m8_t __riscv_vfwmsac_tumu(vbool8_t vm, vfloat64m8_t vd,
                                vfloat32m4_t vs1, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_tumu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                vfloat32m4_t vs2, unsigned int frm,
                                size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  _Float16 vs1, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_tumu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_tumu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                 vfloat16m1_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tumu(vbool8_t vm, vfloat32m4_t vd,
                                 vfloat16m2_t vs1, vfloat16m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_tumu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                 vfloat16m2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tumu(vbool4_t vm, vfloat32m8_t vd,
                                 vfloat16m4_t vs1, vfloat16m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_tumu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                 vfloat16m4_t vs2, unsigned int frm,
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                                    size_t vl);
vfloat64m1_t __riscv_vfwnmsac_tumu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_tumu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                    vfloat32mf2_t vs2, unsigned int frm,
                                    size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tumu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat32m1_t vs1, vfloat32m1_t vs2,
                                    unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_tumu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                    vfloat32m1_t vs2, unsigned int frm,
                                    size_t vl);
vfloat64m4_t __riscv_vfwnmsac_tumu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat32m2_t vs1, vfloat32m2_t vs2,
                                    unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_tumu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                    vfloat32m2_t vs2, unsigned int frm,
                                    size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat32m4_t vs1, vfloat32m4_t vs2,
                                    unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_tumu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                    vfloat32m4_t vs2, unsigned int frm,
                                    size_t vl);
// masked functions
vfloat32mf2_t __riscv_vfwmacc_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmacc_mu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfwmacc_mu(vbool32_t vm, vfloat32m1_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmacc_mu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_mu(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmacc_mu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmacc_mu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmacc_mu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_mu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmacc_mu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_mu(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmacc_mu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_mu(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmacc_mu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmacc_mu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_mu(vbool64_t vm, vfloat32mf2_t vd,
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                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmacc_mu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                vfloat16mf4_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfwnmacc_mu(vbool32_t vm, vfloat32m1_t vd,
                                vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmacc_mu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                vfloat16mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m2_t __riscv_vfwnmacc_mu(vbool16_t vm, vfloat32m2_t vd,
                                vfloat16m1_t vs1, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmacc_mu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmacc_mu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmacc_mu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_mu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmacc_mu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                vfloat32mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat64m2_t __riscv_vfwnmacc_mu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat32m1_t vs1, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmacc_mu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_mu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat32m2_t vs1, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmacc_mu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmacc_mu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwmsac_mu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                vfloat16mf4_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfwmsac_mu(vbool32_t vm, vfloat32m1_t vd,
                               vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwmsac_mu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                               vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_mu(vbool16_t vm, vfloat32m2_t vd, vfloat16m1_t vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwmsac_mu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                               vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwmsac_mu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                               vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwmsac_mu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                               vfloat16m4_t vs2, unsigned int frm, size_t vl);
```

```
vfloat64m1_t __riscv_vfwmsac_mu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwmsac_mu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_mu(vbool32_t vm, vfloat64m2_t vd, vfloat32m1_t vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwmsac_mu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_mu(vbool16_t vm, vfloat64m4_t vd, vfloat32m2_t vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwmsac_mu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwmsac_mu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs1, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfwnmsac_mu(vbool64_t vm, vfloat32mf2_t vd, _Float16 vs1,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfwnmsac_mu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat16mf2_t vs1, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwnmsac_mu(vbool32_t vm, vfloat32m1_t vd, _Float16 vs1,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m2_t __riscv_vfwnmsac_mu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat16m1_t vs1, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfwnmsac_mu(vbool16_t vm, vfloat32m2_t vd, _Float16 vs1,
                                 vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfwnmsac_mu(vbool8_t vm, vfloat32m4_t vd, _Float16 vs1,
                                 vfloat16m2_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfwnmsac_mu(vbool4_t vm, vfloat32m8_t vd, _Float16 vs1,
                                 vfloat16m4_t vs2, unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_mu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat32mf2_t vs1, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwnmsac_mu(vbool64_t vm, vfloat64m1_t vd, float vs1,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat64m2_t __riscv_vfwnmsac_mu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat32m1_t vs1, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfwnmsac_mu(vbool32_t vm, vfloat64m2_t vd, float vs1,
                                 vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_mu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat32m2_t vs1, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfwnmsac_mu(vbool16_t vm, vfloat64m4_t vd, float vs1,
                                 vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfwnmsac_mu(vbool8_t vm, vfloat64m8_t vd, float vs1,
                                 vfloat32m4_t vs2, unsigned int frm, size_t vl);
```

D.5.7. Vector Floating-Point Square-Root Intrinsics

```
vfloat16mf4_t __riscv_vfsqrt_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfsqrt_tu(vfloat16m1_t vd, vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfsqrt_tu(vfloat16m2_t vd, vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfsqrt_tu(vfloat16m4_t vd, vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfsqrt_tu(vfloat16m8_t vd, vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfsqrt_tu(vfloat32m1_t vd, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfsqrt_tu(vfloat32m2_t vd, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfsqrt_tu(vfloat32m4_t vd, vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfsqrt_tu(vfloat32m8_t vd, vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfsqrt_tu(vfloat64m1_t vd, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfsqrt_tu(vfloat64m2_t vd, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfsqrt_tu(vfloat64m4_t vd, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfsqrt_tu(vfloat64m8_t vd, vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfsqrt_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                size_t vl);
vfloat16m2_t __riscv_vfsqrt_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                size_t vl);
vfloat16m4_t __riscv_vfsqrt_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                size_t vl);
vfloat16m8_t __riscv_vfsqrt_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfsqrt_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfsqrt_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                size_t vl);
vfloat32m2_t __riscv_vfsqrt_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                size_t vl);
vfloat32m4_t __riscv_vfsqrt_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfsqrt_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfsqrt_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                size_t vl);
vfloat64m2_t __riscv_vfsqrt_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfsqrt_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfsqrt_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfsqrt_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfsqrt_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 size_t vl);
vfloat16m4_t __riscv_vfsqrt_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 size_t vl);
vfloat16m8_t __riscv_vfsqrt_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfsqrt_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfsqrt_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfsqrt_tumu(vbool16_t vm, vfloat32m2_t vd,
```

```
                                vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfsqrt_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfsqrt_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfsqrt_tumu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfsqrt_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfsqrt_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfsqrt_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfsqrt_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              size_t vl);
vfloat16m2_t __riscv_vfsqrt_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              size_t vl);
vfloat16m4_t __riscv_vfsqrt_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              size_t vl);
vfloat16m8_t __riscv_vfsqrt_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              size_t vl);
vfloat32mf2_t __riscv_vfsqrt_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfsqrt_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              size_t vl);
vfloat32m2_t __riscv_vfsqrt_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              size_t vl);
vfloat32m4_t __riscv_vfsqrt_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              size_t vl);
vfloat32m8_t __riscv_vfsqrt_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              size_t vl);
vfloat64m1_t __riscv_vfsqrt_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              size_t vl);
vfloat64m2_t __riscv_vfsqrt_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              size_t vl);
vfloat64m4_t __riscv_vfsqrt_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              size_t vl);
vfloat64m8_t __riscv_vfsqrt_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              size_t vl);
vfloat16mf4_t __riscv_vfsqrt_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsqrt_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsqrt_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsqrt_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                              unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsqrt_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsqrt_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsqrt_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsqrt_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsqrt_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsqrt_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
```

```
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsqrt_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsqrt_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsqrt_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                               unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfsqrt_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfsqrt_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsqrt_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsqrt_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsqrt_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfsqrt_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsqrt_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsqrt_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsqrt_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsqrt_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsqrt_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsqrt_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsqrt_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16mf2_t __riscv_vfsqrt_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfsqrt_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsqrt_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsqrt_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsqrt_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfsqrt_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsqrt_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsqrt_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsqrt_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 unsigned int frm, size_t vl);
```

```
vfloat64m1_t __riscv_vfsqrt_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsqrt_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsqrt_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsqrt_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsqrt_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfsqrt_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfsqrt_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfsqrt_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfsqrt_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfsqrt_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfsqrt_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfsqrt_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfsqrt_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfsqrt_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfsqrt_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfsqrt_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfsqrt_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfsqrt_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfsqrt_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               unsigned int frm, size_t vl);
```

D.5.8. Vector Floating-Point Reciprocal Square-Root Estimate Intrinsics

```
vfloat16mf4_t __riscv_vfrsqrt7_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                  size_t vl);
vfloat16m1_t __riscv_vfrsqrt7_tu(vfloat16m1_t vd, vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrsqrt7_tu(vfloat16m2_t vd, vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrsqrt7_tu(vfloat16m4_t vd, vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrsqrt7_tu(vfloat16m8_t vd, vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                  size_t vl);
vfloat32m1_t __riscv_vfrsqrt7_tu(vfloat32m1_t vd, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrsqrt7_tu(vfloat32m2_t vd, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrsqrt7_tu(vfloat32m4_t vd, vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrsqrt7_tu(vfloat32m8_t vd, vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrsqrt7_tu(vfloat64m1_t vd, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrsqrt7_tu(vfloat64m2_t vd, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrsqrt7_tu(vfloat64m4_t vd, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrsqrt7_tu(vfloat64m8_t vd, vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrsqrt7_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat16mf2_t vs2, size_t vl);
```

```
vfloat16m1_t __riscv_vfrsqrt7_tum(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrsqrt7_tum(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrsqrt7_tum(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrsqrt7_tum(vbool2_t vm, vfloat16m8_t vd,
                                  vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrsqrt7_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrsqrt7_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrsqrt7_tum(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrsqrt7_tum(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrsqrt7_tum(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrsqrt7_tum(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrsqrt7_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrsqrt7_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrsqrt7_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrsqrt7_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrsqrt7_tumu(vbool8_t vm, vfloat16m2_t vd,
                                   vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrsqrt7_tumu(vbool4_t vm, vfloat16m4_t vd,
                                   vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrsqrt7_tumu(vbool2_t vm, vfloat16m8_t vd,
                                   vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrsqrt7_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrsqrt7_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrsqrt7_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrsqrt7_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrsqrt7_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrsqrt7_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrsqrt7_tumu(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrsqrt7_tumu(vbool8_t vm, vfloat64m8_t vd,
                                   vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrsqrt7_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrsqrt7_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrsqrt7_mu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrsqrt7_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 size_t vl);
vfloat16m4_t __riscv_vfrsqrt7_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
```

```
                                size_t vl);
vfloat16m8_t __riscv_vfrsqrt7_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfrsqrt7_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrsqrt7_mu(vbool32_t vm, vfloat32m1_t vd,
                                vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrsqrt7_mu(vbool16_t vm, vfloat32m2_t vd,
                                vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrsqrt7_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfrsqrt7_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfrsqrt7_mu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrsqrt7_mu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrsqrt7_mu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrsqrt7_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                size_t vl);
```

[[policy-variant-overloaded#1410-vector-floating-point-reciprocal-estimate]] ==== Vector Floating-Point Reciprocal Estimate Intrinsics

```
vfloat16mf4_t __riscv_vfrec7_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrec7_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrec7_tu(vfloat16m1_t vd, vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrec7_tu(vfloat16m2_t vd, vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfrec7_tu(vfloat16m4_t vd, vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfrec7_tu(vfloat16m8_t vd, vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfrec7_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrec7_tu(vfloat32m1_t vd, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrec7_tu(vfloat32m2_t vd, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrec7_tu(vfloat32m4_t vd, vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfrec7_tu(vfloat32m8_t vd, vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfrec7_tu(vfloat64m1_t vd, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrec7_tu(vfloat64m2_t vd, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrec7_tu(vfloat64m4_t vd, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrec7_tu(vfloat64m8_t vd, vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrec7_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrec7_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               size_t vl);
vfloat16m2_t __riscv_vfrec7_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               size_t vl);
vfloat16m4_t __riscv_vfrec7_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               size_t vl);
vfloat16m8_t __riscv_vfrec7_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               size_t vl);
vfloat32mf2_t __riscv_vfrec7_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrec7_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               size_t vl);
vfloat32m2_t __riscv_vfrec7_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               size_t vl);
vfloat32m4_t __riscv_vfrec7_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               size_t vl);
vfloat32m8_t __riscv_vfrec7_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               size_t vl);
vfloat64m1_t __riscv_vfrec7_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               size_t vl);
```

```
vfloat64m2_t __riscv_vfrec7_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfrec7_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfrec7_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrec7_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrec7_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfrec7_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 size_t vl);
vfloat16m4_t __riscv_vfrec7_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 size_t vl);
vfloat16m8_t __riscv_vfrec7_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfrec7_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrec7_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfrec7_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfrec7_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 size_t vl);
vfloat32m8_t __riscv_vfrec7_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 size_t vl);
vfloat64m1_t __riscv_vfrec7_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfrec7_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfrec7_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfrec7_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfrec7_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfrec7_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               size_t vl);
vfloat16m2_t __riscv_vfrec7_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               size_t vl);
vfloat16m4_t __riscv_vfrec7_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               size_t vl);
vfloat16m8_t __riscv_vfrec7_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               size_t vl);
vfloat32mf2_t __riscv_vfrec7_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfrec7_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               size_t vl);
vfloat32m2_t __riscv_vfrec7_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               size_t vl);
vfloat32m4_t __riscv_vfrec7_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               size_t vl);
vfloat32m8_t __riscv_vfrec7_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               size_t vl);
vfloat64m1_t __riscv_vfrec7_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               size_t vl);
vfloat64m2_t __riscv_vfrec7_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               size_t vl);
vfloat64m4_t __riscv_vfrec7_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               size_t vl);
vfloat64m8_t __riscv_vfrec7_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
```

```
                                size_t vl);
vfloat16mf4_t __riscv_vfrec7_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrec7_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrec7_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrec7_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrec7_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrec7_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrec7_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrec7_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrec7_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrec7_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrec7_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrec7_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrec7_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrec7_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                               unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrec7_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                               unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfrec7_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfrec7_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrec7_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrec7_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrec7_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrec7_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfrec7_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrec7_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrec7_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrec7_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrec7_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrec7_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrec7_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrec7_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_tumu(vbool64_t vm, vfloat16mf4_t vd,
```

```
                                vfloat16mf4_t vs2, unsigned int frm,
                                size_t vl);
vfloat16mf2_t __riscv_vfrec7_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat16m1_t __riscv_vfrec7_tumu(vbool16_t vm, vfloat16m1_t vd,
                                vfloat16m1_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrec7_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrec7_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrec7_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrec7_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfrec7_tumu(vbool32_t vm, vfloat32m1_t vd,
                                vfloat32m1_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrec7_tumu(vbool16_t vm, vfloat32m2_t vd,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrec7_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrec7_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrec7_tumu(vbool64_t vm, vfloat64m1_t vd,
                                vfloat64m1_t vs2, unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrec7_tumu(vbool32_t vm, vfloat64m2_t vd,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrec7_tumu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrec7_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfrec7_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfrec7_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfrec7_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfrec7_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfrec7_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfrec7_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfrec7_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfrec7_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfrec7_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfrec7_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfrec7_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfrec7_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfrec7_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfrec7_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfrec7_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              unsigned int frm, size_t vl);
```

D.5.9. Vector Floating-Point MIN/MAX Intrinsics

```
vfloat16mf4_t __riscv_vfmin_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmin_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmin_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmin_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmin_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmin_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m2_t __riscv_vfmin_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmin_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m4_t __riscv_vfmin_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmin_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m8_t __riscv_vfmin_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmin_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                              size_t vl);
vfloat32mf2_t __riscv_vfmin_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmin_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                               size_t vl);
vfloat32m1_t __riscv_vfmin_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmin_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                              size_t vl);
vfloat32m2_t __riscv_vfmin_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmin_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                              size_t vl);
vfloat32m4_t __riscv_vfmin_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmin_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                              size_t vl);
vfloat32m8_t __riscv_vfmin_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmin_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                              size_t vl);
vfloat64m1_t __riscv_vfmin_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmin_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                              size_t vl);
vfloat64m2_t __riscv_vfmin_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmin_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                              size_t vl);
vfloat64m4_t __riscv_vfmin_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmin_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                              size_t vl);
vfloat64m8_t __riscv_vfmin_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmin_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                              size_t vl);
vfloat16mf4_t __riscv_vfmax_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmax_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               _Float16 rs1, size_t vl);
```

```
vfloat16mf2_t __riscv_vfmax_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmax_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmax_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmax_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m2_t __riscv_vfmax_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmax_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m4_t __riscv_vfmax_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmax_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                              size_t vl);
vfloat16m8_t __riscv_vfmax_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmax_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                              size_t vl);
vfloat32mf2_t __riscv_vfmax_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                               vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmax_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                               size_t vl);
vfloat32m1_t __riscv_vfmax_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmax_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                              size_t vl);
vfloat32m2_t __riscv_vfmax_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmax_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                              size_t vl);
vfloat32m4_t __riscv_vfmax_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmax_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                              size_t vl);
vfloat32m8_t __riscv_vfmax_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmax_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                              size_t vl);
vfloat64m1_t __riscv_vfmax_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmax_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                              size_t vl);
vfloat64m2_t __riscv_vfmax_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmax_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                              size_t vl);
vfloat64m4_t __riscv_vfmax_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmax_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                              size_t vl);
vfloat64m8_t __riscv_vfmax_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmax_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                              size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmin_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                size_t vl);
vfloat16mf4_t __riscv_vfmin_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmin_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                size_t vl);
vfloat16mf2_t __riscv_vfmin_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
```

```
vfloat16m1_t __riscv_vfmin_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmin_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmin_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmin_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmin_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmin_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmin_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmin_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmin_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfmin_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmin_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmin_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, size_t vl);
vfloat32m2_t __riscv_vfmin_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmin_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, size_t vl);
vfloat32m4_t __riscv_vfmin_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmin_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, size_t vl);
vfloat32m8_t __riscv_vfmin_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmin_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, size_t vl);
vfloat64m1_t __riscv_vfmin_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmin_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, size_t vl);
vfloat64m2_t __riscv_vfmin_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmin_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, size_t vl);
vfloat64m4_t __riscv_vfmin_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmin_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, size_t vl);
vfloat64m8_t __riscv_vfmin_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmin_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, size_t vl);
vfloat16mf4_t __riscv_vfmax_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                size_t vl);
vfloat16mf4_t __riscv_vfmax_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmax_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                size_t vl);
vfloat16mf2_t __riscv_vfmax_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmax_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmax_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, size_t vl);
```

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vfloat16m2_t __riscv_vfmax_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmax_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmax_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmax_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmax_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmax_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmax_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfmax_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmax_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmax_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, size_t vl);
vfloat32m2_t __riscv_vfmax_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmax_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, size_t vl);
vfloat32m4_t __riscv_vfmax_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmax_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, size_t vl);
vfloat32m8_t __riscv_vfmax_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmax_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, size_t vl);
vfloat64m1_t __riscv_vfmax_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmax_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, size_t vl);
vfloat64m2_t __riscv_vfmax_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmax_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, size_t vl);
vfloat64m4_t __riscv_vfmax_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmax_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, size_t vl);
vfloat64m8_t __riscv_vfmax_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmax_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmin_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 size_t vl);
vfloat16mf4_t __riscv_vfmin_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmin_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vfmin_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmin_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmin_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmin_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmin_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
```

```
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmin_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmin_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmin_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmin_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmin_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vfmin_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmin_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmin_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfmin_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmin_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat32m4_t __riscv_vfmin_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmin_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
vfloat32m8_t __riscv_vfmin_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmin_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfmin_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmin_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfmin_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmin_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
vfloat64m4_t __riscv_vfmin_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmin_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
vfloat64m8_t __riscv_vfmin_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmin_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
vfloat16mf4_t __riscv_vfmax_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 size_t vl);
vfloat16mf4_t __riscv_vfmax_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmax_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vfmax_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmax_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmax_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmax_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmax_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmax_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmax_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
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                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmax_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmax_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmax_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vfmax_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmax_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmax_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfmax_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmax_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat32m4_t __riscv_vfmax_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmax_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
vfloat32m8_t __riscv_vfmax_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmax_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfmax_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmax_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfmax_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmax_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
vfloat64m4_t __riscv_vfmax_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmax_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
vfloat64m8_t __riscv_vfmax_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmax_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfmin_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmin_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmin_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmin_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmin_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmin_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmin_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmin_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmin_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmin_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmin_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmin_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              _Float16 rs1, size_t vl);
```

```
vfloat32mf2_t __riscv_vfmin_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmin_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmin_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmin_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              float rs1, size_t vl);
vfloat32m2_t __riscv_vfmin_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmin_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              float rs1, size_t vl);
vfloat32m4_t __riscv_vfmin_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmin_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              float rs1, size_t vl);
vfloat32m8_t __riscv_vfmin_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmin_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              float rs1, size_t vl);
vfloat64m1_t __riscv_vfmin_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmin_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              double rs1, size_t vl);
vfloat64m2_t __riscv_vfmin_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmin_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              double rs1, size_t vl);
vfloat64m4_t __riscv_vfmin_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmin_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              double rs1, size_t vl);
vfloat64m8_t __riscv_vfmin_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmin_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              double rs1, size_t vl);
vfloat16mf4_t __riscv_vfmax_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmax_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmax_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmax_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmax_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmax_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmax_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmax_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmax_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmax_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmax_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmax_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmax_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmax_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmax_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmax_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
```

```
                              float rs1, size_t vl);
vfloat32m2_t __riscv_vfmax_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmax_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              float rs1, size_t vl);
vfloat32m4_t __riscv_vfmax_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmax_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              float rs1, size_t vl);
vfloat32m8_t __riscv_vfmax_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmax_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              float rs1, size_t vl);
vfloat64m1_t __riscv_vfmax_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmax_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              double rs1, size_t vl);
vfloat64m2_t __riscv_vfmax_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmax_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              double rs1, size_t vl);
vfloat64m4_t __riscv_vfmax_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmax_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              double rs1, size_t vl);
vfloat64m8_t __riscv_vfmax_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmax_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              double rs1, size_t vl);
```

D.5.10. Vector Floating-Point Sign-Injection Intrinsics

```
vfloat16mf4_t __riscv_vfsgnj_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnj_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                               size_t vl);
vfloat16m2_t __riscv_vfsgnj_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                               size_t vl);
vfloat16m4_t __riscv_vfsgnj_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                               size_t vl);
vfloat16m8_t __riscv_vfsgnj_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                               size_t vl);
vfloat32mf2_t __riscv_vfsgnj_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                                size_t vl);
vfloat32m1_t __riscv_vfsgnj_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                               size_t vl);
vfloat32m2_t __riscv_vfsgnj_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
```

```
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                               size_t vl);
vfloat32m4_t __riscv_vfsgnj_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                               size_t vl);
vfloat32m8_t __riscv_vfsgnj_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                               size_t vl);
vfloat64m1_t __riscv_vfsgnj_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                               size_t vl);
vfloat64m2_t __riscv_vfsgnj_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                               size_t vl);
vfloat64m4_t __riscv_vfsgnj_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                               size_t vl);
vfloat64m8_t __riscv_vfsgnj_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                               size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                 vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                 vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                                size_t vl);
vfloat16m2_t __riscv_vfsgnjn_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                                size_t vl);
vfloat16m4_t __riscv_vfsgnjn_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                                size_t vl);
vfloat16m8_t __riscv_vfsgnjn_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                 vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                                 size_t vl);
vfloat32m1_t __riscv_vfsgnjn_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                                size_t vl);
vfloat32m2_t __riscv_vfsgnjn_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                                size_t vl);
vfloat32m4_t __riscv_vfsgnjn_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                                size_t vl);
```

```
vfloat32m8_t __riscv_vfsgnjn_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                                size_t vl);
vfloat64m1_t __riscv_vfsgnjn_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                                size_t vl);
vfloat64m2_t __riscv_vfsgnjn_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                                size_t vl);
vfloat64m4_t __riscv_vfsgnjn_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjn_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                                size_t vl);
vfloat64m8_t __riscv_vfsgnjn_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                                size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                 vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                 vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                                size_t vl);
vfloat16m2_t __riscv_vfsgnjx_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                                size_t vl);
vfloat16m4_t __riscv_vfsgnjx_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                                size_t vl);
vfloat16m8_t __riscv_vfsgnjx_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                 vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                                 size_t vl);
vfloat32m1_t __riscv_vfsgnjx_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                                size_t vl);
vfloat32m2_t __riscv_vfsgnjx_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                                size_t vl);
vfloat32m4_t __riscv_vfsgnjx_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                                size_t vl);
vfloat32m8_t __riscv_vfsgnjx_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                                size_t vl);
vfloat64m1_t __riscv_vfsgnjx_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
```

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                                size_t vl);
vfloat64m2_t __riscv_vfsgnjx_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                                size_t vl);
vfloat64m4_t __riscv_vfsgnjx_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                                size_t vl);
vfloat64m8_t __riscv_vfsgnjx_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjx_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                                size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsgnj_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 size_t vl);
vfloat16mf4_t __riscv_vfsgnj_tum(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vfsgnj_tum(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vfsgnj_tum(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
```

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vfloat64m2_t __riscv_vfsgnj_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                  size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                  size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                  size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn_tum(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn_tum(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn_tum(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn_tum(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn_tum(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn_tum(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjn_tum(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
```

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vfloat64m4_t __riscv_vfsgnjn_tum(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                  size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                  size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx_tum(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                  size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx_tum(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx_tum(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx_tum(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx_tum(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx_tum(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx_tum(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx_tum(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx_tum(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx_tum(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjx_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 vfloat64m8_t vs1, size_t vl);
```

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vfloat64m8_t __riscv_vfsgnjx_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsgnj_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                  size_t vl);
vfloat16mf4_t __riscv_vfsgnj_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                  size_t vl);
vfloat16mf2_t __riscv_vfsgnj_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                  size_t vl);
vfloat32mf2_t __riscv_vfsgnj_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_tumu(vbool64_t vm, vfloat16mf4_t vd,
```

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                                  vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                  size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                  size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, vfloat16m1_t vs1,
                                 size_t vl);
vfloat16m1_t __riscv_vfsgnjn_tumu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn_tumu(vbool8_t vm, vfloat16m2_t vd,
                                 vfloat16m2_t vs2, vfloat16m2_t vs1,
                                 size_t vl);
vfloat16m2_t __riscv_vfsgnjn_tumu(vbool8_t vm, vfloat16m2_t vd,
                                 vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn_tumu(vbool4_t vm, vfloat16m4_t vd,
                                 vfloat16m4_t vs2, vfloat16m4_t vs1,
                                 size_t vl);
vfloat16m4_t __riscv_vfsgnjn_tumu(vbool4_t vm, vfloat16m4_t vd,
                                 vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn_tumu(vbool2_t vm, vfloat16m8_t vd,
                                 vfloat16m8_t vs2, vfloat16m8_t vs1,
                                 size_t vl);
vfloat16m8_t __riscv_vfsgnjn_tumu(vbool2_t vm, vfloat16m8_t vd,
                                 vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                  size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, vfloat32m1_t vs1,
                                 size_t vl);
vfloat32m1_t __riscv_vfsgnjn_tumu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, vfloat32m2_t vs1,
                                 size_t vl);
vfloat32m2_t __riscv_vfsgnjn_tumu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn_tumu(vbool8_t vm, vfloat32m4_t vd,
                                 vfloat32m4_t vs2, vfloat32m4_t vs1,
                                 size_t vl);
vfloat32m4_t __riscv_vfsgnjn_tumu(vbool8_t vm, vfloat32m4_t vd,
                                 vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn_tumu(vbool4_t vm, vfloat32m8_t vd,
                                 vfloat32m8_t vs2, vfloat32m8_t vs1,
                                 size_t vl);
vfloat32m8_t __riscv_vfsgnjn_tumu(vbool4_t vm, vfloat32m8_t vd,
                                 vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, vfloat64m1_t vs1,
                                 size_t vl);
vfloat64m1_t __riscv_vfsgnjn_tumu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, vfloat64m2_t vs1,
                                 size_t vl);
vfloat64m2_t __riscv_vfsgnjn_tumu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjn_tumu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, vfloat64m4_t vs1,
                                 size_t vl);
```

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vfloat64m4_t __riscv_vfsgnjn_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, vfloat64m8_t vs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfsgnjn_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                   size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                   size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat16m1_t __riscv_vfsgnjx_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx_tumu(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat16m2_t vs2, vfloat16m2_t vs1,
                                  size_t vl);
vfloat16m2_t __riscv_vfsgnjx_tumu(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx_tumu(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat16m4_t vs2, vfloat16m4_t vs1,
                                  size_t vl);
vfloat16m4_t __riscv_vfsgnjx_tumu(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx_tumu(vbool2_t vm, vfloat16m8_t vd,
                                  vfloat16m8_t vs2, vfloat16m8_t vs1,
                                  size_t vl);
vfloat16m8_t __riscv_vfsgnjx_tumu(vbool2_t vm, vfloat16m8_t vd,
                                  vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                   size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfsgnjx_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, vfloat32m2_t vs1,
                                  size_t vl);
vfloat32m2_t __riscv_vfsgnjx_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, vfloat32m4_t vs1,
                                  size_t vl);
vfloat32m4_t __riscv_vfsgnjx_tumu(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx_tumu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, vfloat32m8_t vs1,
                                  size_t vl);
vfloat32m8_t __riscv_vfsgnjx_tumu(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, vfloat64m1_t vs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfsgnjx_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, double rs1, size_t vl);
```

```
vfloat64m2_t __riscv_vfsgnjx_tumu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, vfloat64m2_t vs1,
                                  size_t vl);
vfloat64m2_t __riscv_vfsgnjx_tumu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, vfloat64m4_t vs1,
                                  size_t vl);
vfloat64m4_t __riscv_vfsgnjx_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjx_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, vfloat64m8_t vs1,
                                  size_t vl);
vfloat64m8_t __riscv_vfsgnjx_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, double rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfsgnj_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                size_t vl);
vfloat16mf4_t __riscv_vfsgnj_mu(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnj_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                size_t vl);
vfloat16mf2_t __riscv_vfsgnj_mu(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnj_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnj_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnj_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnj_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnj_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                size_t vl);
vfloat32mf2_t __riscv_vfsgnj_mu(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnj_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnj_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnj_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnj_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnj_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               double rs1, size_t vl);
```

```
vfloat64m2_t __riscv_vfsgnj_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnj_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnj_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnj_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 size_t vl);
vfloat16mf4_t __riscv_vfsgnjn_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vfsgnjn_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjn_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjn_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjn_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjn_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vfsgnjn_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjn_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjn_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjn_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjn_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjn_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjn_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
```

```
vfloat64m4_t __riscv_vfsgnjn_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjn_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjn_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, vfloat16mf4_t vs1,
                                 size_t vl);
vfloat16mf4_t __riscv_vfsgnjx_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, vfloat16mf2_t vs1,
                                 size_t vl);
vfloat16mf2_t __riscv_vfsgnjx_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfsgnjx_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfsgnjx_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfsgnjx_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfsgnjx_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, vfloat32mf2_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vfsgnjx_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfsgnjx_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                float rs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfsgnjx_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                float rs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfsgnjx_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                float rs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfsgnjx_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                float rs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfsgnjx_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                double rs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfsgnjx_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                double rs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfsgnjx_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                double rs1, size_t vl);
```

```
vfloat64m8_t __riscv_vfsgnjx_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfsgnjx_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                double rs1, size_t vl);
```

D.5.11. Vector Floating-Point Absolute Value Intrinsics

```
vfloat16mf4_t __riscv_vfabs_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfabs_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfabs_tu(vfloat16m1_t vd, vfloat16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfabs_tu(vfloat16m2_t vd, vfloat16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfabs_tu(vfloat16m4_t vd, vfloat16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfabs_tu(vfloat16m8_t vd, vfloat16m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfabs_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfabs_tu(vfloat32m1_t vd, vfloat32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfabs_tu(vfloat32m2_t vd, vfloat32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfabs_tu(vfloat32m4_t vd, vfloat32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfabs_tu(vfloat32m8_t vd, vfloat32m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfabs_tu(vfloat64m1_t vd, vfloat64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfabs_tu(vfloat64m2_t vd, vfloat64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfabs_tu(vfloat64m4_t vd, vfloat64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfabs_tu(vfloat64m8_t vd, vfloat64m8_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfabs_tum(vbool64_t vm, vfloat16mf4_t vd,
                                vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfabs_tum(vbool32_t vm, vfloat16mf2_t vd,
                                vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfabs_tum(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                               size_t vl);
vfloat16m2_t __riscv_vfabs_tum(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                               size_t vl);
vfloat16m4_t __riscv_vfabs_tum(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                               size_t vl);
vfloat16m8_t __riscv_vfabs_tum(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                               size_t vl);
vfloat32mf2_t __riscv_vfabs_tum(vbool64_t vm, vfloat32mf2_t vd,
                                vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfabs_tum(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                               size_t vl);
vfloat32m2_t __riscv_vfabs_tum(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                               size_t vl);
vfloat32m4_t __riscv_vfabs_tum(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                               size_t vl);
vfloat32m8_t __riscv_vfabs_tum(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                               size_t vl);
vfloat64m1_t __riscv_vfabs_tum(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                               size_t vl);
vfloat64m2_t __riscv_vfabs_tum(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                               size_t vl);
vfloat64m4_t __riscv_vfabs_tum(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                               size_t vl);
vfloat64m8_t __riscv_vfabs_tum(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                               size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfabs_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfabs_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfabs_tumu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                                size_t vl);
vfloat16m2_t __riscv_vfabs_tumu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                size_t vl);
vfloat16m4_t __riscv_vfabs_tumu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                size_t vl);
vfloat16m8_t __riscv_vfabs_tumu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
```

```
                                size_t vl);
vfloat32mf2_t __riscv_vfabs_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfabs_tumu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                                size_t vl);
vfloat32m2_t __riscv_vfabs_tumu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                                size_t vl);
vfloat32m4_t __riscv_vfabs_tumu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfabs_tumu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfabs_tumu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                                size_t vl);
vfloat64m2_t __riscv_vfabs_tumu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfabs_tumu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfabs_tumu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfabs_mu(vbool64_t vm, vfloat16mf4_t vd,
                               vfloat16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfabs_mu(vbool32_t vm, vfloat16mf2_t vd,
                               vfloat16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfabs_mu(vbool16_t vm, vfloat16m1_t vd, vfloat16m1_t vs2,
                              size_t vl);
vfloat16m2_t __riscv_vfabs_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                              size_t vl);
vfloat16m4_t __riscv_vfabs_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                              size_t vl);
vfloat16m8_t __riscv_vfabs_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                              size_t vl);
vfloat32mf2_t __riscv_vfabs_mu(vbool64_t vm, vfloat32mf2_t vd,
                               vfloat32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfabs_mu(vbool32_t vm, vfloat32m1_t vd, vfloat32m1_t vs2,
                              size_t vl);
vfloat32m2_t __riscv_vfabs_mu(vbool16_t vm, vfloat32m2_t vd, vfloat32m2_t vs2,
                              size_t vl);
vfloat32m4_t __riscv_vfabs_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                              size_t vl);
vfloat32m8_t __riscv_vfabs_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                              size_t vl);
vfloat64m1_t __riscv_vfabs_mu(vbool64_t vm, vfloat64m1_t vd, vfloat64m1_t vs2,
                              size_t vl);
vfloat64m2_t __riscv_vfabs_mu(vbool32_t vm, vfloat64m2_t vd, vfloat64m2_t vs2,
                              size_t vl);
vfloat64m4_t __riscv_vfabs_mu(vbool16_t vm, vfloat64m4_t vd, vfloat64m4_t vs2,
                              size_t vl);
vfloat64m8_t __riscv_vfabs_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                              size_t vl);
```

D.5.12. Vector Floating-Point Compare Intrinsics

```
// masked functions
vbool64_t __riscv_vmfeq_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                           vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfeq_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                           _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfeq_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                           vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfeq_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                           _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfeq_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
                           vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfeq_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
```

```
                          _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfeq_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                          vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfeq_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                          _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfeq_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                          vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfeq_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                          _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfeq_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                          vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfeq_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                          _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfeq_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
                           vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfeq_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
                           float rs1, size_t vl);
vbool32_t __riscv_vmfeq_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                           vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfeq_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                           float rs1, size_t vl);
vbool16_t __riscv_vmfeq_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                           vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfeq_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                           float rs1, size_t vl);
vbool8_t __riscv_vmfeq_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2,
                          vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfeq_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2, float rs1,
                          size_t vl);
vbool4_t __riscv_vmfeq_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2,
                          vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfeq_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2, float rs1,
                          size_t vl);
vbool64_t __riscv_vmfeq_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                           vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfeq_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                           double rs1, size_t vl);
vbool32_t __riscv_vmfeq_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                           vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfeq_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                           double rs1, size_t vl);
vbool16_t __riscv_vmfeq_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                           vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfeq_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                           double rs1, size_t vl);
vbool8_t __riscv_vmfeq_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                          vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfeq_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                          double rs1, size_t vl);
vbool64_t __riscv_vmfne_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                           vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfne_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                           _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfne_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                           vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfne_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                           _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfne_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
                           vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfne_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
                           _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfne_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                          vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfne_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                          _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfne_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                          vfloat16m4_t vs1, size_t vl);
```

```
vbool4_t __riscv_vmfne_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                          _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfne_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                          vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfne_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                          _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfne_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
                           vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfne_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
                           float rs1, size_t vl);
vbool32_t __riscv_vmfne_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                           vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfne_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                           float rs1, size_t vl);
vbool16_t __riscv_vmfne_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                           vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfne_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                           float rs1, size_t vl);
vbool8_t __riscv_vmfne_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2,
                          vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfne_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2, float rs1,
                          size_t vl);
vbool4_t __riscv_vmfne_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2,
                          vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfne_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2, float rs1,
                          size_t vl);
vbool64_t __riscv_vmfne_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                           vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfne_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                           double rs1, size_t vl);
vbool32_t __riscv_vmfne_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                           vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfne_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                           double rs1, size_t vl);
vbool16_t __riscv_vmfne_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                           vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfne_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                           double rs1, size_t vl);
vbool8_t __riscv_vmfne_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                          vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfne_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                          double rs1, size_t vl);
vbool64_t __riscv_vmflt_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                           vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmflt_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                           _Float16 rs1, size_t vl);
vbool32_t __riscv_vmflt_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                           vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmflt_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                           _Float16 rs1, size_t vl);
vbool16_t __riscv_vmflt_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
                           vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmflt_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
                           _Float16 rs1, size_t vl);
vbool8_t __riscv_vmflt_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                          vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmflt_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                          _Float16 rs1, size_t vl);
vbool4_t __riscv_vmflt_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                          vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmflt_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                          _Float16 rs1, size_t vl);
vbool2_t __riscv_vmflt_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                          vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmflt_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                          _Float16 rs1, size_t vl);
vbool64_t __riscv_vmflt_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
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                          vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmflt_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
                          float rs1, size_t vl);
vbool32_t __riscv_vmflt_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                          vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmflt_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                          float rs1, size_t vl);
vbool16_t __riscv_vmflt_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                          vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmflt_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                          float rs1, size_t vl);
vbool8_t __riscv_vmflt_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2,
                         vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmflt_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2, float rs1,
                         size_t vl);
vbool4_t __riscv_vmflt_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2,
                         vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmflt_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2, float rs1,
                         size_t vl);
vbool64_t __riscv_vmflt_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                          vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmflt_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                          double rs1, size_t vl);
vbool32_t __riscv_vmflt_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                          vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmflt_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                          double rs1, size_t vl);
vbool16_t __riscv_vmflt_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                          vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmflt_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                          double rs1, size_t vl);
vbool8_t __riscv_vmflt_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                         vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmflt_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                         double rs1, size_t vl);
vbool64_t __riscv_vmfle_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                          vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfle_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                          _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfle_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                          vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfle_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                          _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfle_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
                          vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfle_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
                          _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfle_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                         vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfle_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                         _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfle_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                         vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfle_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                         _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfle_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                         vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfle_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                         _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfle_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
                          vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfle_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
                          float rs1, size_t vl);
vbool32_t __riscv_vmfle_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                          vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfle_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                          float rs1, size_t vl);
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vbool16_t __riscv_vmfle_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                           vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfle_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                           float rs1, size_t vl);
vbool8_t __riscv_vmfle_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2,
                          vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfle_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2, float rs1,
                          size_t vl);
vbool4_t __riscv_vmfle_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2,
                          vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfle_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2, float rs1,
                          size_t vl);
vbool64_t __riscv_vmfle_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                           vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfle_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                           double rs1, size_t vl);
vbool32_t __riscv_vmfle_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                           vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfle_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                           double rs1, size_t vl);
vbool16_t __riscv_vmfle_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                           vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfle_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                           double rs1, size_t vl);
vbool8_t __riscv_vmfle_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                          vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfle_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                          double rs1, size_t vl);
vbool64_t __riscv_vmfgt_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                           vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfgt_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                           _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfgt_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                           vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfgt_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                           _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfgt_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
                           vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfgt_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
                           _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfgt_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                          vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfgt_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                          _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfgt_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                          vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfgt_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                          _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfgt_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                          vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfgt_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                          _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfgt_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
                           vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfgt_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
                           float rs1, size_t vl);
vbool32_t __riscv_vmfgt_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                           vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfgt_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                           float rs1, size_t vl);
vbool16_t __riscv_vmfgt_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                           vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfgt_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                           float rs1, size_t vl);
vbool8_t __riscv_vmfgt_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2,
                          vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfgt_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2, float rs1,
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                          size_t vl);
vbool4_t __riscv_vmfgt_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2,
                          vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfgt_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2, float rs1,
                          size_t vl);
vbool64_t __riscv_vmfgt_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                           vfloat64m1_t vs1, size_t vl);
vbool64_t __riscv_vmfgt_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                           double rs1, size_t vl);
vbool32_t __riscv_vmfgt_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                           vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfgt_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                           double rs1, size_t vl);
vbool16_t __riscv_vmfgt_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                           vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfgt_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                           double rs1, size_t vl);
vbool8_t __riscv_vmfgt_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                          vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfgt_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                          double rs1, size_t vl);
vbool64_t __riscv_vmfge_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                           vfloat16mf4_t vs1, size_t vl);
vbool64_t __riscv_vmfge_mu(vbool64_t vm, vbool64_t vd, vfloat16mf4_t vs2,
                           _Float16 rs1, size_t vl);
vbool32_t __riscv_vmfge_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                           vfloat16mf2_t vs1, size_t vl);
vbool32_t __riscv_vmfge_mu(vbool32_t vm, vbool32_t vd, vfloat16mf2_t vs2,
                           _Float16 rs1, size_t vl);
vbool16_t __riscv_vmfge_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
                           vfloat16m1_t vs1, size_t vl);
vbool16_t __riscv_vmfge_mu(vbool16_t vm, vbool16_t vd, vfloat16m1_t vs2,
                           _Float16 rs1, size_t vl);
vbool8_t __riscv_vmfge_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                          vfloat16m2_t vs1, size_t vl);
vbool8_t __riscv_vmfge_mu(vbool8_t vm, vbool8_t vd, vfloat16m2_t vs2,
                          _Float16 rs1, size_t vl);
vbool4_t __riscv_vmfge_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                          vfloat16m4_t vs1, size_t vl);
vbool4_t __riscv_vmfge_mu(vbool4_t vm, vbool4_t vd, vfloat16m4_t vs2,
                          _Float16 rs1, size_t vl);
vbool2_t __riscv_vmfge_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                          vfloat16m8_t vs1, size_t vl);
vbool2_t __riscv_vmfge_mu(vbool2_t vm, vbool2_t vd, vfloat16m8_t vs2,
                          _Float16 rs1, size_t vl);
vbool64_t __riscv_vmfge_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
                           vfloat32mf2_t vs1, size_t vl);
vbool64_t __riscv_vmfge_mu(vbool64_t vm, vbool64_t vd, vfloat32mf2_t vs2,
                           float rs1, size_t vl);
vbool32_t __riscv_vmfge_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                           vfloat32m1_t vs1, size_t vl);
vbool32_t __riscv_vmfge_mu(vbool32_t vm, vbool32_t vd, vfloat32m1_t vs2,
                           float rs1, size_t vl);
vbool16_t __riscv_vmfge_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                           vfloat32m2_t vs1, size_t vl);
vbool16_t __riscv_vmfge_mu(vbool16_t vm, vbool16_t vd, vfloat32m2_t vs2,
                           float rs1, size_t vl);
vbool8_t __riscv_vmfge_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2,
                          vfloat32m4_t vs1, size_t vl);
vbool8_t __riscv_vmfge_mu(vbool8_t vm, vbool8_t vd, vfloat32m4_t vs2, float rs1,
                          size_t vl);
vbool4_t __riscv_vmfge_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2,
                          vfloat32m8_t vs1, size_t vl);
vbool4_t __riscv_vmfge_mu(vbool4_t vm, vbool4_t vd, vfloat32m8_t vs2, float rs1,
                          size_t vl);
vbool64_t __riscv_vmfge_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                           vfloat64m1_t vs1, size_t vl);
```

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vbool64_t __riscv_vmfge_mu(vbool64_t vm, vbool64_t vd, vfloat64m1_t vs2,
                           double rs1, size_t vl);
vbool32_t __riscv_vmfge_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                           vfloat64m2_t vs1, size_t vl);
vbool32_t __riscv_vmfge_mu(vbool32_t vm, vbool32_t vd, vfloat64m2_t vs2,
                           double rs1, size_t vl);
vbool16_t __riscv_vmfge_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                           vfloat64m4_t vs1, size_t vl);
vbool16_t __riscv_vmfge_mu(vbool16_t vm, vbool16_t vd, vfloat64m4_t vs2,
                           double rs1, size_t vl);
vbool8_t __riscv_vmfge_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                          vfloat64m8_t vs1, size_t vl);
vbool8_t __riscv_vmfge_mu(vbool8_t vm, vbool8_t vd, vfloat64m8_t vs2,
                          double rs1, size_t vl);
```

D.5.13. Vector Floating-Point Classify Intrinsics

```
vuint16mf4_t __riscv_vfclass_tu(vuint16mf4_t vd, vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfclass_tu(vuint16mf2_t vd, vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfclass_tu(vuint16m1_t vd, vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfclass_tu(vuint16m2_t vd, vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfclass_tu(vuint16m4_t vd, vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfclass_tu(vuint16m8_t vd, vfloat16m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfclass_tu(vuint32mf2_t vd, vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfclass_tu(vuint32m1_t vd, vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfclass_tu(vuint32m2_t vd, vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfclass_tu(vuint32m4_t vd, vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfclass_tu(vuint32m8_t vd, vfloat32m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfclass_tu(vuint64m1_t vd, vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfclass_tu(vuint64m2_t vd, vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfclass_tu(vuint64m4_t vd, vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfclass_tu(vuint64m8_t vd, vfloat64m8_t vs2, size_t vl);
// masked functions
vuint16mf4_t __riscv_vfclass_tum(vbool64_t vm, vuint16mf4_t vd,
                                 vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfclass_tum(vbool32_t vm, vuint16mf2_t vd,
                                 vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfclass_tum(vbool16_t vm, vuint16m1_t vd, vfloat16m1_t vs2,
                                size_t vl);
vuint16m2_t __riscv_vfclass_tum(vbool8_t vm, vuint16m2_t vd, vfloat16m2_t vs2,
                                size_t vl);
vuint16m4_t __riscv_vfclass_tum(vbool4_t vm, vuint16m4_t vd, vfloat16m4_t vs2,
                                size_t vl);
vuint16m8_t __riscv_vfclass_tum(vbool2_t vm, vuint16m8_t vd, vfloat16m8_t vs2,
                                size_t vl);
vuint32mf2_t __riscv_vfclass_tum(vbool64_t vm, vuint32mf2_t vd,
                                 vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfclass_tum(vbool32_t vm, vuint32m1_t vd, vfloat32m1_t vs2,
                                size_t vl);
vuint32m2_t __riscv_vfclass_tum(vbool16_t vm, vuint32m2_t vd, vfloat32m2_t vs2,
                                size_t vl);
vuint32m4_t __riscv_vfclass_tum(vbool8_t vm, vuint32m4_t vd, vfloat32m4_t vs2,
                                size_t vl);
vuint32m8_t __riscv_vfclass_tum(vbool4_t vm, vuint32m8_t vd, vfloat32m8_t vs2,
                                size_t vl);
vuint64m1_t __riscv_vfclass_tum(vbool64_t vm, vuint64m1_t vd, vfloat64m1_t vs2,
                                size_t vl);
vuint64m2_t __riscv_vfclass_tum(vbool32_t vm, vuint64m2_t vd, vfloat64m2_t vs2,
                                size_t vl);
vuint64m4_t __riscv_vfclass_tum(vbool16_t vm, vuint64m4_t vd, vfloat64m4_t vs2,
                                size_t vl);
vuint64m8_t __riscv_vfclass_tum(vbool8_t vm, vuint64m8_t vd, vfloat64m8_t vs2,
                                size_t vl);
// masked functions
vuint16mf4_t __riscv_vfclass_tumu(vbool64_t vm, vuint16mf4_t vd,
```

```
                                vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfclass_tumu(vbool32_t vm, vuint16mf2_t vd,
                                vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfclass_tumu(vbool16_t vm, vuint16m1_t vd, vfloat16m1_t vs2,
                                size_t vl);
vuint16m2_t __riscv_vfclass_tumu(vbool8_t vm, vuint16m2_t vd, vfloat16m2_t vs2,
                                size_t vl);
vuint16m4_t __riscv_vfclass_tumu(vbool4_t vm, vuint16m4_t vd, vfloat16m4_t vs2,
                                size_t vl);
vuint16m8_t __riscv_vfclass_tumu(vbool2_t vm, vuint16m8_t vd, vfloat16m8_t vs2,
                                size_t vl);
vuint32mf2_t __riscv_vfclass_tumu(vbool64_t vm, vuint32mf2_t vd,
                                vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfclass_tumu(vbool32_t vm, vuint32m1_t vd, vfloat32m1_t vs2,
                                size_t vl);
vuint32m2_t __riscv_vfclass_tumu(vbool16_t vm, vuint32m2_t vd, vfloat32m2_t vs2,
                                size_t vl);
vuint32m4_t __riscv_vfclass_tumu(vbool8_t vm, vuint32m4_t vd, vfloat32m4_t vs2,
                                size_t vl);
vuint32m8_t __riscv_vfclass_tumu(vbool4_t vm, vuint32m8_t vd, vfloat32m8_t vs2,
                                size_t vl);
vuint64m1_t __riscv_vfclass_tumu(vbool64_t vm, vuint64m1_t vd, vfloat64m1_t vs2,
                                size_t vl);
vuint64m2_t __riscv_vfclass_tumu(vbool32_t vm, vuint64m2_t vd, vfloat64m2_t vs2,
                                size_t vl);
vuint64m4_t __riscv_vfclass_tumu(vbool16_t vm, vuint64m4_t vd, vfloat64m4_t vs2,
                                size_t vl);
vuint64m8_t __riscv_vfclass_tumu(vbool8_t vm, vuint64m8_t vd, vfloat64m8_t vs2,
                                size_t vl);
// masked functions
vuint16mf4_t __riscv_vfclass_mu(vbool64_t vm, vuint16mf4_t vd,
                               vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfclass_mu(vbool32_t vm, vuint16mf2_t vd,
                               vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfclass_mu(vbool16_t vm, vuint16m1_t vd, vfloat16m1_t vs2,
                              size_t vl);
vuint16m2_t __riscv_vfclass_mu(vbool8_t vm, vuint16m2_t vd, vfloat16m2_t vs2,
                              size_t vl);
vuint16m4_t __riscv_vfclass_mu(vbool4_t vm, vuint16m4_t vd, vfloat16m4_t vs2,
                              size_t vl);
vuint16m8_t __riscv_vfclass_mu(vbool2_t vm, vuint16m8_t vd, vfloat16m8_t vs2,
                              size_t vl);
vuint32mf2_t __riscv_vfclass_mu(vbool64_t vm, vuint32mf2_t vd,
                               vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfclass_mu(vbool32_t vm, vuint32m1_t vd, vfloat32m1_t vs2,
                              size_t vl);
vuint32m2_t __riscv_vfclass_mu(vbool16_t vm, vuint32m2_t vd, vfloat32m2_t vs2,
                              size_t vl);
vuint32m4_t __riscv_vfclass_mu(vbool8_t vm, vuint32m4_t vd, vfloat32m4_t vs2,
                              size_t vl);
vuint32m8_t __riscv_vfclass_mu(vbool4_t vm, vuint32m8_t vd, vfloat32m8_t vs2,
                              size_t vl);
vuint64m1_t __riscv_vfclass_mu(vbool64_t vm, vuint64m1_t vd, vfloat64m1_t vs2,
                              size_t vl);
vuint64m2_t __riscv_vfclass_mu(vbool32_t vm, vuint64m2_t vd, vfloat64m2_t vs2,
                              size_t vl);
vuint64m4_t __riscv_vfclass_mu(vbool16_t vm, vuint64m4_t vd, vfloat64m4_t vs2,
                              size_t vl);
vuint64m8_t __riscv_vfclass_mu(vbool8_t vm, vuint64m8_t vd, vfloat64m8_t vs2,
                              size_t vl);
```

D.5.14. Vector Floating-Point Merge Intrinsics

```
vfloat16mf4_t __riscv_vmerge_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                               vfloat16mf4_t vs1, vbool64_t v0, size_t vl);
```

```
vfloat16mf4_t __riscv_vfmerge_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                 _Float16 rs1, vbool64_t v0, size_t vl);
vfloat16mf2_t __riscv_vmerge_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                vfloat16mf2_t vs1, vbool32_t v0, size_t vl);
vfloat16mf2_t __riscv_vfmerge_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                 _Float16 rs1, vbool32_t v0, size_t vl);
vfloat16m1_t __riscv_vmerge_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                               vfloat16m1_t vs1, vbool16_t v0, size_t vl);
vfloat16m1_t __riscv_vfmerge_tu(vfloat16m1_t vd, vfloat16m1_t vs2, _Float16 rs1,
                                vbool16_t v0, size_t vl);
vfloat16m2_t __riscv_vmerge_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                               vfloat16m2_t vs1, vbool8_t v0, size_t vl);
vfloat16m2_t __riscv_vfmerge_tu(vfloat16m2_t vd, vfloat16m2_t vs2, _Float16 rs1,
                                vbool8_t v0, size_t vl);
vfloat16m4_t __riscv_vmerge_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                               vfloat16m4_t vs1, vbool4_t v0, size_t vl);
vfloat16m4_t __riscv_vfmerge_tu(vfloat16m4_t vd, vfloat16m4_t vs2, _Float16 rs1,
                                vbool4_t v0, size_t vl);
vfloat16m8_t __riscv_vmerge_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                               vfloat16m8_t vs1, vbool2_t v0, size_t vl);
vfloat16m8_t __riscv_vfmerge_tu(vfloat16m8_t vd, vfloat16m8_t vs2, _Float16 rs1,
                                vbool2_t v0, size_t vl);
vfloat32mf2_t __riscv_vmerge_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                vfloat32mf2_t vs1, vbool64_t v0, size_t vl);
vfloat32mf2_t __riscv_vfmerge_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2, float rs1,
                                 vbool64_t v0, size_t vl);
vfloat32m1_t __riscv_vmerge_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                               vfloat32m1_t vs1, vbool32_t v0, size_t vl);
vfloat32m1_t __riscv_vfmerge_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                                vbool32_t v0, size_t vl);
vfloat32m2_t __riscv_vmerge_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                               vfloat32m2_t vs1, vbool16_t v0, size_t vl);
vfloat32m2_t __riscv_vfmerge_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                                vbool16_t v0, size_t vl);
vfloat32m4_t __riscv_vmerge_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                               vfloat32m4_t vs1, vbool8_t v0, size_t vl);
vfloat32m4_t __riscv_vfmerge_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                                vbool8_t v0, size_t vl);
vfloat32m8_t __riscv_vmerge_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                               vfloat32m8_t vs1, vbool4_t v0, size_t vl);
vfloat32m8_t __riscv_vfmerge_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                                vbool4_t v0, size_t vl);
vfloat64m1_t __riscv_vmerge_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                               vfloat64m1_t vs1, vbool64_t v0, size_t vl);
vfloat64m1_t __riscv_vfmerge_tu(vfloat64m1_t vd, vfloat64m1_t vs2, double rs1,
                                vbool64_t v0, size_t vl);
vfloat64m2_t __riscv_vmerge_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                               vfloat64m2_t vs1, vbool32_t v0, size_t vl);
vfloat64m2_t __riscv_vfmerge_tu(vfloat64m2_t vd, vfloat64m2_t vs2, double rs1,
                                vbool32_t v0, size_t vl);
vfloat64m4_t __riscv_vmerge_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                               vfloat64m4_t vs1, vbool16_t v0, size_t vl);
vfloat64m4_t __riscv_vfmerge_tu(vfloat64m4_t vd, vfloat64m4_t vs2, double rs1,
                                vbool16_t v0, size_t vl);
vfloat64m8_t __riscv_vmerge_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                               vfloat64m8_t vs1, vbool8_t v0, size_t vl);
vfloat64m8_t __riscv_vfmerge_tu(vfloat64m8_t vd, vfloat64m8_t vs2, double rs1,
                                vbool8_t v0, size_t vl);
```

D.5.15. Vector Floating-Point Move Intrinsics

```
vfloat16mf4_t __riscv_vmv_v_tu(vfloat16mf4_t vd, vfloat16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vfmv_v_tu(vfloat16mf4_t vd, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vmv_v_tu(vfloat16mf2_t vd, vfloat16mf2_t vs1, size_t vl);
vfloat16mf2_t __riscv_vfmv_v_tu(vfloat16mf2_t vd, _Float16 rs1, size_t vl);
```

```
vfloat16m1_t __riscv_vmv_v_tu(vfloat16m1_t vd, vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfmv_v_tu(vfloat16m1_t vd, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vmv_v_tu(vfloat16m2_t vd, vfloat16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vfmv_v_tu(vfloat16m2_t vd, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vmv_v_tu(vfloat16m4_t vd, vfloat16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vfmv_v_tu(vfloat16m4_t vd, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vmv_v_tu(vfloat16m8_t vd, vfloat16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vfmv_v_tu(vfloat16m8_t vd, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vmv_v_tu(vfloat32mf2_t vd, vfloat32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vfmv_v_tu(vfloat32mf2_t vd, float rs1, size_t vl);
vfloat32m1_t __riscv_vmv_v_tu(vfloat32m1_t vd, vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfmv_v_tu(vfloat32m1_t vd, float rs1, size_t vl);
vfloat32m2_t __riscv_vmv_v_tu(vfloat32m2_t vd, vfloat32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vfmv_v_tu(vfloat32m2_t vd, float rs1, size_t vl);
vfloat32m4_t __riscv_vmv_v_tu(vfloat32m4_t vd, vfloat32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vfmv_v_tu(vfloat32m4_t vd, float rs1, size_t vl);
vfloat32m8_t __riscv_vmv_v_tu(vfloat32m8_t vd, vfloat32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vfmv_v_tu(vfloat32m8_t vd, float rs1, size_t vl);
vfloat64m1_t __riscv_vmv_v_tu(vfloat64m1_t vd, vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfmv_v_tu(vfloat64m1_t vd, double rs1, size_t vl);
vfloat64m2_t __riscv_vmv_v_tu(vfloat64m2_t vd, vfloat64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vfmv_v_tu(vfloat64m2_t vd, double rs1, size_t vl);
vfloat64m4_t __riscv_vmv_v_tu(vfloat64m4_t vd, vfloat64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vfmv_v_tu(vfloat64m4_t vd, double rs1, size_t vl);
vfloat64m8_t __riscv_vmv_v_tu(vfloat64m8_t vd, vfloat64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vfmv_v_tu(vfloat64m8_t vd, double rs1, size_t vl);
```

D.5.16. Single-Width Floating-Point/Integer Type-Convert Intrinsics

```
vint16mf4_t __riscv_vfcvt_x_tu(vint16mf4_t vd, vfloat16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x_tu(vint16mf4_t vd, vfloat16mf4_t vs2,
                                   size_t vl);
vint16mf2_t __riscv_vfcvt_x_tu(vint16mf2_t vd, vfloat16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x_tu(vint16mf2_t vd, vfloat16mf2_t vs2,
                                   size_t vl);
vint16m1_t __riscv_vfcvt_x_tu(vint16m1_t vd, vfloat16m1_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x_tu(vint16m1_t vd, vfloat16m1_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_x_tu(vint16m2_t vd, vfloat16m2_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_rtz_x_tu(vint16m2_t vd, vfloat16m2_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_x_tu(vint16m4_t vd, vfloat16m4_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_rtz_x_tu(vint16m4_t vd, vfloat16m4_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_x_tu(vint16m8_t vd, vfloat16m8_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x_tu(vint16m8_t vd, vfloat16m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_tu(vuint16mf4_t vd, vfloat16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu_tu(vuint16mf4_t vd, vfloat16mf4_t vs2,
                                     size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_tu(vuint16mf2_t vd, vfloat16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu_tu(vuint16mf2_t vd, vfloat16mf2_t vs2,
                                     size_t vl);
vuint16m1_t __riscv_vfcvt_xu_tu(vuint16m1_t vd, vfloat16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_rtz_xu_tu(vuint16m1_t vd, vfloat16m1_t vs2,
                                    size_t vl);
vuint16m2_t __riscv_vfcvt_xu_tu(vuint16m2_t vd, vfloat16m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu_tu(vuint16m2_t vd, vfloat16m2_t vs2,
                                    size_t vl);
vuint16m4_t __riscv_vfcvt_xu_tu(vuint16m4_t vd, vfloat16m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu_tu(vuint16m4_t vd, vfloat16m4_t vs2,
                                    size_t vl);
vuint16m8_t __riscv_vfcvt_xu_tu(vuint16m8_t vd, vfloat16m8_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu_tu(vuint16m8_t vd, vfloat16m8_t vs2,
                                    size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_tu(vfloat16mf4_t vd, vint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_tu(vfloat16mf2_t vd, vint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_tu(vfloat16m1_t vd, vint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_tu(vfloat16m2_t vd, vint16m2_t vs2, size_t vl);
```

```
vfloat16m4_t __riscv_vfcvt_f_tu(vfloat16m4_t vd, vint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_tu(vfloat16m8_t vd, vint16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_tu(vfloat16mf4_t vd, vuint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_tu(vfloat16mf2_t vd, vuint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_tu(vfloat16m1_t vd, vuint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_tu(vfloat16m2_t vd, vuint16m2_t vs2, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_tu(vfloat16m4_t vd, vuint16m4_t vs2, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_tu(vfloat16m8_t vd, vuint16m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_x_tu(vint32mf2_t vd, vfloat32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x_tu(vint32mf2_t vd, vfloat32mf2_t vs2,
                                   size_t vl);
vint32m1_t __riscv_vfcvt_x_tu(vint32m1_t vd, vfloat32m1_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x_tu(vint32m1_t vd, vfloat32m1_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_x_tu(vint32m2_t vd, vfloat32m2_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x_tu(vint32m2_t vd, vfloat32m2_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_x_tu(vint32m4_t vd, vfloat32m4_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x_tu(vint32m4_t vd, vfloat32m4_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_x_tu(vint32m8_t vd, vfloat32m8_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x_tu(vint32m8_t vd, vfloat32m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_tu(vuint32mf2_t vd, vfloat32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu_tu(vuint32mf2_t vd, vfloat32mf2_t vs2,
                                     size_t vl);
vuint32m1_t __riscv_vfcvt_xu_tu(vuint32m1_t vd, vfloat32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu_tu(vuint32m1_t vd, vfloat32m1_t vs2,
                                    size_t vl);
vuint32m2_t __riscv_vfcvt_xu_tu(vuint32m2_t vd, vfloat32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu_tu(vuint32m2_t vd, vfloat32m2_t vs2,
                                    size_t vl);
vuint32m4_t __riscv_vfcvt_xu_tu(vuint32m4_t vd, vfloat32m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu_tu(vuint32m4_t vd, vfloat32m4_t vs2,
                                    size_t vl);
vuint32m8_t __riscv_vfcvt_xu_tu(vuint32m8_t vd, vfloat32m8_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu_tu(vuint32m8_t vd, vfloat32m8_t vs2,
                                    size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_tu(vfloat32mf2_t vd, vint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_tu(vfloat32m1_t vd, vint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_tu(vfloat32m2_t vd, vint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_tu(vfloat32m4_t vd, vint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_tu(vfloat32m8_t vd, vint32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_tu(vfloat32mf2_t vd, vuint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_tu(vfloat32m1_t vd, vuint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_tu(vfloat32m2_t vd, vuint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_tu(vfloat32m4_t vd, vuint32m4_t vs2, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_tu(vfloat32m8_t vd, vuint32m8_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_x_tu(vint64m1_t vd, vfloat64m1_t vs2, size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x_tu(vint64m1_t vd, vfloat64m1_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_x_tu(vint64m2_t vd, vfloat64m2_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_rtz_x_tu(vint64m2_t vd, vfloat64m2_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_x_tu(vint64m4_t vd, vfloat64m4_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x_tu(vint64m4_t vd, vfloat64m4_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_x_tu(vint64m8_t vd, vfloat64m8_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x_tu(vint64m8_t vd, vfloat64m8_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_xu_tu(vuint64m1_t vd, vfloat64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu_tu(vuint64m1_t vd, vfloat64m1_t vs2,
                                    size_t vl);
vuint64m2_t __riscv_vfcvt_xu_tu(vuint64m2_t vd, vfloat64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu_tu(vuint64m2_t vd, vfloat64m2_t vs2,
                                    size_t vl);
vuint64m4_t __riscv_vfcvt_xu_tu(vuint64m4_t vd, vfloat64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_rtz_xu_tu(vuint64m4_t vd, vfloat64m4_t vs2,
                                    size_t vl);
vuint64m8_t __riscv_vfcvt_xu_tu(vuint64m8_t vd, vfloat64m8_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu_tu(vuint64m8_t vd, vfloat64m8_t vs2,
                                    size_t vl);
vfloat64m1_t __riscv_vfcvt_f_tu(vfloat64m1_t vd, vint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_tu(vfloat64m2_t vd, vint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_tu(vfloat64m4_t vd, vint64m4_t vs2, size_t vl);
```

```
vfloat64m8_t __riscv_vfcvt_f_tu(vfloat64m8_t vd, vint64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_tu(vfloat64m1_t vd, vuint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_tu(vfloat64m2_t vd, vuint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_tu(vfloat64m4_t vd, vuint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_tu(vfloat64m8_t vd, vuint64m8_t vs2, size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_tum(vbool64_t vm, vint16mf4_t vd, vfloat16mf4_t vs2,
                                size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x_tum(vbool64_t vm, vint16mf4_t vd,
                                    vfloat16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_x_tum(vbool32_t vm, vint16mf2_t vd, vfloat16mf2_t vs2,
                                size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x_tum(vbool32_t vm, vint16mf2_t vd,
                                    vfloat16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_x_tum(vbool16_t vm, vint16m1_t vd, vfloat16m1_t vs2,
                               size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x_tum(vbool16_t vm, vint16m1_t vd,
                                   vfloat16m1_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_x_tum(vbool8_t vm, vint16m2_t vd, vfloat16m2_t vs2,
                               size_t vl);
vint16m2_t __riscv_vfcvt_rtz_x_tum(vbool8_t vm, vint16m2_t vd, vfloat16m2_t vs2,
                                   size_t vl);
vint16m4_t __riscv_vfcvt_x_tum(vbool4_t vm, vint16m4_t vd, vfloat16m4_t vs2,
                               size_t vl);
vint16m4_t __riscv_vfcvt_rtz_x_tum(vbool4_t vm, vint16m4_t vd, vfloat16m4_t vs2,
                                   size_t vl);
vint16m8_t __riscv_vfcvt_x_tum(vbool2_t vm, vint16m8_t vd, vfloat16m8_t vs2,
                               size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x_tum(vbool2_t vm, vint16m8_t vd, vfloat16m8_t vs2,
                                   size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_tum(vbool64_t vm, vuint16mf4_t vd,
                                  vfloat16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu_tum(vbool64_t vm, vuint16mf4_t vd,
                                      vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_tum(vbool32_t vm, vuint16mf2_t vd,
                                  vfloat16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu_tum(vbool32_t vm, vuint16mf2_t vd,
                                      vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_tum(vbool16_t vm, vuint16m1_t vd, vfloat16m1_t vs2,
                                 size_t vl);
vuint16m1_t __riscv_vfcvt_rtz_xu_tum(vbool16_t vm, vuint16m1_t vd,
                                     vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_tum(vbool8_t vm, vuint16m2_t vd, vfloat16m2_t vs2,
                                 size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu_tum(vbool8_t vm, vuint16m2_t vd,
                                     vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_tum(vbool4_t vm, vuint16m4_t vd, vfloat16m4_t vs2,
                                 size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu_tum(vbool4_t vm, vuint16m4_t vd,
                                     vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_tum(vbool2_t vm, vuint16m8_t vd, vfloat16m8_t vs2,
                                 size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu_tum(vbool2_t vm, vuint16m8_t vd,
                                     vfloat16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_tum(vbool16_t vm, vfloat16m1_t vd, vint16m1_t vs2,
                                 size_t vl);
vfloat16m2_t __riscv_vfcvt_f_tum(vbool8_t vm, vfloat16m2_t vd, vint16m2_t vs2,
                                 size_t vl);
vfloat16m4_t __riscv_vfcvt_f_tum(vbool4_t vm, vfloat16m4_t vd, vint16m4_t vs2,
                                 size_t vl);
vfloat16m8_t __riscv_vfcvt_f_tum(vbool2_t vm, vfloat16m8_t vd, vint16m8_t vs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
```

```
                                  vuint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vuint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_tum(vbool16_t vm, vfloat16m1_t vd, vuint16m1_t vs2,
                                 size_t vl);
vfloat16m2_t __riscv_vfcvt_f_tum(vbool8_t vm, vfloat16m2_t vd, vuint16m2_t vs2,
                                 size_t vl);
vfloat16m4_t __riscv_vfcvt_f_tum(vbool4_t vm, vfloat16m4_t vd, vuint16m4_t vs2,
                                 size_t vl);
vfloat16m8_t __riscv_vfcvt_f_tum(vbool2_t vm, vfloat16m8_t vd, vuint16m8_t vs2,
                                 size_t vl);
vint32mf2_t __riscv_vfcvt_x_tum(vbool64_t vm, vint32mf2_t vd, vfloat32mf2_t vs2,
                                size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x_tum(vbool64_t vm, vint32mf2_t vd,
                                    vfloat32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_x_tum(vbool32_t vm, vint32m1_t vd, vfloat32m1_t vs2,
                               size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x_tum(vbool32_t vm, vint32m1_t vd,
                                   vfloat32m1_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_x_tum(vbool16_t vm, vint32m2_t vd, vfloat32m2_t vs2,
                               size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x_tum(vbool16_t vm, vint32m2_t vd,
                                   vfloat32m2_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_x_tum(vbool8_t vm, vint32m4_t vd, vfloat32m4_t vs2,
                               size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x_tum(vbool8_t vm, vint32m4_t vd, vfloat32m4_t vs2,
                                   size_t vl);
vint32m8_t __riscv_vfcvt_x_tum(vbool4_t vm, vint32m8_t vd, vfloat32m8_t vs2,
                               size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x_tum(vbool4_t vm, vint32m8_t vd, vfloat32m8_t vs2,
                                   size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_tum(vbool64_t vm, vuint32mf2_t vd,
                                  vfloat32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu_tum(vbool64_t vm, vuint32mf2_t vd,
                                      vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_tum(vbool32_t vm, vuint32m1_t vd, vfloat32m1_t vs2,
                                 size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu_tum(vbool32_t vm, vuint32m1_t vd,
                                     vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_tum(vbool16_t vm, vuint32m2_t vd, vfloat32m2_t vs2,
                                 size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu_tum(vbool16_t vm, vuint32m2_t vd,
                                     vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_tum(vbool8_t vm, vuint32m4_t vd, vfloat32m4_t vs2,
                                 size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu_tum(vbool8_t vm, vuint32m4_t vd,
                                     vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_tum(vbool4_t vm, vuint32m8_t vd, vfloat32m8_t vs2,
                                 size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu_tum(vbool4_t vm, vuint32m8_t vd,
                                     vfloat32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_tum(vbool32_t vm, vfloat32m1_t vd, vint32m1_t vs2,
                                 size_t vl);
vfloat32m2_t __riscv_vfcvt_f_tum(vbool16_t vm, vfloat32m2_t vd, vint32m2_t vs2,
                                 size_t vl);
vfloat32m4_t __riscv_vfcvt_f_tum(vbool8_t vm, vfloat32m4_t vd, vint32m4_t vs2,
                                 size_t vl);
vfloat32m8_t __riscv_vfcvt_f_tum(vbool4_t vm, vfloat32m8_t vd, vint32m8_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                  vuint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_tum(vbool32_t vm, vfloat32m1_t vd, vuint32m1_t vs2,
                                 size_t vl);
vfloat32m2_t __riscv_vfcvt_f_tum(vbool16_t vm, vfloat32m2_t vd, vuint32m2_t vs2,
                                 size_t vl);
```

```
vfloat32m4_t __riscv_vfcvt_f_tum(vbool8_t vm, vfloat32m4_t vd, vuint32m4_t vs2,
                                 size_t vl);
vfloat32m8_t __riscv_vfcvt_f_tum(vbool4_t vm, vfloat32m8_t vd, vuint32m8_t vs2,
                                 size_t vl);
vint64m1_t __riscv_vfcvt_x_tum(vbool64_t vm, vint64m1_t vd, vfloat64m1_t vs2,
                               size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x_tum(vbool64_t vm, vint64m1_t vd,
                                   vfloat64m1_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_x_tum(vbool32_t vm, vint64m2_t vd, vfloat64m2_t vs2,
                               size_t vl);
vint64m2_t __riscv_vfcvt_rtz_x_tum(vbool32_t vm, vint64m2_t vd,
                                   vfloat64m2_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_x_tum(vbool16_t vm, vint64m4_t vd, vfloat64m4_t vs2,
                               size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x_tum(vbool16_t vm, vint64m4_t vd,
                                   vfloat64m4_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_x_tum(vbool8_t vm, vint64m8_t vd, vfloat64m8_t vs2,
                               size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x_tum(vbool8_t vm, vint64m8_t vd, vfloat64m8_t vs2,
                                   size_t vl);
vuint64m1_t __riscv_vfcvt_xu_tum(vbool64_t vm, vuint64m1_t vd, vfloat64m1_t vs2,
                                 size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu_tum(vbool64_t vm, vuint64m1_t vd,
                                     vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_tum(vbool32_t vm, vuint64m2_t vd, vfloat64m2_t vs2,
                                 size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu_tum(vbool32_t vm, vuint64m2_t vd,
                                     vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_tum(vbool16_t vm, vuint64m4_t vd, vfloat64m4_t vs2,
                                 size_t vl);
vuint64m4_t __riscv_vfcvt_rtz_xu_tum(vbool16_t vm, vuint64m4_t vd,
                                     vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_tum(vbool8_t vm, vuint64m8_t vd, vfloat64m8_t vs2,
                                 size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu_tum(vbool8_t vm, vuint64m8_t vd,
                                     vfloat64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_tum(vbool64_t vm, vfloat64m1_t vd, vint64m1_t vs2,
                                 size_t vl);
vfloat64m2_t __riscv_vfcvt_f_tum(vbool32_t vm, vfloat64m2_t vd, vint64m2_t vs2,
                                 size_t vl);
vfloat64m4_t __riscv_vfcvt_f_tum(vbool16_t vm, vfloat64m4_t vd, vint64m4_t vs2,
                                 size_t vl);
vfloat64m8_t __riscv_vfcvt_f_tum(vbool8_t vm, vfloat64m8_t vd, vint64m8_t vs2,
                                 size_t vl);
vfloat64m1_t __riscv_vfcvt_f_tum(vbool64_t vm, vfloat64m1_t vd, vuint64m1_t vs2,
                                 size_t vl);
vfloat64m2_t __riscv_vfcvt_f_tum(vbool32_t vm, vfloat64m2_t vd, vuint64m2_t vs2,
                                 size_t vl);
vfloat64m4_t __riscv_vfcvt_f_tum(vbool16_t vm, vfloat64m4_t vd, vuint64m4_t vs2,
                                 size_t vl);
vfloat64m8_t __riscv_vfcvt_f_tum(vbool8_t vm, vfloat64m8_t vd, vuint64m8_t vs2,
                                 size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_tumu(vbool64_t vm, vint16mf4_t vd,
                                 vfloat16mf4_t vs2, size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x_tumu(vbool64_t vm, vint16mf4_t vd,
                                     vfloat16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_x_tumu(vbool32_t vm, vint16mf2_t vd,
                                 vfloat16mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x_tumu(vbool32_t vm, vint16mf2_t vd,
                                     vfloat16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_x_tumu(vbool16_t vm, vint16m1_t vd, vfloat16m1_t vs2,
                                size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x_tumu(vbool16_t vm, vint16m1_t vd,
                                    vfloat16m1_t vs2, size_t vl);
vint16m2_t __riscv_vfcvt_x_tumu(vbool8_t vm, vint16m2_t vd, vfloat16m2_t vs2,
                                size_t vl);
```

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vint16m2_t __riscv_vfcvt_rtz_x_tumu(vbool8_t vm, vint16m2_t vd,
                                    vfloat16m2_t vs2, size_t vl);
vint16m4_t __riscv_vfcvt_x_tumu(vbool4_t vm, vint16m4_t vd, vfloat16m4_t vs2,
                                size_t vl);
vint16m4_t __riscv_vfcvt_rtz_x_tumu(vbool4_t vm, vint16m4_t vd,
                                    vfloat16m4_t vs2, size_t vl);
vint16m8_t __riscv_vfcvt_x_tumu(vbool2_t vm, vint16m8_t vd, vfloat16m8_t vs2,
                                size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x_tumu(vbool2_t vm, vint16m8_t vd,
                                    vfloat16m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   vfloat16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                   vfloat16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                       vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_tumu(vbool16_t vm, vuint16m1_t vd,
                                  vfloat16m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_rtz_xu_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_tumu(vbool8_t vm, vuint16m2_t vd, vfloat16m2_t vs2,
                                  size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu_tumu(vbool8_t vm, vuint16m2_t vd,
                                      vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_tumu(vbool4_t vm, vuint16m4_t vd, vfloat16m4_t vs2,
                                  size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu_tumu(vbool4_t vm, vuint16m4_t vd,
                                      vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_tumu(vbool2_t vm, vuint16m8_t vd, vfloat16m8_t vs2,
                                  size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu_tumu(vbool2_t vm, vuint16m8_t vd,
                                      vfloat16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   vint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   vint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_tumu(vbool16_t vm, vfloat16m1_t vd, vint16m1_t vs2,
                                  size_t vl);
vfloat16m2_t __riscv_vfcvt_f_tumu(vbool8_t vm, vfloat16m2_t vd, vint16m2_t vs2,
                                  size_t vl);
vfloat16m4_t __riscv_vfcvt_f_tumu(vbool4_t vm, vfloat16m4_t vd, vint16m4_t vs2,
                                  size_t vl);
vfloat16m8_t __riscv_vfcvt_f_tumu(vbool2_t vm, vfloat16m8_t vd, vint16m8_t vs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                   vuint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                   vuint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_tumu(vbool16_t vm, vfloat16m1_t vd,
                                  vuint16m1_t vs2, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_tumu(vbool8_t vm, vfloat16m2_t vd, vuint16m2_t vs2,
                                  size_t vl);
vfloat16m4_t __riscv_vfcvt_f_tumu(vbool4_t vm, vfloat16m4_t vd, vuint16m4_t vs2,
                                  size_t vl);
vfloat16m8_t __riscv_vfcvt_f_tumu(vbool2_t vm, vfloat16m8_t vd, vuint16m8_t vs2,
                                  size_t vl);
vint32mf2_t __riscv_vfcvt_x_tumu(vbool64_t vm, vint32mf2_t vd,
                                 vfloat32mf2_t vs2, size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x_tumu(vbool64_t vm, vint32mf2_t vd,
                                     vfloat32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_x_tumu(vbool32_t vm, vint32m1_t vd, vfloat32m1_t vs2,
                                size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x_tumu(vbool32_t vm, vint32m1_t vd,
                                    vfloat32m1_t vs2, size_t vl);
vint32m2_t __riscv_vfcvt_x_tumu(vbool16_t vm, vint32m2_t vd, vfloat32m2_t vs2,
```

```
                                  size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x_tumu(vbool16_t vm, vint32m2_t vd,
                                    vfloat32m2_t vs2, size_t vl);
vint32m4_t __riscv_vfcvt_x_tumu(vbool8_t vm, vint32m4_t vd, vfloat32m4_t vs2,
                                  size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x_tumu(vbool8_t vm, vint32m4_t vd,
                                    vfloat32m4_t vs2, size_t vl);
vint32m8_t __riscv_vfcvt_x_tumu(vbool4_t vm, vint32m8_t vd, vfloat32m8_t vs2,
                                  size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x_tumu(vbool4_t vm, vint32m8_t vd,
                                    vfloat32m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                   vfloat32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                       vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_tumu(vbool32_t vm, vuint32m1_t vd,
                                  vfloat32m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu_tumu(vbool32_t vm, vuint32m1_t vd,
                                      vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_tumu(vbool16_t vm, vuint32m2_t vd,
                                  vfloat32m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu_tumu(vbool16_t vm, vuint32m2_t vd,
                                      vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_tumu(vbool8_t vm, vuint32m4_t vd, vfloat32m4_t vs2,
                                  size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu_tumu(vbool8_t vm, vuint32m4_t vd,
                                      vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_tumu(vbool4_t vm, vuint32m8_t vd, vfloat32m8_t vs2,
                                  size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu_tumu(vbool4_t vm, vuint32m8_t vd,
                                      vfloat32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_tumu(vbool32_t vm, vfloat32m1_t vd, vint32m1_t vs2,
                                  size_t vl);
vfloat32m2_t __riscv_vfcvt_f_tumu(vbool16_t vm, vfloat32m2_t vd, vint32m2_t vs2,
                                  size_t vl);
vfloat32m4_t __riscv_vfcvt_f_tumu(vbool8_t vm, vfloat32m4_t vd, vint32m4_t vs2,
                                  size_t vl);
vfloat32m8_t __riscv_vfcvt_f_tumu(vbool4_t vm, vfloat32m8_t vd, vint32m8_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                   vuint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_tumu(vbool32_t vm, vfloat32m1_t vd,
                                  vuint32m1_t vs2, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_tumu(vbool16_t vm, vfloat32m2_t vd,
                                  vuint32m2_t vs2, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_tumu(vbool8_t vm, vfloat32m4_t vd, vuint32m4_t vs2,
                                  size_t vl);
vfloat32m8_t __riscv_vfcvt_f_tumu(vbool4_t vm, vfloat32m8_t vd, vuint32m8_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vfcvt_x_tumu(vbool64_t vm, vint64m1_t vd, vfloat64m1_t vs2,
                                size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x_tumu(vbool64_t vm, vint64m1_t vd,
                                    vfloat64m1_t vs2, size_t vl);
vint64m2_t __riscv_vfcvt_x_tumu(vbool32_t vm, vint64m2_t vd, vfloat64m2_t vs2,
                                size_t vl);
vint64m2_t __riscv_vfcvt_rtz_x_tumu(vbool32_t vm, vint64m2_t vd,
                                    vfloat64m2_t vs2, size_t vl);
vint64m4_t __riscv_vfcvt_x_tumu(vbool16_t vm, vint64m4_t vd, vfloat64m4_t vs2,
                                size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x_tumu(vbool16_t vm, vint64m4_t vd,
                                    vfloat64m4_t vs2, size_t vl);
vint64m8_t __riscv_vfcvt_x_tumu(vbool8_t vm, vint64m8_t vd, vfloat64m8_t vs2,
                                size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x_tumu(vbool8_t vm, vint64m8_t vd,
                                    vfloat64m8_t vs2, size_t vl);
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vuint64m1_t __riscv_vfcvt_xu_tumu(vbool64_t vm, vuint64m1_t vd,
                                  vfloat64m1_t vs2, size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu_tumu(vbool64_t vm, vuint64m1_t vd,
                                      vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_tumu(vbool32_t vm, vuint64m2_t vd,
                                  vfloat64m2_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu_tumu(vbool32_t vm, vuint64m2_t vd,
                                      vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_tumu(vbool16_t vm, vuint64m4_t vd,
                                  vfloat64m4_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_rtz_xu_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_tumu(vbool8_t vm, vuint64m8_t vd, vfloat64m8_t vs2,
                                  size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vfloat64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_tumu(vbool64_t vm, vfloat64m1_t vd, vint64m1_t vs2,
                                  size_t vl);
vfloat64m2_t __riscv_vfcvt_f_tumu(vbool32_t vm, vfloat64m2_t vd, vint64m2_t vs2,
                                  size_t vl);
vfloat64m4_t __riscv_vfcvt_f_tumu(vbool16_t vm, vfloat64m4_t vd, vint64m4_t vs2,
                                  size_t vl);
vfloat64m8_t __riscv_vfcvt_f_tumu(vbool8_t vm, vfloat64m8_t vd, vint64m8_t vs2,
                                  size_t vl);
vfloat64m1_t __riscv_vfcvt_f_tumu(vbool64_t vm, vfloat64m1_t vd,
                                  vuint64m1_t vs2, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_tumu(vbool32_t vm, vfloat64m2_t vd,
                                  vuint64m2_t vs2, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  vuint64m4_t vs2, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_tumu(vbool8_t vm, vfloat64m8_t vd, vuint64m8_t vs2,
                                  size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_mu(vbool64_t vm, vint16mf4_t vd, vfloat16mf4_t vs2,
                               size_t vl);
vint16mf4_t __riscv_vfcvt_rtz_x_mu(vbool64_t vm, vint16mf4_t vd,
                                   vfloat16mf4_t vs2, size_t vl);
vint16mf2_t __riscv_vfcvt_x_mu(vbool32_t vm, vint16mf2_t vd, vfloat16mf2_t vs2,
                               size_t vl);
vint16mf2_t __riscv_vfcvt_rtz_x_mu(vbool32_t vm, vint16mf2_t vd,
                                   vfloat16mf2_t vs2, size_t vl);
vint16m1_t __riscv_vfcvt_x_mu(vbool16_t vm, vint16m1_t vd, vfloat16m1_t vs2,
                              size_t vl);
vint16m1_t __riscv_vfcvt_rtz_x_mu(vbool16_t vm, vint16m1_t vd, vfloat16m1_t vs2,
                                  size_t vl);
vint16m2_t __riscv_vfcvt_x_mu(vbool8_t vm, vint16m2_t vd, vfloat16m2_t vs2,
                              size_t vl);
vint16m2_t __riscv_vfcvt_rtz_x_mu(vbool8_t vm, vint16m2_t vd, vfloat16m2_t vs2,
                                  size_t vl);
vint16m4_t __riscv_vfcvt_x_mu(vbool4_t vm, vint16m4_t vd, vfloat16m4_t vs2,
                              size_t vl);
vint16m4_t __riscv_vfcvt_rtz_x_mu(vbool4_t vm, vint16m4_t vd, vfloat16m4_t vs2,
                                  size_t vl);
vint16m8_t __riscv_vfcvt_x_mu(vbool2_t vm, vint16m8_t vd, vfloat16m8_t vs2,
                              size_t vl);
vint16m8_t __riscv_vfcvt_rtz_x_mu(vbool2_t vm, vint16m8_t vd, vfloat16m8_t vs2,
                                  size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_mu(vbool64_t vm, vuint16mf4_t vd,
                                 vfloat16mf4_t vs2, size_t vl);
vuint16mf4_t __riscv_vfcvt_rtz_xu_mu(vbool64_t vm, vuint16mf4_t vd,
                                     vfloat16mf4_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_mu(vbool32_t vm, vuint16mf2_t vd,
                                 vfloat16mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfcvt_rtz_xu_mu(vbool32_t vm, vuint16mf2_t vd,
                                     vfloat16mf2_t vs2, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_mu(vbool16_t vm, vuint16m1_t vd, vfloat16m1_t vs2,
                                size_t vl);
```

```
vuint16m1_t __riscv_vfcvt_rtz_xu_mu(vbool16_t vm, vuint16m1_t vd,
                                    vfloat16m1_t vs2, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_mu(vbool8_t vm, vuint16m2_t vd, vfloat16m2_t vs2,
                                size_t vl);
vuint16m2_t __riscv_vfcvt_rtz_xu_mu(vbool8_t vm, vuint16m2_t vd,
                                    vfloat16m2_t vs2, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_mu(vbool4_t vm, vuint16m4_t vd, vfloat16m4_t vs2,
                                size_t vl);
vuint16m4_t __riscv_vfcvt_rtz_xu_mu(vbool4_t vm, vuint16m4_t vd,
                                    vfloat16m4_t vs2, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_mu(vbool2_t vm, vuint16m8_t vd, vfloat16m8_t vs2,
                                size_t vl);
vuint16m8_t __riscv_vfcvt_rtz_xu_mu(vbool2_t vm, vuint16m8_t vd,
                                    vfloat16m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_mu(vbool16_t vm, vfloat16m1_t vd, vint16m1_t vs2,
                                size_t vl);
vfloat16m2_t __riscv_vfcvt_f_mu(vbool8_t vm, vfloat16m2_t vd, vint16m2_t vs2,
                                size_t vl);
vfloat16m4_t __riscv_vfcvt_f_mu(vbool4_t vm, vfloat16m4_t vd, vint16m4_t vs2,
                                size_t vl);
vfloat16m8_t __riscv_vfcvt_f_mu(vbool2_t vm, vfloat16m8_t vd, vint16m8_t vs2,
                                size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vuint16mf4_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vuint16mf2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_mu(vbool16_t vm, vfloat16m1_t vd, vuint16m1_t vs2,
                                size_t vl);
vfloat16m2_t __riscv_vfcvt_f_mu(vbool8_t vm, vfloat16m2_t vd, vuint16m2_t vs2,
                                size_t vl);
vfloat16m4_t __riscv_vfcvt_f_mu(vbool4_t vm, vfloat16m4_t vd, vuint16m4_t vs2,
                                size_t vl);
vfloat16m8_t __riscv_vfcvt_f_mu(vbool2_t vm, vfloat16m8_t vd, vuint16m8_t vs2,
                                size_t vl);
vint32mf2_t __riscv_vfcvt_x_mu(vbool64_t vm, vint32mf2_t vd, vfloat32mf2_t vs2,
                               size_t vl);
vint32mf2_t __riscv_vfcvt_rtz_x_mu(vbool64_t vm, vint32mf2_t vd,
                                   vfloat32mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfcvt_x_mu(vbool32_t vm, vint32m1_t vd, vfloat32m1_t vs2,
                              size_t vl);
vint32m1_t __riscv_vfcvt_rtz_x_mu(vbool32_t vm, vint32m1_t vd, vfloat32m1_t vs2,
                                  size_t vl);
vint32m2_t __riscv_vfcvt_x_mu(vbool16_t vm, vint32m2_t vd, vfloat32m2_t vs2,
                              size_t vl);
vint32m2_t __riscv_vfcvt_rtz_x_mu(vbool16_t vm, vint32m2_t vd, vfloat32m2_t vs2,
                                  size_t vl);
vint32m4_t __riscv_vfcvt_x_mu(vbool8_t vm, vint32m4_t vd, vfloat32m4_t vs2,
                              size_t vl);
vint32m4_t __riscv_vfcvt_rtz_x_mu(vbool8_t vm, vint32m4_t vd, vfloat32m4_t vs2,
                                  size_t vl);
vint32m8_t __riscv_vfcvt_x_mu(vbool4_t vm, vint32m8_t vd, vfloat32m8_t vs2,
                              size_t vl);
vint32m8_t __riscv_vfcvt_rtz_x_mu(vbool4_t vm, vint32m8_t vd, vfloat32m8_t vs2,
                                  size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vfloat32mf2_t vs2, size_t vl);
vuint32mf2_t __riscv_vfcvt_rtz_xu_mu(vbool64_t vm, vuint32mf2_t vd,
                                     vfloat32mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_mu(vbool32_t vm, vuint32m1_t vd, vfloat32m1_t vs2,
                                size_t vl);
vuint32m1_t __riscv_vfcvt_rtz_xu_mu(vbool32_t vm, vuint32m1_t vd,
                                    vfloat32m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_mu(vbool16_t vm, vuint32m2_t vd, vfloat32m2_t vs2,
```

```
                                size_t vl);
vuint32m2_t __riscv_vfcvt_rtz_xu_mu(vbool16_t vm, vuint32m2_t vd,
                                    vfloat32m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_mu(vbool8_t vm, vuint32m4_t vd, vfloat32m4_t vs2,
                                size_t vl);
vuint32m4_t __riscv_vfcvt_rtz_xu_mu(vbool8_t vm, vuint32m4_t vd,
                                    vfloat32m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_mu(vbool4_t vm, vuint32m8_t vd, vfloat32m8_t vs2,
                                size_t vl);
vuint32m8_t __riscv_vfcvt_rtz_xu_mu(vbool4_t vm, vuint32m8_t vd,
                                    vfloat32m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_mu(vbool32_t vm, vfloat32m1_t vd, vint32m1_t vs2,
                                size_t vl);
vfloat32m2_t __riscv_vfcvt_f_mu(vbool16_t vm, vfloat32m2_t vd, vint32m2_t vs2,
                                size_t vl);
vfloat32m4_t __riscv_vfcvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vint32m4_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfcvt_f_mu(vbool4_t vm, vfloat32m8_t vd, vint32m8_t vs2,
                                size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vuint32mf2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_mu(vbool32_t vm, vfloat32m1_t vd, vuint32m1_t vs2,
                                size_t vl);
vfloat32m2_t __riscv_vfcvt_f_mu(vbool16_t vm, vfloat32m2_t vd, vuint32m2_t vs2,
                                size_t vl);
vfloat32m4_t __riscv_vfcvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vuint32m4_t vs2,
                                size_t vl);
vfloat32m8_t __riscv_vfcvt_f_mu(vbool4_t vm, vfloat32m8_t vd, vuint32m8_t vs2,
                                size_t vl);
vint64m1_t __riscv_vfcvt_x_mu(vbool64_t vm, vint64m1_t vd, vfloat64m1_t vs2,
                              size_t vl);
vint64m1_t __riscv_vfcvt_rtz_x_mu(vbool64_t vm, vint64m1_t vd, vfloat64m1_t vs2,
                                  size_t vl);
vint64m2_t __riscv_vfcvt_x_mu(vbool32_t vm, vint64m2_t vd, vfloat64m2_t vs2,
                              size_t vl);
vint64m2_t __riscv_vfcvt_rtz_x_mu(vbool32_t vm, vint64m2_t vd, vfloat64m2_t vs2,
                                  size_t vl);
vint64m4_t __riscv_vfcvt_x_mu(vbool16_t vm, vint64m4_t vd, vfloat64m4_t vs2,
                              size_t vl);
vint64m4_t __riscv_vfcvt_rtz_x_mu(vbool16_t vm, vint64m4_t vd, vfloat64m4_t vs2,
                                  size_t vl);
vint64m8_t __riscv_vfcvt_x_mu(vbool8_t vm, vint64m8_t vd, vfloat64m8_t vs2,
                              size_t vl);
vint64m8_t __riscv_vfcvt_rtz_x_mu(vbool8_t vm, vint64m8_t vd, vfloat64m8_t vs2,
                                  size_t vl);
vuint64m1_t __riscv_vfcvt_xu_mu(vbool64_t vm, vuint64m1_t vd, vfloat64m1_t vs2,
                                size_t vl);
vuint64m1_t __riscv_vfcvt_rtz_xu_mu(vbool64_t vm, vuint64m1_t vd,
                                    vfloat64m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_mu(vbool32_t vm, vuint64m2_t vd, vfloat64m2_t vs2,
                                size_t vl);
vuint64m2_t __riscv_vfcvt_rtz_xu_mu(vbool32_t vm, vuint64m2_t vd,
                                    vfloat64m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_mu(vbool16_t vm, vuint64m4_t vd, vfloat64m4_t vs2,
                                size_t vl);
vuint64m4_t __riscv_vfcvt_rtz_xu_mu(vbool16_t vm, vuint64m4_t vd,
                                    vfloat64m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_mu(vbool8_t vm, vuint64m8_t vd, vfloat64m8_t vs2,
                                size_t vl);
vuint64m8_t __riscv_vfcvt_rtz_xu_mu(vbool8_t vm, vuint64m8_t vd,
                                    vfloat64m8_t vs2, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_mu(vbool64_t vm, vfloat64m1_t vd, vint64m1_t vs2,
                                size_t vl);
vfloat64m2_t __riscv_vfcvt_f_mu(vbool32_t vm, vfloat64m2_t vd, vint64m2_t vs2,
                                size_t vl);
```

```
vfloat64m4_t __riscv_vfcvt_f_mu(vbool16_t vm, vfloat64m4_t vd, vint64m4_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfcvt_f_mu(vbool8_t vm, vfloat64m8_t vd, vint64m8_t vs2,
                                size_t vl);
vfloat64m1_t __riscv_vfcvt_f_mu(vbool64_t vm, vfloat64m1_t vd, vuint64m1_t vs2,
                                size_t vl);
vfloat64m2_t __riscv_vfcvt_f_mu(vbool32_t vm, vfloat64m2_t vd, vuint64m2_t vs2,
                                size_t vl);
vfloat64m4_t __riscv_vfcvt_f_mu(vbool16_t vm, vfloat64m4_t vd, vuint64m4_t vs2,
                                size_t vl);
vfloat64m8_t __riscv_vfcvt_f_mu(vbool8_t vm, vfloat64m8_t vd, vuint64m8_t vs2,
                                size_t vl);
vint16mf4_t __riscv_vfcvt_x_tu(vint16mf4_t vd, vfloat16mf4_t vs2,
                               unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfcvt_x_tu(vint16mf2_t vd, vfloat16mf2_t vs2,
                               unsigned int frm, size_t vl);
vint16m1_t __riscv_vfcvt_x_tu(vint16m1_t vd, vfloat16m1_t vs2, unsigned int frm,
                              size_t vl);
vint16m2_t __riscv_vfcvt_x_tu(vint16m2_t vd, vfloat16m2_t vs2, unsigned int frm,
                              size_t vl);
vint16m4_t __riscv_vfcvt_x_tu(vint16m4_t vd, vfloat16m4_t vs2, unsigned int frm,
                              size_t vl);
vint16m8_t __riscv_vfcvt_x_tu(vint16m8_t vd, vfloat16m8_t vs2, unsigned int frm,
                              size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_tu(vuint16mf4_t vd, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_tu(vuint16mf2_t vd, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfcvt_xu_tu(vuint16m1_t vd, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_tu(vuint16m2_t vd, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_tu(vuint16m4_t vd, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_tu(vuint16m8_t vd, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_tu(vfloat16mf4_t vd, vint16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_tu(vfloat16mf2_t vd, vint16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_tu(vfloat16m1_t vd, vint16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_tu(vfloat16m2_t vd, vint16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_tu(vfloat16m4_t vd, vint16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_tu(vfloat16m8_t vd, vint16m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_tu(vfloat16mf4_t vd, vuint16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_tu(vfloat16mf2_t vd, vuint16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_tu(vfloat16m1_t vd, vuint16m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_tu(vfloat16m2_t vd, vuint16m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_tu(vfloat16m4_t vd, vuint16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_tu(vfloat16m8_t vd, vuint16m8_t vs2,
                                unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfcvt_x_tu(vint32mf2_t vd, vfloat32mf2_t vs2,
                               unsigned int frm, size_t vl);
vint32m1_t __riscv_vfcvt_x_tu(vint32m1_t vd, vfloat32m1_t vs2, unsigned int frm,
                              size_t vl);
vint32m2_t __riscv_vfcvt_x_tu(vint32m2_t vd, vfloat32m2_t vs2, unsigned int frm,
                              size_t vl);
vint32m4_t __riscv_vfcvt_x_tu(vint32m4_t vd, vfloat32m4_t vs2, unsigned int frm,
```

```
                                size_t vl);
vint32m8_t __riscv_vfcvt_x_tu(vint32m8_t vd, vfloat32m8_t vs2, unsigned int frm,
                                size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_tu(vuint32mf2_t vd, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfcvt_xu_tu(vuint32m1_t vd, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_tu(vuint32m2_t vd, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_tu(vuint32m4_t vd, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_tu(vuint32m8_t vd, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_tu(vfloat32mf2_t vd, vint32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_tu(vfloat32m1_t vd, vint32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_tu(vfloat32m2_t vd, vint32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_tu(vfloat32m4_t vd, vint32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_tu(vfloat32m8_t vd, vint32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_tu(vfloat32mf2_t vd, vuint32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_tu(vfloat32m1_t vd, vuint32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_tu(vfloat32m2_t vd, vuint32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_tu(vfloat32m4_t vd, vuint32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_tu(vfloat32m8_t vd, vuint32m8_t vs2,
                                unsigned int frm, size_t vl);
vint64m1_t __riscv_vfcvt_x_tu(vint64m1_t vd, vfloat64m1_t vs2, unsigned int frm,
                              size_t vl);
vint64m2_t __riscv_vfcvt_x_tu(vint64m2_t vd, vfloat64m2_t vs2, unsigned int frm,
                              size_t vl);
vint64m4_t __riscv_vfcvt_x_tu(vint64m4_t vd, vfloat64m4_t vs2, unsigned int frm,
                              size_t vl);
vint64m8_t __riscv_vfcvt_x_tu(vint64m8_t vd, vfloat64m8_t vs2, unsigned int frm,
                              size_t vl);
vuint64m1_t __riscv_vfcvt_xu_tu(vuint64m1_t vd, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_tu(vuint64m2_t vd, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_tu(vuint64m4_t vd, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_tu(vuint64m8_t vd, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_tu(vfloat64m1_t vd, vint64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_tu(vfloat64m2_t vd, vint64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_tu(vfloat64m4_t vd, vint64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_tu(vfloat64m8_t vd, vint64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_tu(vfloat64m1_t vd, vuint64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_tu(vfloat64m2_t vd, vuint64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_tu(vfloat64m4_t vd, vuint64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_tu(vfloat64m8_t vd, vuint64m8_t vs2,
                                unsigned int frm, size_t vl);
// masked functions
vint16mf4_t __riscv_vfcvt_x_tum(vbool64_t vm, vint16mf4_t vd, vfloat16mf4_t vs2,
```

```
                                unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfcvt_x_tum(vbool32_t vm, vint16mf2_t vd, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vint16m1_t __riscv_vfcvt_x_tum(vbool16_t vm, vint16m1_t vd, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vint16m2_t __riscv_vfcvt_x_tum(vbool8_t vm, vint16m2_t vd, vfloat16m2_t vs2,
                               unsigned int frm, size_t vl);
vint16m4_t __riscv_vfcvt_x_tum(vbool4_t vm, vint16m4_t vd, vfloat16m4_t vs2,
                               unsigned int frm, size_t vl);
vint16m8_t __riscv_vfcvt_x_tum(vbool2_t vm, vint16m8_t vd, vfloat16m8_t vs2,
                               unsigned int frm, size_t vl);
vuint16mf4_t __riscv_vfcvt_xu_tum(vbool64_t vm, vuint16mf4_t vd,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vuint16mf2_t __riscv_vfcvt_xu_tum(vbool32_t vm, vuint16mf2_t vd,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vuint16m1_t __riscv_vfcvt_xu_tum(vbool16_t vm, vuint16m1_t vd, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfcvt_xu_tum(vbool8_t vm, vuint16m2_t vd, vfloat16m2_t vs2,
                                 unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfcvt_xu_tum(vbool4_t vm, vuint16m4_t vd, vfloat16m4_t vs2,
                                 unsigned int frm, size_t vl);
vuint16m8_t __riscv_vfcvt_xu_tum(vbool2_t vm, vuint16m8_t vd, vfloat16m8_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vint16mf4_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vint16mf2_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfcvt_f_tum(vbool16_t vm, vfloat16m1_t vd, vint16m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_tum(vbool8_t vm, vfloat16m2_t vd, vint16m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_tum(vbool4_t vm, vfloat16m4_t vd, vint16m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_tum(vbool2_t vm, vfloat16m8_t vd, vint16m8_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfcvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                  vuint16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16mf2_t __riscv_vfcvt_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                  vuint16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfcvt_f_tum(vbool16_t vm, vfloat16m1_t vd, vuint16m1_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfcvt_f_tum(vbool8_t vm, vfloat16m2_t vd, vuint16m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_tum(vbool4_t vm, vfloat16m4_t vd, vuint16m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_tum(vbool2_t vm, vfloat16m8_t vd, vuint16m8_t vs2,
                                 unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfcvt_x_tum(vbool64_t vm, vint32mf2_t vd, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vint32m1_t __riscv_vfcvt_x_tum(vbool32_t vm, vint32m1_t vd, vfloat32m1_t vs2,
                               unsigned int frm, size_t vl);
vint32m2_t __riscv_vfcvt_x_tum(vbool16_t vm, vint32m2_t vd, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vint32m4_t __riscv_vfcvt_x_tum(vbool8_t vm, vint32m4_t vd, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vint32m8_t __riscv_vfcvt_x_tum(vbool4_t vm, vint32m8_t vd, vfloat32m8_t vs2,
                               unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_tum(vbool64_t vm, vuint32mf2_t vd,
                                  vfloat32mf2_t vs2, unsigned int frm,
                                  size_t vl);
vuint32m1_t __riscv_vfcvt_xu_tum(vbool32_t vm, vuint32m1_t vd, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_tum(vbool16_t vm, vuint32m2_t vd, vfloat32m2_t vs2,
```

```
                                unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_tum(vbool8_t vm, vuint32m4_t vd, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
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                                 vint32mf2_t vs2, unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
vint64m1_t __riscv_vfcvt_x_tum(vbool64_t vm, vint64m1_t vd, vfloat64m1_t vs2,
                               unsigned int frm, size_t vl);
vint64m2_t __riscv_vfcvt_x_tum(vbool32_t vm, vint64m2_t vd, vfloat64m2_t vs2,
                               unsigned int frm, size_t vl);
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                               unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
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vint16mf4_t __riscv_vfcvt_x_tumu(vbool64_t vm, vint16mf4_t vd,
                                vfloat16mf4_t vs2, unsigned int frm,
                                size_t vl);
vint16mf2_t __riscv_vfcvt_x_tumu(vbool32_t vm, vint16mf2_t vd,
                                vfloat16mf2_t vs2, unsigned int frm,
                                size_t vl);
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                               unsigned int frm, size_t vl);
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vint16m2_t __riscv_vfcvt_x_tumu(vbool8_t vm, vint16m2_t vd, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vint16m4_t __riscv_vfcvt_x_tumu(vbool4_t vm, vint16m4_t vd, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
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                                   vfloat16mf4_t vs2, unsigned int frm,
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                                   vfloat16mf2_t vs2, unsigned int frm,
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                                  vfloat16m1_t vs2, unsigned int frm,
                                  size_t vl);
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                                   vint16mf4_t vs2, unsigned int frm,
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                                  unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfcvt_x_tumu(vbool64_t vm, vint32mf2_t vd,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
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                                  vfloat32m1_t vs2, unsigned int frm,
                                  size_t vl);
vuint32m2_t __riscv_vfcvt_xu_tumu(vbool16_t vm, vuint32m2_t vd,
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                                vfloat32m2_t vs2, unsigned int frm,
                                size_t vl);
vuint32m4_t __riscv_vfcvt_xu_tumu(vbool8_t vm, vuint32m4_t vd, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_tumu(vbool4_t vm, vuint32m8_t vd, vfloat32m8_t vs2,
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                                 vint32mf2_t vs2, unsigned int frm,
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                                unsigned int frm, size_t vl);
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vint16mf4_t __riscv_vfcvt_x_mu(vbool64_t vm, vint16mf4_t vd, vfloat16mf4_t vs2,
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                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfcvt_f_mu(vbool4_t vm, vfloat16m4_t vd, vuint16m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m8_t __riscv_vfcvt_f_mu(vbool2_t vm, vfloat16m8_t vd, vuint16m8_t vs2,
                                unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfcvt_x_mu(vbool64_t vm, vint32mf2_t vd, vfloat32mf2_t vs2,
                               unsigned int frm, size_t vl);
vint32m1_t __riscv_vfcvt_x_mu(vbool32_t vm, vint32m1_t vd, vfloat32m1_t vs2,
                              unsigned int frm, size_t vl);
vint32m2_t __riscv_vfcvt_x_mu(vbool16_t vm, vint32m2_t vd, vfloat32m2_t vs2,
                              unsigned int frm, size_t vl);
vint32m4_t __riscv_vfcvt_x_mu(vbool8_t vm, vint32m4_t vd, vfloat32m4_t vs2,
                              unsigned int frm, size_t vl);
vint32m8_t __riscv_vfcvt_x_mu(vbool4_t vm, vint32m8_t vd, vfloat32m8_t vs2,
                              unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfcvt_xu_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vuint32m1_t __riscv_vfcvt_xu_mu(vbool32_t vm, vuint32m1_t vd, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfcvt_xu_mu(vbool16_t vm, vuint32m2_t vd, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfcvt_xu_mu(vbool8_t vm, vuint32m4_t vd, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfcvt_xu_mu(vbool4_t vm, vuint32m8_t vd, vfloat32m8_t vs2,
```

```
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vint32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_mu(vbool32_t vm, vfloat32m1_t vd, vint32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_mu(vbool16_t vm, vfloat32m2_t vd, vint32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vint32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_mu(vbool4_t vm, vfloat32m8_t vd, vint32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfcvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vuint32mf2_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfcvt_f_mu(vbool32_t vm, vfloat32m1_t vd, vuint32m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfcvt_f_mu(vbool16_t vm, vfloat32m2_t vd, vuint32m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfcvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vuint32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m8_t __riscv_vfcvt_f_mu(vbool4_t vm, vfloat32m8_t vd, vuint32m8_t vs2,
                                unsigned int frm, size_t vl);
vint64m1_t __riscv_vfcvt_x_mu(vbool64_t vm, vint64m1_t vd, vfloat64m1_t vs2,
                              unsigned int frm, size_t vl);
vint64m2_t __riscv_vfcvt_x_mu(vbool32_t vm, vint64m2_t vd, vfloat64m2_t vs2,
                              unsigned int frm, size_t vl);
vint64m4_t __riscv_vfcvt_x_mu(vbool16_t vm, vint64m4_t vd, vfloat64m4_t vs2,
                              unsigned int frm, size_t vl);
vint64m8_t __riscv_vfcvt_x_mu(vbool8_t vm, vint64m8_t vd, vfloat64m8_t vs2,
                              unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfcvt_xu_mu(vbool64_t vm, vuint64m1_t vd, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfcvt_xu_mu(vbool32_t vm, vuint64m2_t vd, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfcvt_xu_mu(vbool16_t vm, vuint64m4_t vd, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfcvt_xu_mu(vbool8_t vm, vuint64m8_t vd, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_mu(vbool64_t vm, vfloat64m1_t vd, vint64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_mu(vbool32_t vm, vfloat64m2_t vd, vint64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_mu(vbool16_t vm, vfloat64m4_t vd, vint64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_mu(vbool8_t vm, vfloat64m8_t vd, vint64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfcvt_f_mu(vbool64_t vm, vfloat64m1_t vd, vuint64m1_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m2_t __riscv_vfcvt_f_mu(vbool32_t vm, vfloat64m2_t vd, vuint64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m4_t __riscv_vfcvt_f_mu(vbool16_t vm, vfloat64m4_t vd, vuint64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat64m8_t __riscv_vfcvt_f_mu(vbool8_t vm, vfloat64m8_t vd, vuint64m8_t vs2,
                                unsigned int frm, size_t vl);
```

D.5.17. Widening Floating-Point/Integer Type-Convert Intrinsics

```
vfloat16mf4_t __riscv_vfwcvt_f_tu(vfloat16mf4_t vd, vint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_tu(vfloat16mf2_t vd, vint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_tu(vfloat16m1_t vd, vint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_tu(vfloat16m2_t vd, vint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_tu(vfloat16m4_t vd, vint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_tu(vfloat16m8_t vd, vint8m4_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f_tu(vfloat16mf4_t vd, vuint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_tu(vfloat16mf2_t vd, vuint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_tu(vfloat16m1_t vd, vuint8mf2_t vs2, size_t vl);
```

```
vfloat16m2_t __riscv_vfwcvt_f_tu(vfloat16m2_t vd, vuint8m1_t vs2, size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_tu(vfloat16m4_t vd, vuint8m2_t vs2, size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_tu(vfloat16m8_t vd, vuint8m4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_x_tu(vint32mf2_t vd, vfloat16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x_tu(vint32mf2_t vd, vfloat16mf4_t vs2,
                                    size_t vl);
vint32m1_t __riscv_vfwcvt_x_tu(vint32m1_t vd, vfloat16mf2_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x_tu(vint32m1_t vd, vfloat16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_x_tu(vint32m2_t vd, vfloat16m1_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x_tu(vint32m2_t vd, vfloat16m1_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_x_tu(vint32m4_t vd, vfloat16m2_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x_tu(vint32m4_t vd, vfloat16m2_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_x_tu(vint32m8_t vd, vfloat16m4_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x_tu(vint32m8_t vd, vfloat16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_tu(vuint32mf2_t vd, vfloat16mf4_t vs2,
                                  size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu_tu(vuint32mf2_t vd, vfloat16mf4_t vs2,
                                      size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_tu(vuint32m1_t vd, vfloat16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu_tu(vuint32m1_t vd, vfloat16mf2_t vs2,
                                     size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_tu(vuint32m2_t vd, vfloat16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_rtz_xu_tu(vuint32m2_t vd, vfloat16m1_t vs2,
                                     size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_tu(vuint32m4_t vd, vfloat16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu_tu(vuint32m4_t vd, vfloat16m2_t vs2,
                                     size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_tu(vuint32m8_t vd, vfloat16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu_tu(vuint32m8_t vd, vfloat16m4_t vs2,
                                     size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_tu(vfloat32mf2_t vd, vint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_tu(vfloat32m1_t vd, vint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_tu(vfloat32m2_t vd, vint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_tu(vfloat32m4_t vd, vint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_tu(vfloat32m8_t vd, vint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_tu(vfloat32mf2_t vd, vuint16mf4_t vs2,
                                  size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_tu(vfloat32m1_t vd, vuint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_tu(vfloat32m2_t vd, vuint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_tu(vfloat32m4_t vd, vuint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_tu(vfloat32m8_t vd, vuint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_tu(vfloat32mf2_t vd, vfloat16mf4_t vs2,
                                  size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_tu(vfloat32m1_t vd, vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_tu(vfloat32m2_t vd, vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_tu(vfloat32m4_t vd, vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_tu(vfloat32m8_t vd, vfloat16m4_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_x_tu(vint64m1_t vd, vfloat32mf2_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x_tu(vint64m1_t vd, vfloat32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_x_tu(vint64m2_t vd, vfloat32m1_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x_tu(vint64m2_t vd, vfloat32m1_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_x_tu(vint64m4_t vd, vfloat32m2_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_rtz_x_tu(vint64m4_t vd, vfloat32m2_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_x_tu(vint64m8_t vd, vfloat32m4_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_rtz_x_tu(vint64m8_t vd, vfloat32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_tu(vuint64m1_t vd, vfloat32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_rtz_xu_tu(vuint64m1_t vd, vfloat32mf2_t vs2,
                                     size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_tu(vuint64m2_t vd, vfloat32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_rtz_xu_tu(vuint64m2_t vd, vfloat32m1_t vs2,
                                     size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_tu(vuint64m4_t vd, vfloat32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu_tu(vuint64m4_t vd, vfloat32m2_t vs2,
                                     size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_tu(vuint64m8_t vd, vfloat32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu_tu(vuint64m8_t vd, vfloat32m4_t vs2,
                                     size_t vl);
```

```
vfloat64m1_t __riscv_vfwcvt_f_tu(vfloat64m1_t vd, vint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_tu(vfloat64m2_t vd, vint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_tu(vfloat64m4_t vd, vint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_tu(vfloat64m8_t vd, vint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_tu(vfloat64m1_t vd, vuint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_tu(vfloat64m2_t vd, vuint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_tu(vfloat64m4_t vd, vuint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_tu(vfloat64m8_t vd, vuint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_tu(vfloat64m1_t vd, vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_tu(vfloat64m2_t vd, vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_tu(vfloat64m4_t vd, vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_tu(vfloat64m8_t vd, vfloat32m4_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfwcvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   vint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   vint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_tum(vbool16_t vm, vfloat16m1_t vd, vint8mf2_t vs2,
                                  size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_tum(vbool8_t vm, vfloat16m2_t vd, vint8m1_t vs2,
                                  size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_tum(vbool4_t vm, vfloat16m4_t vd, vint8m2_t vs2,
                                  size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_tum(vbool2_t vm, vfloat16m8_t vd, vint8m4_t vs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   vuint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   vuint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_tum(vbool16_t vm, vfloat16m1_t vd,
                                  vuint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_tum(vbool8_t vm, vfloat16m2_t vd, vuint8m1_t vs2,
                                  size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_tum(vbool4_t vm, vfloat16m4_t vd, vuint8m2_t vs2,
                                  size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_tum(vbool2_t vm, vfloat16m8_t vd, vuint8m4_t vs2,
                                  size_t vl);
vint32mf2_t __riscv_vfwcvt_x_tum(vbool64_t vm, vint32mf2_t vd,
                                 vfloat16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x_tum(vbool64_t vm, vint32mf2_t vd,
                                     vfloat16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_x_tum(vbool32_t vm, vint32m1_t vd, vfloat16mf2_t vs2,
                                size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x_tum(vbool32_t vm, vint32m1_t vd,
                                    vfloat16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_x_tum(vbool16_t vm, vint32m2_t vd, vfloat16m1_t vs2,
                                size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x_tum(vbool16_t vm, vint32m2_t vd,
                                    vfloat16m1_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_x_tum(vbool8_t vm, vint32m4_t vd, vfloat16m2_t vs2,
                                size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x_tum(vbool8_t vm, vint32m4_t vd,
                                    vfloat16m2_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_x_tum(vbool4_t vm, vint32m8_t vd, vfloat16m4_t vs2,
                                size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x_tum(vbool4_t vm, vint32m8_t vd,
                                    vfloat16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_tum(vbool64_t vm, vuint32mf2_t vd,
                                   vfloat16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu_tum(vbool64_t vm, vuint32mf2_t vd,
                                       vfloat16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_tum(vbool32_t vm, vuint32m1_t vd,
                                  vfloat16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu_tum(vbool32_t vm, vuint32m1_t vd,
                                      vfloat16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_tum(vbool16_t vm, vuint32m2_t vd,
                                  vfloat16m1_t vs2, size_t vl);
```

```
vuint32m2_t __riscv_vfwcvt_rtz_xu_tum(vbool16_t vm, vuint32m2_t vd,
                                      vfloat16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_tum(vbool8_t vm, vuint32m4_t vd, vfloat16m2_t vs2,
                                  size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu_tum(vbool8_t vm, vuint32m4_t vd,
                                      vfloat16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_tum(vbool4_t vm, vuint32m8_t vd, vfloat16m4_t vs2,
                                  size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu_tum(vbool4_t vm, vuint32m8_t vd,
                                      vfloat16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_tum(vbool16_t vm, vfloat32m2_t vd, vint16m1_t vs2,
                                  size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_tum(vbool8_t vm, vfloat32m4_t vd, vint16m2_t vs2,
                                  size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_tum(vbool4_t vm, vfloat32m8_t vd, vint16m4_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vuint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vuint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vuint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_tum(vbool8_t vm, vfloat32m4_t vd, vuint16m2_t vs2,
                                  size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_tum(vbool4_t vm, vfloat32m8_t vd, vuint16m4_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_tum(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_tum(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat16m4_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_x_tum(vbool64_t vm, vint64m1_t vd, vfloat32mf2_t vs2,
                                size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x_tum(vbool64_t vm, vint64m1_t vd,
                                    vfloat32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_x_tum(vbool32_t vm, vint64m2_t vd, vfloat32m1_t vs2,
                                size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x_tum(vbool32_t vm, vint64m2_t vd,
                                    vfloat32m1_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_x_tum(vbool16_t vm, vint64m4_t vd, vfloat32m2_t vs2,
                                size_t vl);
vint64m4_t __riscv_vfwcvt_rtz_x_tum(vbool16_t vm, vint64m4_t vd,
                                    vfloat32m2_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_x_tum(vbool8_t vm, vint64m8_t vd, vfloat32m4_t vs2,
                                size_t vl);
vint64m8_t __riscv_vfwcvt_rtz_x_tum(vbool8_t vm, vint64m8_t vd,
                                    vfloat32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_tum(vbool64_t vm, vuint64m1_t vd,
                                  vfloat32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_rtz_xu_tum(vbool64_t vm, vuint64m1_t vd,
                                      vfloat32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_tum(vbool32_t vm, vuint64m2_t vd,
                                  vfloat32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_rtz_xu_tum(vbool32_t vm, vuint64m2_t vd,
                                      vfloat32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_tum(vbool16_t vm, vuint64m4_t vd,
                                  vfloat32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu_tum(vbool16_t vm, vuint64m4_t vd,
```

```
                                    vfloat32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_tum(vbool8_t vm, vuint64m8_t vd, vfloat32m4_t vs2,
                                  size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu_tum(vbool8_t vm, vuint64m8_t vd,
                                      vfloat32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_tum(vbool64_t vm, vfloat64m1_t vd,
                                  vint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_tum(vbool32_t vm, vfloat64m2_t vd, vint32m1_t vs2,
                                  size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_tum(vbool16_t vm, vfloat64m4_t vd, vint32m2_t vs2,
                                  size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_tum(vbool8_t vm, vfloat64m8_t vd, vint32m4_t vs2,
                                  size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_tum(vbool64_t vm, vfloat64m1_t vd,
                                  vuint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_tum(vbool32_t vm, vfloat64m2_t vd,
                                  vuint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vuint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_tum(vbool8_t vm, vfloat64m8_t vd, vuint32m4_t vs2,
                                  size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_tum(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_tum(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat32m4_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfwcvt_f_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    vint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    vint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   vint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_tumu(vbool8_t vm, vfloat16m2_t vd, vint8m1_t vs2,
                                   size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_tumu(vbool4_t vm, vfloat16m4_t vd, vint8m2_t vs2,
                                   size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_tumu(vbool2_t vm, vfloat16m8_t vd, vint8m4_t vs2,
                                   size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    vuint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    vuint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   vuint8mf2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_tumu(vbool8_t vm, vfloat16m2_t vd, vuint8m1_t vs2,
                                   size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_tumu(vbool4_t vm, vfloat16m4_t vd, vuint8m2_t vs2,
                                   size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_tumu(vbool2_t vm, vfloat16m8_t vd, vuint8m4_t vs2,
                                   size_t vl);
vint32mf2_t __riscv_vfwcvt_x_tumu(vbool64_t vm, vint32mf2_t vd,
                                  vfloat16mf4_t vs2, size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vfloat16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_x_tumu(vbool32_t vm, vint32m1_t vd, vfloat16mf2_t vs2,
                                 size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x_tumu(vbool32_t vm, vint32m1_t vd,
                                     vfloat16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_x_tumu(vbool16_t vm, vint32m2_t vd, vfloat16m1_t vs2,
                                 size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x_tumu(vbool16_t vm, vint32m2_t vd,
                                     vfloat16m1_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_x_tumu(vbool8_t vm, vint32m4_t vd, vfloat16m2_t vs2,
```

```
                                  size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x_tumu(vbool8_t vm, vint32m4_t vd,
                                     vfloat16m2_t vs2, size_t vl);
vint32m8_t __riscv_vfwcvt_x_tumu(vbool4_t vm, vint32m8_t vd, vfloat16m4_t vs2,
                                  size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x_tumu(vbool4_t vm, vint32m8_t vd,
                                     vfloat16m4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vfloat16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                        vfloat16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vfloat16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vfloat16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vfloat16m1_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_rtz_xu_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vfloat16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_tumu(vbool8_t vm, vuint32m4_t vd,
                                   vfloat16m2_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vfloat16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_tumu(vbool4_t vm, vuint32m8_t vd,
                                   vfloat16m4_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu_tumu(vbool4_t vm, vuint32m8_t vd,
                                       vfloat16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_tumu(vbool8_t vm, vfloat32m4_t vd, vint16m2_t vs2,
                                   size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_tumu(vbool4_t vm, vfloat32m8_t vd, vint16m4_t vs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vuint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vuint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vuint16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vuint16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vuint16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat16m2_t vs2, size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat16m4_t vs2, size_t vl);
vint64m1_t __riscv_vfwcvt_x_tumu(vbool64_t vm, vint64m1_t vd, vfloat32mf2_t vs2,
                                 size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x_tumu(vbool64_t vm, vint64m1_t vd,
                                     vfloat32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_x_tumu(vbool32_t vm, vint64m2_t vd, vfloat32m1_t vs2,
                                 size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x_tumu(vbool32_t vm, vint64m2_t vd,
                                     vfloat32m1_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_x_tumu(vbool16_t vm, vint64m4_t vd, vfloat32m2_t vs2,
                                 size_t vl);
```

```
vint64m4_t __riscv_vfwcvt_rtz_x_tumu(vbool16_t vm, vint64m4_t vd,
                                     vfloat32m2_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_x_tumu(vbool8_t vm, vint64m8_t vd, vfloat32m4_t vs2,
                                 size_t vl);
vint64m8_t __riscv_vfwcvt_rtz_x_tumu(vbool8_t vm, vint64m8_t vd,
                                     vfloat32m4_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vfloat32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_rtz_xu_tumu(vbool64_t vm, vuint64m1_t vd,
                                       vfloat32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vfloat32m1_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_rtz_xu_tumu(vbool32_t vm, vuint64m2_t vd,
                                       vfloat32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vfloat32m2_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu_tumu(vbool16_t vm, vuint64m4_t vd,
                                       vfloat32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_tumu(vbool8_t vm, vuint64m8_t vd,
                                   vfloat32m4_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu_tumu(vbool8_t vm, vuint64m8_t vd,
                                       vfloat32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   vint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_tumu(vbool16_t vm, vfloat64m4_t vd,
                                   vint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_tumu(vbool8_t vm, vfloat64m8_t vd, vint32m4_t vs2,
                                   size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vuint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   vuint32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_tumu(vbool16_t vm, vfloat64m4_t vd,
                                   vuint32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_tumu(vbool8_t vm, vfloat64m8_t vd,
                                   vuint32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_tumu(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_tumu(vbool8_t vm, vfloat64m8_t vd,
                                   vfloat32m4_t vs2, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfwcvt_f_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  vint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  vint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_mu(vbool16_t vm, vfloat16m1_t vd, vint8mf2_t vs2,
                                 size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_mu(vbool8_t vm, vfloat16m2_t vd, vint8m1_t vs2,
                                 size_t vl);
vfloat16m4_t __riscv_vfwcvt_f_mu(vbool4_t vm, vfloat16m4_t vd, vint8m2_t vs2,
                                 size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_mu(vbool2_t vm, vfloat16m8_t vd, vint8m4_t vs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vfwcvt_f_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  vuint8mf8_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfwcvt_f_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  vuint8mf4_t vs2, size_t vl);
vfloat16m1_t __riscv_vfwcvt_f_mu(vbool16_t vm, vfloat16m1_t vd, vuint8mf2_t vs2,
                                 size_t vl);
vfloat16m2_t __riscv_vfwcvt_f_mu(vbool8_t vm, vfloat16m2_t vd, vuint8m1_t vs2,
                                 size_t vl);
```

```
vfloat16m4_t __riscv_vfwcvt_f_mu(vbool4_t vm, vfloat16m4_t vd, vuint8m2_t vs2,
                                 size_t vl);
vfloat16m8_t __riscv_vfwcvt_f_mu(vbool2_t vm, vfloat16m8_t vd, vuint8m4_t vs2,
                                 size_t vl);
vint32mf2_t __riscv_vfwcvt_x_mu(vbool64_t vm, vint32mf2_t vd, vfloat16mf4_t vs2,
                                size_t vl);
vint32mf2_t __riscv_vfwcvt_rtz_x_mu(vbool64_t vm, vint32mf2_t vd,
                                    vfloat16mf4_t vs2, size_t vl);
vint32m1_t __riscv_vfwcvt_x_mu(vbool32_t vm, vint32m1_t vd, vfloat16mf2_t vs2,
                               size_t vl);
vint32m1_t __riscv_vfwcvt_rtz_x_mu(vbool32_t vm, vint32m1_t vd,
                                   vfloat16mf2_t vs2, size_t vl);
vint32m2_t __riscv_vfwcvt_x_mu(vbool16_t vm, vint32m2_t vd, vfloat16m1_t vs2,
                               size_t vl);
vint32m2_t __riscv_vfwcvt_rtz_x_mu(vbool16_t vm, vint32m2_t vd,
                                   vfloat16m1_t vs2, size_t vl);
vint32m4_t __riscv_vfwcvt_x_mu(vbool8_t vm, vint32m4_t vd, vfloat16m2_t vs2,
                               size_t vl);
vint32m4_t __riscv_vfwcvt_rtz_x_mu(vbool8_t vm, vint32m4_t vd, vfloat16m2_t vs2,
                                   size_t vl);
vint32m8_t __riscv_vfwcvt_x_mu(vbool4_t vm, vint32m8_t vd, vfloat16m4_t vs2,
                               size_t vl);
vint32m8_t __riscv_vfwcvt_rtz_x_mu(vbool4_t vm, vint32m8_t vd, vfloat16m4_t vs2,
                                   size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_mu(vbool64_t vm, vuint32mf2_t vd,
                                  vfloat16mf4_t vs2, size_t vl);
vuint32mf2_t __riscv_vfwcvt_rtz_xu_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vfloat16mf4_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_mu(vbool32_t vm, vuint32m1_t vd,
                                 vfloat16mf2_t vs2, size_t vl);
vuint32m1_t __riscv_vfwcvt_rtz_xu_mu(vbool32_t vm, vuint32m1_t vd,
                                     vfloat16mf2_t vs2, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_mu(vbool16_t vm, vuint32m2_t vd, vfloat16m1_t vs2,
                                 size_t vl);
vuint32m2_t __riscv_vfwcvt_rtz_xu_mu(vbool16_t vm, vuint32m2_t vd,
                                     vfloat16m1_t vs2, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_mu(vbool8_t vm, vuint32m4_t vd, vfloat16m2_t vs2,
                                 size_t vl);
vuint32m4_t __riscv_vfwcvt_rtz_xu_mu(vbool8_t vm, vuint32m4_t vd,
                                     vfloat16m2_t vs2, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_mu(vbool4_t vm, vuint32m8_t vd, vfloat16m4_t vs2,
                                 size_t vl);
vuint32m8_t __riscv_vfwcvt_rtz_xu_mu(vbool4_t vm, vuint32m8_t vd,
                                     vfloat16m4_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_mu(vbool32_t vm, vfloat32m1_t vd, vint16mf2_t vs2,
                                 size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_mu(vbool16_t vm, vfloat32m2_t vd, vint16m1_t vs2,
                                 size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vint16m2_t vs2,
                                 size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_mu(vbool4_t vm, vfloat32m8_t vd, vint16m4_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vuint16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_mu(vbool32_t vm, vfloat32m1_t vd,
                                 vuint16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_mu(vbool16_t vm, vfloat32m2_t vd, vuint16m1_t vs2,
                                 size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vuint16m2_t vs2,
                                 size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_mu(vbool4_t vm, vfloat32m8_t vd, vuint16m4_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfwcvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat16mf4_t vs2, size_t vl);
vfloat32m1_t __riscv_vfwcvt_f_mu(vbool32_t vm, vfloat32m1_t vd,
```

```
                                  vfloat16mf2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfwcvt_f_mu(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat16m1_t vs2, size_t vl);
vfloat32m4_t __riscv_vfwcvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vfloat16m2_t vs2,
                                  size_t vl);
vfloat32m8_t __riscv_vfwcvt_f_mu(vbool4_t vm, vfloat32m8_t vd, vfloat16m4_t vs2,
                                  size_t vl);
vint64m1_t __riscv_vfwcvt_x_mu(vbool64_t vm, vint64m1_t vd, vfloat32mf2_t vs2,
                                size_t vl);
vint64m1_t __riscv_vfwcvt_rtz_x_mu(vbool64_t vm, vint64m1_t vd,
                                    vfloat32mf2_t vs2, size_t vl);
vint64m2_t __riscv_vfwcvt_x_mu(vbool32_t vm, vint64m2_t vd, vfloat32m1_t vs2,
                                size_t vl);
vint64m2_t __riscv_vfwcvt_rtz_x_mu(vbool32_t vm, vint64m2_t vd,
                                    vfloat32m1_t vs2, size_t vl);
vint64m4_t __riscv_vfwcvt_x_mu(vbool16_t vm, vint64m4_t vd, vfloat32m2_t vs2,
                                size_t vl);
vint64m4_t __riscv_vfwcvt_rtz_x_mu(vbool16_t vm, vint64m4_t vd,
                                    vfloat32m2_t vs2, size_t vl);
vint64m8_t __riscv_vfwcvt_x_mu(vbool8_t vm, vint64m8_t vd, vfloat32m4_t vs2,
                                size_t vl);
vint64m8_t __riscv_vfwcvt_rtz_x_mu(vbool8_t vm, vint64m8_t vd, vfloat32m4_t vs2,
                                    size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_mu(vbool64_t vm, vuint64m1_t vd,
                                  vfloat32mf2_t vs2, size_t vl);
vuint64m1_t __riscv_vfwcvt_rtz_xu_mu(vbool64_t vm, vuint64m1_t vd,
                                      vfloat32mf2_t vs2, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_mu(vbool32_t vm, vuint64m2_t vd, vfloat32m1_t vs2,
                                  size_t vl);
vuint64m2_t __riscv_vfwcvt_rtz_xu_mu(vbool32_t vm, vuint64m2_t vd,
                                      vfloat32m1_t vs2, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_mu(vbool16_t vm, vuint64m4_t vd, vfloat32m2_t vs2,
                                  size_t vl);
vuint64m4_t __riscv_vfwcvt_rtz_xu_mu(vbool16_t vm, vuint64m4_t vd,
                                      vfloat32m2_t vs2, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_mu(vbool8_t vm, vuint64m8_t vd, vfloat32m4_t vs2,
                                  size_t vl);
vuint64m8_t __riscv_vfwcvt_rtz_xu_mu(vbool8_t vm, vuint64m8_t vd,
                                      vfloat32m4_t vs2, size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_mu(vbool64_t vm, vfloat64m1_t vd, vint32mf2_t vs2,
                                  size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_mu(vbool32_t vm, vfloat64m2_t vd, vint32m1_t vs2,
                                  size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_mu(vbool16_t vm, vfloat64m4_t vd, vint32m2_t vs2,
                                  size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_mu(vbool8_t vm, vfloat64m8_t vd, vint32m4_t vs2,
                                  size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vuint32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_mu(vbool32_t vm, vfloat64m2_t vd, vuint32m1_t vs2,
                                  size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_mu(vbool16_t vm, vfloat64m4_t vd, vuint32m2_t vs2,
                                  size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_mu(vbool8_t vm, vfloat64m8_t vd, vuint32m4_t vs2,
                                  size_t vl);
vfloat64m1_t __riscv_vfwcvt_f_mu(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat64m2_t __riscv_vfwcvt_f_mu(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat32m1_t vs2, size_t vl);
vfloat64m4_t __riscv_vfwcvt_f_mu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat32m2_t vs2, size_t vl);
vfloat64m8_t __riscv_vfwcvt_f_mu(vbool8_t vm, vfloat64m8_t vd, vfloat32m4_t vs2,
                                  size_t vl);
vint32mf2_t __riscv_vfwcvt_x_tu(vint32mf2_t vd, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vint32m1_t __riscv_vfwcvt_x_tu(vint32m1_t vd, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
```

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vint32m2_t __riscv_vfwcvt_x_tu(vint32m2_t vd, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vint32m4_t __riscv_vfwcvt_x_tu(vint32m4_t vd, vfloat16m2_t vs2,
                               unsigned int frm, size_t vl);
vint32m8_t __riscv_vfwcvt_x_tu(vint32m8_t vd, vfloat16m4_t vs2,
                               unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_tu(vuint32mf2_t vd, vfloat16mf4_t vs2,
                                  unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_tu(vuint32m1_t vd, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_tu(vuint32m2_t vd, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_tu(vuint32m4_t vd, vfloat16m2_t vs2,
                                 unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_tu(vuint32m8_t vd, vfloat16m4_t vs2,
                                 unsigned int frm, size_t vl);
vint64m1_t __riscv_vfwcvt_x_tu(vint64m1_t vd, vfloat32mf2_t vs2,
                               unsigned int frm, size_t vl);
vint64m2_t __riscv_vfwcvt_x_tu(vint64m2_t vd, vfloat32m1_t vs2,
                               unsigned int frm, size_t vl);
vint64m4_t __riscv_vfwcvt_x_tu(vint64m4_t vd, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vint64m8_t __riscv_vfwcvt_x_tu(vint64m8_t vd, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_tu(vuint64m1_t vd, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_tu(vuint64m2_t vd, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_tu(vuint64m4_t vd, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_tu(vuint64m8_t vd, vfloat32m4_t vs2,
                                 unsigned int frm, size_t vl);
// masked functions
vint32mf2_t __riscv_vfwcvt_x_tum(vbool64_t vm, vint32mf2_t vd,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vint32m1_t __riscv_vfwcvt_x_tum(vbool32_t vm, vint32m1_t vd, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vint32m2_t __riscv_vfwcvt_x_tum(vbool16_t vm, vint32m2_t vd, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vint32m4_t __riscv_vfwcvt_x_tum(vbool8_t vm, vint32m4_t vd, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vint32m8_t __riscv_vfwcvt_x_tum(vbool4_t vm, vint32m8_t vd, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_tum(vbool64_t vm, vuint32mf2_t vd,
                                   vfloat16mf4_t vs2, unsigned int frm,
                                   size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_tum(vbool32_t vm, vuint32m1_t vd,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_tum(vbool16_t vm, vuint32m2_t vd,
                                  vfloat16m1_t vs2, unsigned int frm,
                                  size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_tum(vbool8_t vm, vuint32m4_t vd, vfloat16m2_t vs2,
                                  unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_tum(vbool4_t vm, vuint32m8_t vd, vfloat16m4_t vs2,
                                  unsigned int frm, size_t vl);
vint64m1_t __riscv_vfwcvt_x_tum(vbool64_t vm, vint64m1_t vd, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vint64m2_t __riscv_vfwcvt_x_tum(vbool32_t vm, vint64m2_t vd, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vint64m4_t __riscv_vfwcvt_x_tum(vbool16_t vm, vint64m4_t vd, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vint64m8_t __riscv_vfwcvt_x_tum(vbool8_t vm, vint64m8_t vd, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_tum(vbool64_t vm, vuint64m1_t vd,
                                  vfloat32mf2_t vs2, unsigned int frm,
```

```
                                  size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_tum(vbool32_t vm, vuint64m2_t vd,
                                  vfloat32m1_t vs2, unsigned int frm,
                                  size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_tum(vbool16_t vm, vuint64m4_t vd,
                                  vfloat32m2_t vs2, unsigned int frm,
                                  size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_tum(vbool8_t vm, vuint64m8_t vd, vfloat32m4_t vs2,
                                  unsigned int frm, size_t vl);
// masked functions
vint32mf2_t __riscv_vfwcvt_x_tumu(vbool64_t vm, vint32mf2_t vd,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vint32m1_t __riscv_vfwcvt_x_tumu(vbool32_t vm, vint32m1_t vd, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vint32m2_t __riscv_vfwcvt_x_tumu(vbool16_t vm, vint32m2_t vd, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vint32m4_t __riscv_vfwcvt_x_tumu(vbool8_t vm, vint32m4_t vd, vfloat16m2_t vs2,
                                 unsigned int frm, size_t vl);
vint32m8_t __riscv_vfwcvt_x_tumu(vbool4_t vm, vint32m8_t vd, vfloat16m4_t vs2,
                                 unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfwcvt_xu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vfloat16mf4_t vs2, unsigned int frm,
                                    size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vfloat16mf2_t vs2, unsigned int frm,
                                   size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vfloat16m1_t vs2, unsigned int frm,
                                   size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_tumu(vbool8_t vm, vuint32m4_t vd,
                                   vfloat16m2_t vs2, unsigned int frm,
                                   size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_tumu(vbool4_t vm, vuint32m8_t vd,
                                   vfloat16m4_t vs2, unsigned int frm,
                                   size_t vl);
vint64m1_t __riscv_vfwcvt_x_tumu(vbool64_t vm, vint64m1_t vd, vfloat32mf2_t vs2,
                                 unsigned int frm, size_t vl);
vint64m2_t __riscv_vfwcvt_x_tumu(vbool32_t vm, vint64m2_t vd, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vint64m4_t __riscv_vfwcvt_x_tumu(vbool16_t vm, vint64m4_t vd, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vint64m8_t __riscv_vfwcvt_x_tumu(vbool8_t vm, vint64m8_t vd, vfloat32m4_t vs2,
                                 unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vfloat32mf2_t vs2, unsigned int frm,
                                   size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vfloat32m1_t vs2, unsigned int frm,
                                   size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vfloat32m2_t vs2, unsigned int frm,
                                   size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_tumu(vbool8_t vm, vuint64m8_t vd,
                                   vfloat32m4_t vs2, unsigned int frm,
                                   size_t vl);
// masked functions
vint32mf2_t __riscv_vfwcvt_x_mu(vbool64_t vm, vint32mf2_t vd, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vint32m1_t __riscv_vfwcvt_x_mu(vbool32_t vm, vint32m1_t vd, vfloat16mf2_t vs2,
                               unsigned int frm, size_t vl);
vint32m2_t __riscv_vfwcvt_x_mu(vbool16_t vm, vint32m2_t vd, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vint32m4_t __riscv_vfwcvt_x_mu(vbool8_t vm, vint32m4_t vd, vfloat16m2_t vs2,
                               unsigned int frm, size_t vl);
vint32m8_t __riscv_vfwcvt_x_mu(vbool4_t vm, vint32m8_t vd, vfloat16m4_t vs2,
                               unsigned int frm, size_t vl);
```

```
vuint32mf2_t __riscv_vfwcvt_xu_mu(vbool64_t vm, vuint32mf2_t vd,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vuint32m1_t __riscv_vfwcvt_xu_mu(vbool32_t vm, vuint32m1_t vd,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vuint32m2_t __riscv_vfwcvt_xu_mu(vbool16_t vm, vuint32m2_t vd, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfwcvt_xu_mu(vbool8_t vm, vuint32m4_t vd, vfloat16m2_t vs2,
                                 unsigned int frm, size_t vl);
vuint32m8_t __riscv_vfwcvt_xu_mu(vbool4_t vm, vuint32m8_t vd, vfloat16m4_t vs2,
                                 unsigned int frm, size_t vl);
vint64m1_t __riscv_vfwcvt_x_mu(vbool64_t vm, vint64m1_t vd, vfloat32mf2_t vs2,
                               unsigned int frm, size_t vl);
vint64m2_t __riscv_vfwcvt_x_mu(vbool32_t vm, vint64m2_t vd, vfloat32m1_t vs2,
                               unsigned int frm, size_t vl);
vint64m4_t __riscv_vfwcvt_x_mu(vbool16_t vm, vint64m4_t vd, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vint64m8_t __riscv_vfwcvt_x_mu(vbool8_t vm, vint64m8_t vd, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vuint64m1_t __riscv_vfwcvt_xu_mu(vbool64_t vm, vuint64m1_t vd,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vuint64m2_t __riscv_vfwcvt_xu_mu(vbool32_t vm, vuint64m2_t vd, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vuint64m4_t __riscv_vfwcvt_xu_mu(vbool16_t vm, vuint64m4_t vd, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vuint64m8_t __riscv_vfwcvt_xu_mu(vbool8_t vm, vuint64m8_t vd, vfloat32m4_t vs2,
                                 unsigned int frm, size_t vl);
```

D.5.18. Narrowing Floating-Point/Integer Type-Convert Intrinsics

```
vint8mf8_t __riscv_vfncvt_x_tu(vint8mf8_t vd, vfloat16mf4_t vs2, size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x_tu(vint8mf8_t vd, vfloat16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_x_tu(vint8mf4_t vd, vfloat16mf2_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x_tu(vint8mf4_t vd, vfloat16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_x_tu(vint8mf2_t vd, vfloat16m1_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x_tu(vint8mf2_t vd, vfloat16m1_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_x_tu(vint8m1_t vd, vfloat16m2_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x_tu(vint8m1_t vd, vfloat16m2_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_x_tu(vint8m2_t vd, vfloat16m4_t vs2, size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x_tu(vint8m2_t vd, vfloat16m4_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_x_tu(vint8m4_t vd, vfloat16m8_t vs2, size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x_tu(vint8m4_t vd, vfloat16m8_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_tu(vuint8mf8_t vd, vfloat16mf4_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu_tu(vuint8mf8_t vd, vfloat16mf4_t vs2,
                                     size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_tu(vuint8mf4_t vd, vfloat16mf2_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu_tu(vuint8mf4_t vd, vfloat16mf2_t vs2,
                                     size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_tu(vuint8mf2_t vd, vfloat16m1_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu_tu(vuint8mf2_t vd, vfloat16m1_t vs2,
                                     size_t vl);
vuint8m1_t __riscv_vfncvt_xu_tu(vuint8m1_t vd, vfloat16m2_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu_tu(vuint8m1_t vd, vfloat16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_tu(vuint8m2_t vd, vfloat16m4_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu_tu(vuint8m2_t vd, vfloat16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_tu(vuint8m4_t vd, vfloat16m8_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu_tu(vuint8m4_t vd, vfloat16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_x_tu(vint16mf4_t vd, vfloat32mf2_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x_tu(vint16mf4_t vd, vfloat32mf2_t vs2,
                                    size_t vl);
vint16mf2_t __riscv_vfncvt_x_tu(vint16mf2_t vd, vfloat32m1_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x_tu(vint16mf2_t vd, vfloat32m1_t vs2,
                                    size_t vl);
```

```
vint16m1_t __riscv_vfncvt_x_tu(vint16m1_t vd, vfloat32m2_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_rtz_x_tu(vint16m1_t vd, vfloat32m2_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_x_tu(vint16m2_t vd, vfloat32m4_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x_tu(vint16m2_t vd, vfloat32m4_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_x_tu(vint16m4_t vd, vfloat32m8_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x_tu(vint16m4_t vd, vfloat32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_tu(vuint16mf4_t vd, vfloat32mf2_t vs2,
                                  size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu_tu(vuint16mf4_t vd, vfloat32mf2_t vs2,
                                      size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_tu(vuint16mf2_t vd, vfloat32m1_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_rtz_xu_tu(vuint16mf2_t vd, vfloat32m1_t vs2,
                                      size_t vl);
vuint16m1_t __riscv_vfncvt_xu_tu(vuint16m1_t vd, vfloat32m2_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_rtz_xu_tu(vuint16m1_t vd, vfloat32m2_t vs2,
                                     size_t vl);
vuint16m2_t __riscv_vfncvt_xu_tu(vuint16m2_t vd, vfloat32m4_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_rtz_xu_tu(vuint16m2_t vd, vfloat32m4_t vs2,
                                     size_t vl);
vuint16m4_t __riscv_vfncvt_xu_tu(vuint16m4_t vd, vfloat32m8_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_rtz_xu_tu(vuint16m4_t vd, vfloat32m8_t vs2,
                                     size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tu(vfloat16mf4_t vd, vint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tu(vfloat16mf2_t vd, vint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tu(vfloat16m1_t vd, vint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tu(vfloat16m2_t vd, vint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tu(vfloat16m4_t vd, vint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tu(vfloat16mf4_t vd, vuint32mf2_t vs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tu(vfloat16mf2_t vd, vuint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tu(vfloat16m1_t vd, vuint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tu(vfloat16m2_t vd, vuint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tu(vfloat16m4_t vd, vuint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tu(vfloat16mf4_t vd, vfloat32mf2_t vs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vfncvt_rod_f_tu(vfloat16mf4_t vd, vfloat32mf2_t vs2,
                                      size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tu(vfloat16mf2_t vd, vfloat32m1_t vs2,
                                  size_t vl);
vfloat16mf2_t __riscv_vfncvt_rod_f_tu(vfloat16mf2_t vd, vfloat32m1_t vs2,
                                      size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tu(vfloat16m1_t vd, vfloat32m2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_rod_f_tu(vfloat16m1_t vd, vfloat32m2_t vs2,
                                     size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tu(vfloat16m2_t vd, vfloat32m4_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_rod_f_tu(vfloat16m2_t vd, vfloat32m4_t vs2,
                                     size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tu(vfloat16m4_t vd, vfloat32m8_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_rod_f_tu(vfloat16m4_t vd, vfloat32m8_t vs2,
                                     size_t vl);
vint32mf2_t __riscv_vfncvt_x_tu(vint32mf2_t vd, vfloat64m1_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_rtz_x_tu(vint32mf2_t vd, vfloat64m1_t vs2,
                                    size_t vl);
vint32m1_t __riscv_vfncvt_x_tu(vint32m1_t vd, vfloat64m2_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_rtz_x_tu(vint32m1_t vd, vfloat64m2_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_x_tu(vint32m2_t vd, vfloat64m4_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_rtz_x_tu(vint32m2_t vd, vfloat64m4_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_x_tu(vint32m4_t vd, vfloat64m8_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_rtz_x_tu(vint32m4_t vd, vfloat64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_tu(vuint32mf2_t vd, vfloat64m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_rtz_xu_tu(vuint32mf2_t vd, vfloat64m1_t vs2,
                                      size_t vl);
vuint32m1_t __riscv_vfncvt_xu_tu(vuint32m1_t vd, vfloat64m2_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_rtz_xu_tu(vuint32m1_t vd, vfloat64m2_t vs2,
                                     size_t vl);
vuint32m2_t __riscv_vfncvt_xu_tu(vuint32m2_t vd, vfloat64m4_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_rtz_xu_tu(vuint32m2_t vd, vfloat64m4_t vs2,
```

```
                                     size_t vl);
vuint32m4_t __riscv_vfncvt_xu_tu(vuint32m4_t vd, vfloat64m8_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_rtz_xu_tu(vuint32m4_t vd, vfloat64m8_t vs2,
                                     size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tu(vfloat32mf2_t vd, vint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tu(vfloat32m1_t vd, vint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tu(vfloat32m2_t vd, vint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tu(vfloat32m4_t vd, vint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tu(vfloat32mf2_t vd, vuint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tu(vfloat32m1_t vd, vuint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tu(vfloat32m2_t vd, vuint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tu(vfloat32m4_t vd, vuint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tu(vfloat32mf2_t vd, vfloat64m1_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfncvt_rod_f_tu(vfloat32mf2_t vd, vfloat64m1_t vs2,
                                      size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tu(vfloat32m1_t vd, vfloat64m2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_rod_f_tu(vfloat32m1_t vd, vfloat64m2_t vs2,
                                     size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tu(vfloat32m2_t vd, vfloat64m4_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_rod_f_tu(vfloat32m2_t vd, vfloat64m4_t vs2,
                                     size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tu(vfloat32m4_t vd, vfloat64m8_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_rod_f_tu(vfloat32m4_t vd, vfloat64m8_t vs2,
                                     size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_tum(vbool64_t vm, vint8mf8_t vd, vfloat16mf4_t vs2,
                                size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x_tum(vbool64_t vm, vint8mf8_t vd,
                                    vfloat16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_x_tum(vbool32_t vm, vint8mf4_t vd, vfloat16mf2_t vs2,
                                size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x_tum(vbool32_t vm, vint8mf4_t vd,
                                    vfloat16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_x_tum(vbool16_t vm, vint8mf2_t vd, vfloat16m1_t vs2,
                                size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x_tum(vbool16_t vm, vint8mf2_t vd,
                                    vfloat16m1_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_x_tum(vbool8_t vm, vint8m1_t vd, vfloat16m2_t vs2,
                               size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x_tum(vbool8_t vm, vint8m1_t vd, vfloat16m2_t vs2,
                                   size_t vl);
vint8m2_t __riscv_vfncvt_x_tum(vbool4_t vm, vint8m2_t vd, vfloat16m4_t vs2,
                               size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x_tum(vbool4_t vm, vint8m2_t vd, vfloat16m4_t vs2,
                                   size_t vl);
vint8m4_t __riscv_vfncvt_x_tum(vbool2_t vm, vint8m4_t vd, vfloat16m8_t vs2,
                               size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x_tum(vbool2_t vm, vint8m4_t vd, vfloat16m8_t vs2,
                                   size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_tum(vbool64_t vm, vuint8mf8_t vd,
                                  vfloat16mf4_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu_tum(vbool64_t vm, vuint8mf8_t vd,
                                      vfloat16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_tum(vbool32_t vm, vuint8mf4_t vd,
                                  vfloat16mf2_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu_tum(vbool32_t vm, vuint8mf4_t vd,
                                      vfloat16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_tum(vbool16_t vm, vuint8mf2_t vd,
                                  vfloat16m1_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu_tum(vbool16_t vm, vuint8mf2_t vd,
                                      vfloat16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_tum(vbool8_t vm, vuint8m1_t vd, vfloat16m2_t vs2,
                                 size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu_tum(vbool8_t vm, vuint8m1_t vd,
                                     vfloat16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_tum(vbool4_t vm, vuint8m2_t vd, vfloat16m4_t vs2,
```

```
                                  size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu_tum(vbool4_t vm, vuint8m2_t vd,
                                     vfloat16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_tum(vbool2_t vm, vuint8m4_t vd, vfloat16m8_t vs2,
                                  size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu_tum(vbool2_t vm, vuint8m4_t vd,
                                     vfloat16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_x_tum(vbool64_t vm, vint16mf4_t vd,
                                 vfloat32mf2_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x_tum(vbool64_t vm, vint16mf4_t vd,
                                     vfloat32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_x_tum(vbool32_t vm, vint16mf2_t vd, vfloat32m1_t vs2,
                                 size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x_tum(vbool32_t vm, vint16mf2_t vd,
                                     vfloat32m1_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_x_tum(vbool16_t vm, vint16m1_t vd, vfloat32m2_t vs2,
                                size_t vl);
vint16m1_t __riscv_vfncvt_rtz_x_tum(vbool16_t vm, vint16m1_t vd,
                                    vfloat32m2_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_x_tum(vbool8_t vm, vint16m2_t vd, vfloat32m4_t vs2,
                                size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x_tum(vbool8_t vm, vint16m2_t vd,
                                    vfloat32m4_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_x_tum(vbool4_t vm, vint16m4_t vd, vfloat32m8_t vs2,
                                size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x_tum(vbool4_t vm, vint16m4_t vd,
                                    vfloat32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vfloat32mf2_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu_tum(vbool64_t vm, vuint16mf4_t vd,
                                       vfloat32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_tum(vbool32_t vm, vuint16mf2_t vd,
                                   vfloat32m1_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_rtz_xu_tum(vbool32_t vm, vuint16mf2_t vd,
                                       vfloat32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_tum(vbool16_t vm, vuint16m1_t vd,
                                  vfloat32m2_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_rtz_xu_tum(vbool16_t vm, vuint16m1_t vd,
                                      vfloat32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_tum(vbool8_t vm, vuint16m2_t vd, vfloat32m4_t vs2,
                                  size_t vl);
vuint16m2_t __riscv_vfncvt_rtz_xu_tum(vbool8_t vm, vuint16m2_t vd,
                                      vfloat32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_tum(vbool4_t vm, vuint16m4_t vd, vfloat32m8_t vs2,
                                  size_t vl);
vuint16m4_t __riscv_vfncvt_rtz_xu_tum(vbool4_t vm, vuint16m4_t vd,
                                      vfloat32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   vint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   vint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat16m1_t vd, vint32m2_t vs2,
                                  size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat16m2_t vd, vint32m4_t vs2,
                                  size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tum(vbool4_t vm, vfloat16m4_t vd, vint32m8_t vs2,
                                  size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   vuint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   vuint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat16m1_t vd,
                                  vuint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat16m2_t vd, vuint32m4_t vs2,
                                  size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tum(vbool4_t vm, vfloat16m4_t vd, vuint32m8_t vs2,
                                  size_t vl);
```

```
vfloat16mf4_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat32mf2_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_rod_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                       vfloat32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat32m1_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_rod_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                       vfloat32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat32m2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_rod_f_tum(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat32m4_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_rod_f_tum(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tum(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat32m8_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_rod_f_tum(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_x_tum(vbool64_t vm, vint32mf2_t vd, vfloat64m1_t vs2,
                                 size_t vl);
vint32mf2_t __riscv_vfncvt_rtz_x_tum(vbool64_t vm, vint32mf2_t vd,
                                     vfloat64m1_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_x_tum(vbool32_t vm, vint32m1_t vd, vfloat64m2_t vs2,
                                size_t vl);
vint32m1_t __riscv_vfncvt_rtz_x_tum(vbool32_t vm, vint32m1_t vd,
                                    vfloat64m2_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_x_tum(vbool16_t vm, vint32m2_t vd, vfloat64m4_t vs2,
                                size_t vl);
vint32m2_t __riscv_vfncvt_rtz_x_tum(vbool16_t vm, vint32m2_t vd,
                                    vfloat64m4_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_x_tum(vbool8_t vm, vint32m4_t vd, vfloat64m8_t vs2,
                                size_t vl);
vint32m4_t __riscv_vfncvt_rtz_x_tum(vbool8_t vm, vint32m4_t vd,
                                    vfloat64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_tum(vbool64_t vm, vuint32mf2_t vd,
                                   vfloat64m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_rtz_xu_tum(vbool64_t vm, vuint32mf2_t vd,
                                       vfloat64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_tum(vbool32_t vm, vuint32m1_t vd,
                                  vfloat64m2_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_rtz_xu_tum(vbool32_t vm, vuint32m1_t vd,
                                      vfloat64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_xu_tum(vbool16_t vm, vuint32m2_t vd,
                                  vfloat64m4_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_rtz_xu_tum(vbool16_t vm, vuint32m2_t vd,
                                      vfloat64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_tum(vbool8_t vm, vuint32m4_t vd, vfloat64m8_t vs2,
                                  size_t vl);
vuint32m4_t __riscv_vfncvt_rtz_xu_tum(vbool8_t vm, vuint32m4_t vd,
                                      vfloat64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tum(vbool32_t vm, vfloat32m1_t vd, vint64m2_t vs2,
                                  size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat32m2_t vd, vint64m4_t vs2,
                                  size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat32m4_t vd, vint64m8_t vs2,
                                  size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vuint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vuint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vuint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat32m4_t vd, vuint64m8_t vs2,
```

```
                                  size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat64m1_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_rod_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                       vfloat64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat64m2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_rod_f_tum(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat64m4_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_rod_f_tum(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat64m8_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_rod_f_tum(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_tumu(vbool64_t vm, vint8mf8_t vd, vfloat16mf4_t vs2,
                                 size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x_tumu(vbool64_t vm, vint8mf8_t vd,
                                     vfloat16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_x_tumu(vbool32_t vm, vint8mf4_t vd, vfloat16mf2_t vs2,
                                 size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x_tumu(vbool32_t vm, vint8mf4_t vd,
                                     vfloat16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_x_tumu(vbool16_t vm, vint8mf2_t vd, vfloat16m1_t vs2,
                                 size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x_tumu(vbool16_t vm, vint8mf2_t vd,
                                     vfloat16m1_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_x_tumu(vbool8_t vm, vint8m1_t vd, vfloat16m2_t vs2,
                                size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x_tumu(vbool8_t vm, vint8m1_t vd, vfloat16m2_t vs2,
                                    size_t vl);
vint8m2_t __riscv_vfncvt_x_tumu(vbool4_t vm, vint8m2_t vd, vfloat16m4_t vs2,
                                size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x_tumu(vbool4_t vm, vint8m2_t vd, vfloat16m4_t vs2,
                                    size_t vl);
vint8m4_t __riscv_vfncvt_x_tumu(vbool2_t vm, vint8m4_t vd, vfloat16m8_t vs2,
                                size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x_tumu(vbool2_t vm, vint8m4_t vd, vfloat16m8_t vs2,
                                    size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_tumu(vbool64_t vm, vuint8mf8_t vd,
                                   vfloat16mf4_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu_tumu(vbool64_t vm, vuint8mf8_t vd,
                                       vfloat16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_tumu(vbool32_t vm, vuint8mf4_t vd,
                                   vfloat16mf2_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu_tumu(vbool32_t vm, vuint8mf4_t vd,
                                       vfloat16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_tumu(vbool16_t vm, vuint8mf2_t vd,
                                   vfloat16m1_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu_tumu(vbool16_t vm, vuint8mf2_t vd,
                                       vfloat16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_tumu(vbool8_t vm, vuint8m1_t vd, vfloat16m2_t vs2,
                                  size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu_tumu(vbool8_t vm, vuint8m1_t vd,
                                      vfloat16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_tumu(vbool4_t vm, vuint8m2_t vd, vfloat16m4_t vs2,
                                  size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu_tumu(vbool4_t vm, vuint8m2_t vd,
                                      vfloat16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_tumu(vbool2_t vm, vuint8m4_t vd, vfloat16m8_t vs2,
                                  size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu_tumu(vbool2_t vm, vuint8m4_t vd,
                                      vfloat16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_x_tumu(vbool64_t vm, vint16mf4_t vd,
```

```
                                    vfloat32mf2_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vfloat32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_x_tumu(vbool32_t vm, vint16mf2_t vd,
                                    vfloat32m1_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vfloat32m1_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_x_tumu(vbool16_t vm, vint16m1_t vd, vfloat32m2_t vs2,
                                 size_t vl);
vint16m1_t __riscv_vfncvt_rtz_x_tumu(vbool16_t vm, vint16m1_t vd,
                                     vfloat32m2_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_x_tumu(vbool8_t vm, vint16m2_t vd, vfloat32m4_t vs2,
                                 size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x_tumu(vbool8_t vm, vint16m2_t vd,
                                     vfloat32m4_t vs2, size_t vl);
vint16m4_t __riscv_vfncvt_x_tumu(vbool4_t vm, vint16m4_t vd, vfloat32m8_t vs2,
                                 size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x_tumu(vbool4_t vm, vint16m4_t vd,
                                     vfloat32m8_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                    vfloat32mf2_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu_tumu(vbool64_t vm, vuint16mf4_t vd,
                                        vfloat32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                    vfloat32m1_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_rtz_xu_tumu(vbool32_t vm, vuint16mf2_t vd,
                                        vfloat32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_tumu(vbool16_t vm, vuint16m1_t vd,
                                   vfloat32m2_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_rtz_xu_tumu(vbool16_t vm, vuint16m1_t vd,
                                       vfloat32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_tumu(vbool8_t vm, vuint16m2_t vd,
                                   vfloat32m4_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_rtz_xu_tumu(vbool8_t vm, vuint16m2_t vd,
                                       vfloat32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_tumu(vbool4_t vm, vuint16m4_t vd,
                                   vfloat32m8_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_rtz_xu_tumu(vbool4_t vm, vuint16m4_t vd,
                                       vfloat32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    vint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    vint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   vint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tumu(vbool8_t vm, vfloat16m2_t vd, vint32m4_t vs2,
                                   size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tumu(vbool4_t vm, vfloat16m4_t vd, vint32m8_t vs2,
                                   size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    vuint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    vuint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   vuint32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tumu(vbool8_t vm, vfloat16m2_t vd,
                                   vuint32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tumu(vbool4_t vm, vfloat16m4_t vd,
                                   vuint32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    vfloat32mf2_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_rod_f_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    vfloat32m1_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_rod_f_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat32m1_t vs2, size_t vl);
```

```
vfloat16m1_t __riscv_vfncvt_f_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   vfloat32m2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_rod_f_tumu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tumu(vbool8_t vm, vfloat16m2_t vd,
                                   vfloat32m4_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_rod_f_tumu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat32m4_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tumu(vbool4_t vm, vfloat16m4_t vd,
                                   vfloat32m8_t vs2, size_t vl);
vfloat16m4_t __riscv_vfncvt_rod_f_tumu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_x_tumu(vbool64_t vm, vint32mf2_t vd,
                                  vfloat64m1_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_rtz_x_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vfloat64m1_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_x_tumu(vbool32_t vm, vint32m1_t vd, vfloat64m2_t vs2,
                                 size_t vl);
vint32m1_t __riscv_vfncvt_rtz_x_tumu(vbool32_t vm, vint32m1_t vd,
                                     vfloat64m2_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_x_tumu(vbool16_t vm, vint32m2_t vd, vfloat64m4_t vs2,
                                 size_t vl);
vint32m2_t __riscv_vfncvt_rtz_x_tumu(vbool16_t vm, vint32m2_t vd,
                                     vfloat64m4_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_x_tumu(vbool8_t vm, vint32m4_t vd, vfloat64m8_t vs2,
                                 size_t vl);
vint32m4_t __riscv_vfncvt_rtz_x_tumu(vbool8_t vm, vint32m4_t vd,
                                     vfloat64m8_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vfloat64m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_rtz_xu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                        vfloat64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vfloat64m2_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_rtz_xu_tumu(vbool32_t vm, vuint32m1_t vd,
                                       vfloat64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_xu_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vfloat64m4_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_rtz_xu_tumu(vbool16_t vm, vuint32m2_t vd,
                                       vfloat64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_tumu(vbool8_t vm, vuint32m4_t vd,
                                   vfloat64m8_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_rtz_xu_tumu(vbool8_t vm, vuint32m4_t vd,
                                       vfloat64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tumu(vbool8_t vm, vfloat32m4_t vd, vint64m8_t vs2,
                                   size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vuint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vuint64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vuint64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vuint64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat64m1_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_rod_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat64m2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_rod_f_tumu(vbool32_t vm, vfloat32m1_t vd,
```

```
                                      vfloat64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat64m4_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_rod_f_tumu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat64m8_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_rod_f_tumu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat64m8_t vs2, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_mu(vbool64_t vm, vint8mf8_t vd, vfloat16mf4_t vs2,
                               size_t vl);
vint8mf8_t __riscv_vfncvt_rtz_x_mu(vbool64_t vm, vint8mf8_t vd,
                                   vfloat16mf4_t vs2, size_t vl);
vint8mf4_t __riscv_vfncvt_x_mu(vbool32_t vm, vint8mf4_t vd, vfloat16mf2_t vs2,
                               size_t vl);
vint8mf4_t __riscv_vfncvt_rtz_x_mu(vbool32_t vm, vint8mf4_t vd,
                                   vfloat16mf2_t vs2, size_t vl);
vint8mf2_t __riscv_vfncvt_x_mu(vbool16_t vm, vint8mf2_t vd, vfloat16m1_t vs2,
                               size_t vl);
vint8mf2_t __riscv_vfncvt_rtz_x_mu(vbool16_t vm, vint8mf2_t vd,
                                   vfloat16m1_t vs2, size_t vl);
vint8m1_t __riscv_vfncvt_x_mu(vbool8_t vm, vint8m1_t vd, vfloat16m2_t vs2,
                              size_t vl);
vint8m1_t __riscv_vfncvt_rtz_x_mu(vbool8_t vm, vint8m1_t vd, vfloat16m2_t vs2,
                                  size_t vl);
vint8m2_t __riscv_vfncvt_x_mu(vbool4_t vm, vint8m2_t vd, vfloat16m4_t vs2,
                              size_t vl);
vint8m2_t __riscv_vfncvt_rtz_x_mu(vbool4_t vm, vint8m2_t vd, vfloat16m4_t vs2,
                                  size_t vl);
vint8m4_t __riscv_vfncvt_x_mu(vbool2_t vm, vint8m4_t vd, vfloat16m8_t vs2,
                              size_t vl);
vint8m4_t __riscv_vfncvt_rtz_x_mu(vbool2_t vm, vint8m4_t vd, vfloat16m8_t vs2,
                                  size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_mu(vbool64_t vm, vuint8mf8_t vd,
                                 vfloat16mf4_t vs2, size_t vl);
vuint8mf8_t __riscv_vfncvt_rtz_xu_mu(vbool64_t vm, vuint8mf8_t vd,
                                     vfloat16mf4_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_mu(vbool32_t vm, vuint8mf4_t vd,
                                 vfloat16mf2_t vs2, size_t vl);
vuint8mf4_t __riscv_vfncvt_rtz_xu_mu(vbool32_t vm, vuint8mf4_t vd,
                                     vfloat16mf2_t vs2, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_mu(vbool16_t vm, vuint8mf2_t vd, vfloat16m1_t vs2,
                                 size_t vl);
vuint8mf2_t __riscv_vfncvt_rtz_xu_mu(vbool16_t vm, vuint8mf2_t vd,
                                     vfloat16m1_t vs2, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_mu(vbool8_t vm, vuint8m1_t vd, vfloat16m2_t vs2,
                                size_t vl);
vuint8m1_t __riscv_vfncvt_rtz_xu_mu(vbool8_t vm, vuint8m1_t vd,
                                    vfloat16m2_t vs2, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_mu(vbool4_t vm, vuint8m2_t vd, vfloat16m4_t vs2,
                                size_t vl);
vuint8m2_t __riscv_vfncvt_rtz_xu_mu(vbool4_t vm, vuint8m2_t vd,
                                    vfloat16m4_t vs2, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_mu(vbool2_t vm, vuint8m4_t vd, vfloat16m8_t vs2,
                                size_t vl);
vuint8m4_t __riscv_vfncvt_rtz_xu_mu(vbool2_t vm, vuint8m4_t vd,
                                    vfloat16m8_t vs2, size_t vl);
vint16mf4_t __riscv_vfncvt_x_mu(vbool64_t vm, vint16mf4_t vd, vfloat32mf2_t vs2,
                                size_t vl);
vint16mf4_t __riscv_vfncvt_rtz_x_mu(vbool64_t vm, vint16mf4_t vd,
                                    vfloat32mf2_t vs2, size_t vl);
vint16mf2_t __riscv_vfncvt_x_mu(vbool32_t vm, vint16mf2_t vd, vfloat32m1_t vs2,
                                size_t vl);
vint16mf2_t __riscv_vfncvt_rtz_x_mu(vbool32_t vm, vint16mf2_t vd,
                                    vfloat32m1_t vs2, size_t vl);
vint16m1_t __riscv_vfncvt_x_mu(vbool16_t vm, vint16m1_t vd, vfloat32m2_t vs2,
```

```
                                size_t vl);
vint16m1_t __riscv_vfncvt_rtz_x_mu(vbool16_t vm, vint16m1_t vd,
                                   vfloat32m2_t vs2, size_t vl);
vint16m2_t __riscv_vfncvt_x_mu(vbool8_t vm, vint16m2_t vd, vfloat32m4_t vs2,
                                size_t vl);
vint16m2_t __riscv_vfncvt_rtz_x_mu(vbool8_t vm, vint16m2_t vd, vfloat32m4_t vs2,
                                   size_t vl);
vint16m4_t __riscv_vfncvt_x_mu(vbool4_t vm, vint16m4_t vd, vfloat32m8_t vs2,
                                size_t vl);
vint16m4_t __riscv_vfncvt_rtz_x_mu(vbool4_t vm, vint16m4_t vd, vfloat32m8_t vs2,
                                   size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_mu(vbool64_t vm, vuint16mf4_t vd,
                                  vfloat32mf2_t vs2, size_t vl);
vuint16mf4_t __riscv_vfncvt_rtz_xu_mu(vbool64_t vm, vuint16mf4_t vd,
                                      vfloat32mf2_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_mu(vbool32_t vm, vuint16mf2_t vd,
                                  vfloat32m1_t vs2, size_t vl);
vuint16mf2_t __riscv_vfncvt_rtz_xu_mu(vbool32_t vm, vuint16mf2_t vd,
                                      vfloat32m1_t vs2, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_mu(vbool16_t vm, vuint16m1_t vd, vfloat32m2_t vs2,
                                 size_t vl);
vuint16m1_t __riscv_vfncvt_rtz_xu_mu(vbool16_t vm, vuint16m1_t vd,
                                     vfloat32m2_t vs2, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_mu(vbool8_t vm, vuint16m2_t vd, vfloat32m4_t vs2,
                                 size_t vl);
vuint16m2_t __riscv_vfncvt_rtz_xu_mu(vbool8_t vm, vuint16m2_t vd,
                                     vfloat32m4_t vs2, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_mu(vbool4_t vm, vuint16m4_t vd, vfloat32m8_t vs2,
                                 size_t vl);
vuint16m4_t __riscv_vfncvt_rtz_xu_mu(vbool4_t vm, vuint16m4_t vd,
                                     vfloat32m8_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  vint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  vint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat16m1_t vd, vint32m2_t vs2,
                                 size_t vl);
vfloat16m2_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat16m2_t vd, vint32m4_t vs2,
                                 size_t vl);
vfloat16m4_t __riscv_vfncvt_f_mu(vbool4_t vm, vfloat16m4_t vd, vint32m8_t vs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  vuint32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  vuint32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat16m1_t vd, vuint32m2_t vs2,
                                 size_t vl);
vfloat16m2_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat16m2_t vd, vuint32m4_t vs2,
                                 size_t vl);
vfloat16m4_t __riscv_vfncvt_f_mu(vbool4_t vm, vfloat16m4_t vd, vuint32m8_t vs2,
                                 size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat32mf2_t vs2, size_t vl);
vfloat16mf4_t __riscv_vfncvt_rod_f_mu(vbool64_t vm, vfloat16mf4_t vd,
                                      vfloat32mf2_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat32m1_t vs2, size_t vl);
vfloat16mf2_t __riscv_vfncvt_rod_f_mu(vbool32_t vm, vfloat16mf2_t vd,
                                      vfloat32m1_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat32m2_t vs2, size_t vl);
vfloat16m1_t __riscv_vfncvt_rod_f_mu(vbool16_t vm, vfloat16m1_t vd,
                                     vfloat32m2_t vs2, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat16m2_t vd, vfloat32m4_t vs2,
                                 size_t vl);
vfloat16m2_t __riscv_vfncvt_rod_f_mu(vbool8_t vm, vfloat16m2_t vd,
                                     vfloat32m4_t vs2, size_t vl);
```

```
vfloat16m4_t __riscv_vfncvt_f_mu(vbool4_t vm, vfloat16m4_t vd, vfloat32m8_t vs2,
                                 size_t vl);
vfloat16m4_t __riscv_vfncvt_rod_f_mu(vbool4_t vm, vfloat16m4_t vd,
                                     vfloat32m8_t vs2, size_t vl);
vint32mf2_t __riscv_vfncvt_x_mu(vbool64_t vm, vint32mf2_t vd, vfloat64m1_t vs2,
                                size_t vl);
vint32mf2_t __riscv_vfncvt_rtz_x_mu(vbool64_t vm, vint32mf2_t vd,
                                    vfloat64m1_t vs2, size_t vl);
vint32m1_t __riscv_vfncvt_x_mu(vbool32_t vm, vint32m1_t vd, vfloat64m2_t vs2,
                               size_t vl);
vint32m1_t __riscv_vfncvt_rtz_x_mu(vbool32_t vm, vint32m1_t vd,
                                   vfloat64m2_t vs2, size_t vl);
vint32m2_t __riscv_vfncvt_x_mu(vbool16_t vm, vint32m2_t vd, vfloat64m4_t vs2,
                               size_t vl);
vint32m2_t __riscv_vfncvt_rtz_x_mu(vbool16_t vm, vint32m2_t vd,
                                   vfloat64m4_t vs2, size_t vl);
vint32m4_t __riscv_vfncvt_x_mu(vbool8_t vm, vint32m4_t vd, vfloat64m8_t vs2,
                               size_t vl);
vint32m4_t __riscv_vfncvt_rtz_x_mu(vbool8_t vm, vint32m4_t vd, vfloat64m8_t vs2,
                                   size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_mu(vbool64_t vm, vuint32mf2_t vd,
                                  vfloat64m1_t vs2, size_t vl);
vuint32mf2_t __riscv_vfncvt_rtz_xu_mu(vbool64_t vm, vuint32mf2_t vd,
                                      vfloat64m1_t vs2, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_mu(vbool32_t vm, vuint32m1_t vd, vfloat64m2_t vs2,
                                 size_t vl);
vuint32m1_t __riscv_vfncvt_rtz_xu_mu(vbool32_t vm, vuint32m1_t vd,
                                     vfloat64m2_t vs2, size_t vl);
vuint32m2_t __riscv_vfncvt_xu_mu(vbool16_t vm, vuint32m2_t vd, vfloat64m4_t vs2,
                                 size_t vl);
vuint32m2_t __riscv_vfncvt_rtz_xu_mu(vbool16_t vm, vuint32m2_t vd,
                                     vfloat64m4_t vs2, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_mu(vbool8_t vm, vuint32m4_t vd, vfloat64m8_t vs2,
                                 size_t vl);
vuint32m4_t __riscv_vfncvt_rtz_xu_mu(vbool8_t vm, vuint32m4_t vd,
                                     vfloat64m8_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat32m1_t vd, vint64m2_t vs2,
                                 size_t vl);
vfloat32m2_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat32m2_t vd, vint64m4_t vs2,
                                 size_t vl);
vfloat32m4_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vint64m8_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vuint64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat32m1_t vd, vuint64m2_t vs2,
                                 size_t vl);
vfloat32m2_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat32m2_t vd, vuint64m4_t vs2,
                                 size_t vl);
vfloat32m4_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vuint64m8_t vs2,
                                 size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat64m1_t vs2, size_t vl);
vfloat32mf2_t __riscv_vfncvt_rod_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                      vfloat64m1_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat64m2_t vs2, size_t vl);
vfloat32m1_t __riscv_vfncvt_rod_f_mu(vbool32_t vm, vfloat32m1_t vd,
                                     vfloat64m2_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat64m4_t vs2, size_t vl);
vfloat32m2_t __riscv_vfncvt_rod_f_mu(vbool16_t vm, vfloat32m2_t vd,
                                     vfloat64m4_t vs2, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vfloat64m8_t vs2,
                                 size_t vl);
vfloat32m4_t __riscv_vfncvt_rod_f_mu(vbool8_t vm, vfloat32m4_t vd,
```

```
                                    vfloat64m8_t vs2, size_t vl);
vint8mf8_t __riscv_vfncvt_x_tu(vint8mf8_t vd, vfloat16mf4_t vs2,
                               unsigned int frm, size_t vl);
vint8mf4_t __riscv_vfncvt_x_tu(vint8mf4_t vd, vfloat16mf2_t vs2,
                               unsigned int frm, size_t vl);
vint8mf2_t __riscv_vfncvt_x_tu(vint8mf2_t vd, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vint8m1_t __riscv_vfncvt_x_tu(vint8m1_t vd, vfloat16m2_t vs2, unsigned int frm,
                              size_t vl);
vint8m2_t __riscv_vfncvt_x_tu(vint8m2_t vd, vfloat16m4_t vs2, unsigned int frm,
                              size_t vl);
vint8m4_t __riscv_vfncvt_x_tu(vint8m4_t vd, vfloat16m8_t vs2, unsigned int frm,
                              size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_tu(vuint8mf8_t vd, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_tu(vuint8mf4_t vd, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_tu(vuint8mf2_t vd, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_tu(vuint8m1_t vd, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_tu(vuint8m2_t vd, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_tu(vuint8m4_t vd, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vint16mf4_t __riscv_vfncvt_x_tu(vint16mf4_t vd, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfncvt_x_tu(vint16mf2_t vd, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vint16m1_t __riscv_vfncvt_x_tu(vint16m1_t vd, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vint16m2_t __riscv_vfncvt_x_tu(vint16m2_t vd, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vint16m4_t __riscv_vfncvt_x_tu(vint16m4_t vd, vfloat32m8_t vs2,
                               unsigned int frm, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_tu(vuint16mf4_t vd, vfloat32mf2_t vs2,
                                  unsigned int frm, size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_tu(vuint16mf2_t vd, vfloat32m1_t vs2,
                                  unsigned int frm, size_t vl);
vuint16m1_t __riscv_vfncvt_xu_tu(vuint16m1_t vd, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_tu(vuint16m2_t vd, vfloat32m4_t vs2,
                                 unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_tu(vuint16m4_t vd, vfloat32m8_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tu(vfloat16mf4_t vd, vint32mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tu(vfloat16mf2_t vd, vint32m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tu(vfloat16m1_t vd, vint32m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tu(vfloat16m2_t vd, vint32m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tu(vfloat16m4_t vd, vint32m8_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tu(vfloat16mf4_t vd, vuint32mf2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tu(vfloat16mf2_t vd, vuint32m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tu(vfloat16m1_t vd, vuint32m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tu(vfloat16m2_t vd, vuint32m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tu(vfloat16m4_t vd, vuint32m8_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tu(vfloat16mf4_t vd, vfloat32mf2_t vs2,
                                  unsigned int frm, size_t vl);
```

```
vfloat16mf2_t __riscv_vfncvt_f_tu(vfloat16mf2_t vd, vfloat32m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tu(vfloat16m1_t vd, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tu(vfloat16m2_t vd, vfloat32m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tu(vfloat16m4_t vd, vfloat32m8_t vs2,
                                 unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfncvt_x_tu(vint32mf2_t vd, vfloat64m1_t vs2,
                                unsigned int frm, size_t vl);
vint32m1_t __riscv_vfncvt_x_tu(vint32m1_t vd, vfloat64m2_t vs2,
                               unsigned int frm, size_t vl);
vint32m2_t __riscv_vfncvt_x_tu(vint32m2_t vd, vfloat64m4_t vs2,
                               unsigned int frm, size_t vl);
vint32m4_t __riscv_vfncvt_x_tu(vint32m4_t vd, vfloat64m8_t vs2,
                               unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_tu(vuint32mf2_t vd, vfloat64m1_t vs2,
                                  unsigned int frm, size_t vl);
vuint32m1_t __riscv_vfncvt_xu_tu(vuint32m1_t vd, vfloat64m2_t vs2,
                                 unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfncvt_xu_tu(vuint32m2_t vd, vfloat64m4_t vs2,
                                 unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_tu(vuint32m4_t vd, vfloat64m8_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tu(vfloat32mf2_t vd, vint64m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tu(vfloat32m1_t vd, vint64m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tu(vfloat32m2_t vd, vint64m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tu(vfloat32m4_t vd, vint64m8_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tu(vfloat32mf2_t vd, vuint64m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tu(vfloat32m1_t vd, vuint64m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tu(vfloat32m2_t vd, vuint64m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tu(vfloat32m4_t vd, vuint64m8_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tu(vfloat32mf2_t vd, vfloat64m1_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tu(vfloat32m1_t vd, vfloat64m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tu(vfloat32m2_t vd, vfloat64m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tu(vfloat32m4_t vd, vfloat64m8_t vs2,
                                 unsigned int frm, size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_tum(vbool64_t vm, vint8mf8_t vd, vfloat16mf4_t vs2,
                                unsigned int frm, size_t vl);
vint8mf4_t __riscv_vfncvt_x_tum(vbool32_t vm, vint8mf4_t vd, vfloat16mf2_t vs2,
                                unsigned int frm, size_t vl);
vint8mf2_t __riscv_vfncvt_x_tum(vbool16_t vm, vint8mf2_t vd, vfloat16m1_t vs2,
                                unsigned int frm, size_t vl);
vint8m1_t __riscv_vfncvt_x_tum(vbool8_t vm, vint8m1_t vd, vfloat16m2_t vs2,
                               unsigned int frm, size_t vl);
vint8m2_t __riscv_vfncvt_x_tum(vbool4_t vm, vint8m2_t vd, vfloat16m4_t vs2,
                               unsigned int frm, size_t vl);
vint8m4_t __riscv_vfncvt_x_tum(vbool2_t vm, vint8m4_t vd, vfloat16m8_t vs2,
                               unsigned int frm, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_tum(vbool64_t vm, vuint8mf8_t vd,
                                  vfloat16mf4_t vs2, unsigned int frm,
                                  size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_tum(vbool32_t vm, vuint8mf4_t vd,
                                  vfloat16mf2_t vs2, unsigned int frm,
                                  size_t vl);
```

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vuint8mf2_t __riscv_vfncvt_xu_tum(vbool16_t vm, vuint8mf2_t vd,
                                  vfloat16m1_t vs2, unsigned int frm,
                                  size_t vl);
vuint8m1_t __riscv_vfncvt_xu_tum(vbool8_t vm, vuint8m1_t vd, vfloat16m2_t vs2,
                                 unsigned int frm, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_tum(vbool4_t vm, vuint8m2_t vd, vfloat16m4_t vs2,
                                 unsigned int frm, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_tum(vbool2_t vm, vuint8m4_t vd, vfloat16m8_t vs2,
                                 unsigned int frm, size_t vl);
vint16mf4_t __riscv_vfncvt_x_tum(vbool64_t vm, vint16mf4_t vd,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vint16mf2_t __riscv_vfncvt_x_tum(vbool32_t vm, vint16mf2_t vd, vfloat32m1_t vs2,
                                 unsigned int frm, size_t vl);
vint16m1_t __riscv_vfncvt_x_tum(vbool16_t vm, vint16m1_t vd, vfloat32m2_t vs2,
                                unsigned int frm, size_t vl);
vint16m2_t __riscv_vfncvt_x_tum(vbool8_t vm, vint16m2_t vd, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vint16m4_t __riscv_vfncvt_x_tum(vbool4_t vm, vint16m4_t vd, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vfloat32mf2_t vs2, unsigned int frm,
                                   size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_tum(vbool32_t vm, vuint16mf2_t vd,
                                   vfloat32m1_t vs2, unsigned int frm,
                                   size_t vl);
vuint16m1_t __riscv_vfncvt_xu_tum(vbool16_t vm, vuint16m1_t vd,
                                  vfloat32m2_t vs2, unsigned int frm,
                                  size_t vl);
vuint16m2_t __riscv_vfncvt_xu_tum(vbool8_t vm, vuint16m2_t vd, vfloat32m4_t vs2,
                                  unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_tum(vbool4_t vm, vuint16m4_t vd, vfloat32m8_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   vint32mf2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   vint32m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat16m1_t vd, vint32m2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat16m2_t vd, vint32m4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tum(vbool4_t vm, vfloat16m4_t vd, vint32m8_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   vuint32mf2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   vuint32m1_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat16m1_t vd,
                                  vuint32m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat16m2_t vd, vuint32m4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tum(vbool4_t vm, vfloat16m4_t vd, vuint32m8_t vs2,
                                  unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat32mf2_t vs2, unsigned int frm,
                                   size_t vl);
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                                   vfloat32m1_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat32m2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat32m4_t vs2, unsigned int frm,
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                                  size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tum(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat32m8_t vs2, unsigned int frm,
                                  size_t vl);
vint32mf2_t __riscv_vfncvt_x_tum(vbool64_t vm, vint32mf2_t vd, vfloat64m1_t vs2,
                                 unsigned int frm, size_t vl);
vint32m1_t __riscv_vfncvt_x_tum(vbool32_t vm, vint32m1_t vd, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vint32m2_t __riscv_vfncvt_x_tum(vbool16_t vm, vint32m2_t vd, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vint32m4_t __riscv_vfncvt_x_tum(vbool8_t vm, vint32m4_t vd, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_tum(vbool64_t vm, vuint32mf2_t vd,
                                   vfloat64m1_t vs2, unsigned int frm,
                                   size_t vl);
vuint32m1_t __riscv_vfncvt_xu_tum(vbool32_t vm, vuint32m1_t vd,
                                  vfloat64m2_t vs2, unsigned int frm,
                                  size_t vl);
vuint32m2_t __riscv_vfncvt_xu_tum(vbool16_t vm, vuint32m2_t vd,
                                  vfloat64m4_t vs2, unsigned int frm,
                                  size_t vl);
vuint32m4_t __riscv_vfncvt_xu_tum(vbool8_t vm, vuint32m4_t vd, vfloat64m8_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vint64m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tum(vbool32_t vm, vfloat32m1_t vd, vint64m2_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat32m2_t vd, vint64m4_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat32m4_t vd, vint64m8_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vuint64m1_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vuint64m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vuint64m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat32m4_t vd, vuint64m8_t vs2,
                                  unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat64m1_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat64m2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat64m4_t vs2, unsigned int frm,
                                  size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tum(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat64m8_t vs2, unsigned int frm,
                                  size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_tumu(vbool64_t vm, vint8mf8_t vd, vfloat16mf4_t vs2,
                                 unsigned int frm, size_t vl);
vint8mf4_t __riscv_vfncvt_x_tumu(vbool32_t vm, vint8mf4_t vd, vfloat16mf2_t vs2,
                                 unsigned int frm, size_t vl);
vint8mf2_t __riscv_vfncvt_x_tumu(vbool16_t vm, vint8mf2_t vd, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
vint8m2_t __riscv_vfncvt_x_tumu(vbool4_t vm, vint8m2_t vd, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
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                                unsigned int frm, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_tumu(vbool64_t vm, vuint8mf8_t vd,
                                   vfloat16mf4_t vs2, unsigned int frm,
```

```
                                  size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_tumu(vbool32_t vm, vuint8mf4_t vd,
                                   vfloat16mf2_t vs2, unsigned int frm,
                                   size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_tumu(vbool16_t vm, vuint8mf2_t vd,
                                   vfloat16m1_t vs2, unsigned int frm,
                                   size_t vl);
vuint8m1_t __riscv_vfncvt_xu_tumu(vbool8_t vm, vuint8m1_t vd, vfloat16m2_t vs2,
                                  unsigned int frm, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_tumu(vbool4_t vm, vuint8m2_t vd, vfloat16m4_t vs2,
                                  unsigned int frm, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_tumu(vbool2_t vm, vuint8m4_t vd, vfloat16m8_t vs2,
                                  unsigned int frm, size_t vl);
vint16mf4_t __riscv_vfncvt_x_tumu(vbool64_t vm, vint16mf4_t vd,
                                  vfloat32mf2_t vs2, unsigned int frm,
                                  size_t vl);
vint16mf2_t __riscv_vfncvt_x_tumu(vbool32_t vm, vint16mf2_t vd,
                                  vfloat32m1_t vs2, unsigned int frm,
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vint16m1_t __riscv_vfncvt_x_tumu(vbool16_t vm, vint16m1_t vd, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vint16m2_t __riscv_vfncvt_x_tumu(vbool8_t vm, vint16m2_t vd, vfloat32m4_t vs2,
                                 unsigned int frm, size_t vl);
vint16m4_t __riscv_vfncvt_x_tumu(vbool4_t vm, vint16m4_t vd, vfloat32m8_t vs2,
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                                   vfloat32m4_t vs2, unsigned int frm,
                                   size_t vl);
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                                   vfloat32m8_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    vint32mf2_t vs2, unsigned int frm,
                                    size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    vint32m1_t vs2, unsigned int frm,
                                    size_t vl);
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                                   vint32m2_t vs2, unsigned int frm, size_t vl);
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                                   unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tumu(vbool4_t vm, vfloat16m4_t vd, vint32m8_t vs2,
                                   unsigned int frm, size_t vl);
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                                    vuint32mf2_t vs2, unsigned int frm,
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                                   vuint32m2_t vs2, unsigned int frm,
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                                   vuint32m4_t vs2, unsigned int frm,
                                   size_t vl);
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                                   vuint32m8_t vs2, unsigned int frm,
                                   size_t vl);
```

```
vfloat16mf4_t __riscv_vfncvt_f_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    vfloat32mf2_t vs2, unsigned int frm,
                                    size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    vfloat32m1_t vs2, unsigned int frm,
                                    size_t vl);
vfloat16m1_t __riscv_vfncvt_f_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   vfloat32m2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16m2_t __riscv_vfncvt_f_tumu(vbool8_t vm, vfloat16m2_t vd,
                                   vfloat32m4_t vs2, unsigned int frm,
                                   size_t vl);
vfloat16m4_t __riscv_vfncvt_f_tumu(vbool4_t vm, vfloat16m4_t vd,
                                   vfloat32m8_t vs2, unsigned int frm,
                                   size_t vl);
vint32mf2_t __riscv_vfncvt_x_tumu(vbool64_t vm, vint32mf2_t vd,
                                  vfloat64m1_t vs2, unsigned int frm,
                                  size_t vl);
vint32m1_t __riscv_vfncvt_x_tumu(vbool32_t vm, vint32m1_t vd, vfloat64m2_t vs2,
                                 unsigned int frm, size_t vl);
vint32m2_t __riscv_vfncvt_x_tumu(vbool16_t vm, vint32m2_t vd, vfloat64m4_t vs2,
                                 unsigned int frm, size_t vl);
vint32m4_t __riscv_vfncvt_x_tumu(vbool8_t vm, vint32m4_t vd, vfloat64m8_t vs2,
                                 unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vfloat64m1_t vs2, unsigned int frm,
                                    size_t vl);
vuint32m1_t __riscv_vfncvt_xu_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vfloat64m2_t vs2, unsigned int frm,
                                   size_t vl);
vuint32m2_t __riscv_vfncvt_xu_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vfloat64m4_t vs2, unsigned int frm,
                                   size_t vl);
vuint32m4_t __riscv_vfncvt_xu_tumu(vbool8_t vm, vuint32m4_t vd,
                                   vfloat64m8_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vint64m1_t vs2, unsigned int frm,
                                    size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vint64m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vint64m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tumu(vbool8_t vm, vfloat32m4_t vd, vint64m8_t vs2,
                                   unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vuint64m1_t vs2, unsigned int frm,
                                    size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vuint64m2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vuint64m4_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vuint64m8_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat64m1_t vs2, unsigned int frm,
                                    size_t vl);
vfloat32m1_t __riscv_vfncvt_f_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat64m2_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m2_t __riscv_vfncvt_f_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat64m4_t vs2, unsigned int frm,
                                   size_t vl);
vfloat32m4_t __riscv_vfncvt_f_tumu(vbool8_t vm, vfloat32m4_t vd,
```

```
                                vfloat64m8_t vs2, unsigned int frm,
                                size_t vl);
// masked functions
vint8mf8_t __riscv_vfncvt_x_mu(vbool64_t vm, vint8mf8_t vd, vfloat16mf4_t vs2,
                               unsigned int frm, size_t vl);
vint8mf4_t __riscv_vfncvt_x_mu(vbool32_t vm, vint8mf4_t vd, vfloat16mf2_t vs2,
                               unsigned int frm, size_t vl);
vint8mf2_t __riscv_vfncvt_x_mu(vbool16_t vm, vint8mf2_t vd, vfloat16m1_t vs2,
                               unsigned int frm, size_t vl);
vint8m1_t __riscv_vfncvt_x_mu(vbool8_t vm, vint8m1_t vd, vfloat16m2_t vs2,
                              unsigned int frm, size_t vl);
vint8m2_t __riscv_vfncvt_x_mu(vbool4_t vm, vint8m2_t vd, vfloat16m4_t vs2,
                              unsigned int frm, size_t vl);
vint8m4_t __riscv_vfncvt_x_mu(vbool2_t vm, vint8m4_t vd, vfloat16m8_t vs2,
                              unsigned int frm, size_t vl);
vuint8mf8_t __riscv_vfncvt_xu_mu(vbool64_t vm, vuint8mf8_t vd,
                                 vfloat16mf4_t vs2, unsigned int frm,
                                 size_t vl);
vuint8mf4_t __riscv_vfncvt_xu_mu(vbool32_t vm, vuint8mf4_t vd,
                                 vfloat16mf2_t vs2, unsigned int frm,
                                 size_t vl);
vuint8mf2_t __riscv_vfncvt_xu_mu(vbool16_t vm, vuint8mf2_t vd, vfloat16m1_t vs2,
                                 unsigned int frm, size_t vl);
vuint8m1_t __riscv_vfncvt_xu_mu(vbool8_t vm, vuint8m1_t vd, vfloat16m2_t vs2,
                                unsigned int frm, size_t vl);
vuint8m2_t __riscv_vfncvt_xu_mu(vbool4_t vm, vuint8m2_t vd, vfloat16m4_t vs2,
                                unsigned int frm, size_t vl);
vuint8m4_t __riscv_vfncvt_xu_mu(vbool2_t vm, vuint8m4_t vd, vfloat16m8_t vs2,
                                unsigned int frm, size_t vl);
vint16mf4_t __riscv_vfncvt_x_mu(vbool64_t vm, vint16mf4_t vd, vfloat32mf2_t vs2,
                                unsigned int frm, size_t vl);
vint16mf2_t __riscv_vfncvt_x_mu(vbool32_t vm, vint16mf2_t vd, vfloat32m1_t vs2,
                                unsigned int frm, size_t vl);
vint16m1_t __riscv_vfncvt_x_mu(vbool16_t vm, vint16m1_t vd, vfloat32m2_t vs2,
                               unsigned int frm, size_t vl);
vint16m2_t __riscv_vfncvt_x_mu(vbool8_t vm, vint16m2_t vd, vfloat32m4_t vs2,
                               unsigned int frm, size_t vl);
vint16m4_t __riscv_vfncvt_x_mu(vbool4_t vm, vint16m4_t vd, vfloat32m8_t vs2,
                               unsigned int frm, size_t vl);
vuint16mf4_t __riscv_vfncvt_xu_mu(vbool64_t vm, vuint16mf4_t vd,
                                  vfloat32mf2_t vs2, unsigned int frm,
                                  size_t vl);
vuint16mf2_t __riscv_vfncvt_xu_mu(vbool32_t vm, vuint16mf2_t vd,
                                  vfloat32m1_t vs2, unsigned int frm,
                                  size_t vl);
vuint16m1_t __riscv_vfncvt_xu_mu(vbool16_t vm, vuint16m1_t vd, vfloat32m2_t vs2,
                                 unsigned int frm, size_t vl);
vuint16m2_t __riscv_vfncvt_xu_mu(vbool8_t vm, vuint16m2_t vd, vfloat32m4_t vs2,
                                 unsigned int frm, size_t vl);
vuint16m4_t __riscv_vfncvt_xu_mu(vbool4_t vm, vuint16m4_t vd, vfloat32m8_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  vint32mf2_t vs2, unsigned int frm, size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  vint32m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat16m1_t vd, vint32m2_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat16m2_t vd, vint32m4_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_mu(vbool4_t vm, vfloat16m4_t vd, vint32m8_t vs2,
                                 unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  vuint32mf2_t vs2, unsigned int frm,
                                  size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  vuint32m1_t vs2, unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat16m1_t vd, vuint32m2_t vs2,
```

```
                                unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat16m2_t vd, vuint32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_mu(vbool4_t vm, vfloat16m4_t vd, vuint32m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat16mf4_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat16mf4_t vd,
                                 vfloat32mf2_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16mf2_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat16mf2_t vd,
                                 vfloat32m1_t vs2, unsigned int frm,
                                 size_t vl);
vfloat16m1_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat16m1_t vd,
                                vfloat32m2_t vs2, unsigned int frm, size_t vl);
vfloat16m2_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat16m2_t vd, vfloat32m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat16m4_t __riscv_vfncvt_f_mu(vbool4_t vm, vfloat16m4_t vd, vfloat32m8_t vs2,
                                unsigned int frm, size_t vl);
vint32mf2_t __riscv_vfncvt_x_mu(vbool64_t vm, vint32mf2_t vd, vfloat64m1_t vs2,
                               unsigned int frm, size_t vl);
vint32m1_t __riscv_vfncvt_x_mu(vbool32_t vm, vint32m1_t vd, vfloat64m2_t vs2,
                              unsigned int frm, size_t vl);
vint32m2_t __riscv_vfncvt_x_mu(vbool16_t vm, vint32m2_t vd, vfloat64m4_t vs2,
                              unsigned int frm, size_t vl);
vint32m4_t __riscv_vfncvt_x_mu(vbool8_t vm, vint32m4_t vd, vfloat64m8_t vs2,
                              unsigned int frm, size_t vl);
vuint32mf2_t __riscv_vfncvt_xu_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vfloat64m1_t vs2, unsigned int frm,
                                 size_t vl);
vuint32m1_t __riscv_vfncvt_xu_mu(vbool32_t vm, vuint32m1_t vd, vfloat64m2_t vs2,
                                unsigned int frm, size_t vl);
vuint32m2_t __riscv_vfncvt_xu_mu(vbool16_t vm, vuint32m2_t vd, vfloat64m4_t vs2,
                                unsigned int frm, size_t vl);
vuint32m4_t __riscv_vfncvt_xu_mu(vbool8_t vm, vuint32m4_t vd, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vint64m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat32m1_t vd, vint64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat32m2_t vd, vint64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vint64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vuint64m1_t vs2, unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat32m1_t vd, vuint64m2_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat32m2_t vd, vuint64m4_t vs2,
                                unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vuint64m8_t vs2,
                                unsigned int frm, size_t vl);
vfloat32mf2_t __riscv_vfncvt_f_mu(vbool64_t vm, vfloat32mf2_t vd,
                                 vfloat64m1_t vs2, unsigned int frm,
                                 size_t vl);
vfloat32m1_t __riscv_vfncvt_f_mu(vbool32_t vm, vfloat32m1_t vd,
                                vfloat64m2_t vs2, unsigned int frm, size_t vl);
vfloat32m2_t __riscv_vfncvt_f_mu(vbool16_t vm, vfloat32m2_t vd,
                                vfloat64m4_t vs2, unsigned int frm, size_t vl);
vfloat32m4_t __riscv_vfncvt_f_mu(vbool8_t vm, vfloat32m4_t vd, vfloat64m8_t vs2,
                                unsigned int frm, size_t vl);
```

D.6. Vector Reduction Operations

D.6.1. Vector Single-Width Integer Reduction Intrinsics

```
vint8m1_t __riscv_vredsum_tu(vint8m1_t vd, vint8mf8_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredsum_tu(vint8m1_t vd, vint8mf4_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredsum_tu(vint8m1_t vd, vint8mf2_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredsum_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredsum_tu(vint8m1_t vd, vint8m2_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredsum_tu(vint8m1_t vd, vint8m4_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredsum_tu(vint8m1_t vd, vint8m8_t vs2, vint8m1_t vs1,
                             size_t vl);
vint16m1_t __riscv_vredsum_tu(vint16m1_t vd, vint16mf4_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredsum_tu(vint16m1_t vd, vint16mf2_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredsum_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredsum_tu(vint16m1_t vd, vint16m2_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredsum_tu(vint16m1_t vd, vint16m4_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredsum_tu(vint16m1_t vd, vint16m8_t vs2, vint16m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredsum_tu(vint32m1_t vd, vint32mf2_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredsum_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredsum_tu(vint32m1_t vd, vint32m2_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredsum_tu(vint32m1_t vd, vint32m4_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredsum_tu(vint32m1_t vd, vint32m8_t vs2, vint32m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredsum_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredsum_tu(vint64m1_t vd, vint64m2_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredsum_tu(vint64m1_t vd, vint64m4_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredsum_tu(vint64m1_t vd, vint64m8_t vs2, vint64m1_t vs1,
                              size_t vl);
vint8m1_t __riscv_vredmax_tu(vint8m1_t vd, vint8mf8_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmax_tu(vint8m1_t vd, vint8mf4_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmax_tu(vint8m1_t vd, vint8mf2_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmax_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmax_tu(vint8m1_t vd, vint8m2_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmax_tu(vint8m1_t vd, vint8m4_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmax_tu(vint8m1_t vd, vint8m8_t vs2, vint8m1_t vs1,
                             size_t vl);
vint16m1_t __riscv_vredmax_tu(vint16m1_t vd, vint16mf4_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredmax_tu(vint16m1_t vd, vint16mf2_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredmax_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                              size_t vl);
```

```
vint16m1_t __riscv_vredmax_tu(vint16m1_t vd, vint16m2_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredmax_tu(vint16m1_t vd, vint16m4_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredmax_tu(vint16m1_t vd, vint16m8_t vs2, vint16m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredmax_tu(vint32m1_t vd, vint32mf2_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredmax_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredmax_tu(vint32m1_t vd, vint32m2_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredmax_tu(vint32m1_t vd, vint32m4_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredmax_tu(vint32m1_t vd, vint32m8_t vs2, vint32m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredmax_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredmax_tu(vint64m1_t vd, vint64m2_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredmax_tu(vint64m1_t vd, vint64m4_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredmax_tu(vint64m1_t vd, vint64m8_t vs2, vint64m1_t vs1,
                              size_t vl);
vint8m1_t __riscv_vredmin_tu(vint8m1_t vd, vint8mf8_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmin_tu(vint8m1_t vd, vint8mf4_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmin_tu(vint8m1_t vd, vint8mf2_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmin_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmin_tu(vint8m1_t vd, vint8m2_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmin_tu(vint8m1_t vd, vint8m4_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredmin_tu(vint8m1_t vd, vint8m8_t vs2, vint8m1_t vs1,
                             size_t vl);
vint16m1_t __riscv_vredmin_tu(vint16m1_t vd, vint16mf4_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredmin_tu(vint16m1_t vd, vint16mf2_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredmin_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredmin_tu(vint16m1_t vd, vint16m2_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredmin_tu(vint16m1_t vd, vint16m4_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredmin_tu(vint16m1_t vd, vint16m8_t vs2, vint16m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredmin_tu(vint32m1_t vd, vint32mf2_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredmin_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredmin_tu(vint32m1_t vd, vint32m2_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredmin_tu(vint32m1_t vd, vint32m4_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredmin_tu(vint32m1_t vd, vint32m8_t vs2, vint32m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredmin_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredmin_tu(vint64m1_t vd, vint64m2_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredmin_tu(vint64m1_t vd, vint64m4_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredmin_tu(vint64m1_t vd, vint64m8_t vs2, vint64m1_t vs1,
```

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                              size_t vl);
vint8m1_t __riscv_vredand_tu(vint8m1_t vd, vint8mf8_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredand_tu(vint8m1_t vd, vint8mf4_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredand_tu(vint8m1_t vd, vint8mf2_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredand_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredand_tu(vint8m1_t vd, vint8m2_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredand_tu(vint8m1_t vd, vint8m4_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredand_tu(vint8m1_t vd, vint8m8_t vs2, vint8m1_t vs1,
                             size_t vl);
vint16m1_t __riscv_vredand_tu(vint16m1_t vd, vint16mf4_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredand_tu(vint16m1_t vd, vint16mf2_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredand_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredand_tu(vint16m1_t vd, vint16m2_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredand_tu(vint16m1_t vd, vint16m4_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredand_tu(vint16m1_t vd, vint16m8_t vs2, vint16m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredand_tu(vint32m1_t vd, vint32mf2_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredand_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredand_tu(vint32m1_t vd, vint32m2_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredand_tu(vint32m1_t vd, vint32m4_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredand_tu(vint32m1_t vd, vint32m8_t vs2, vint32m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredand_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredand_tu(vint64m1_t vd, vint64m2_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredand_tu(vint64m1_t vd, vint64m4_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredand_tu(vint64m1_t vd, vint64m8_t vs2, vint64m1_t vs1,
                              size_t vl);
vint8m1_t __riscv_vredor_tu(vint8m1_t vd, vint8mf8_t vs2, vint8m1_t vs1,
                            size_t vl);
vint8m1_t __riscv_vredor_tu(vint8m1_t vd, vint8mf4_t vs2, vint8m1_t vs1,
                            size_t vl);
vint8m1_t __riscv_vredor_tu(vint8m1_t vd, vint8mf2_t vs2, vint8m1_t vs1,
                            size_t vl);
vint8m1_t __riscv_vredor_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                            size_t vl);
vint8m1_t __riscv_vredor_tu(vint8m1_t vd, vint8m2_t vs2, vint8m1_t vs1,
                            size_t vl);
vint8m1_t __riscv_vredor_tu(vint8m1_t vd, vint8m4_t vs2, vint8m1_t vs1,
                            size_t vl);
vint8m1_t __riscv_vredor_tu(vint8m1_t vd, vint8m8_t vs2, vint8m1_t vs1,
                            size_t vl);
vint16m1_t __riscv_vredor_tu(vint16m1_t vd, vint16mf4_t vs2, vint16m1_t vs1,
                             size_t vl);
vint16m1_t __riscv_vredor_tu(vint16m1_t vd, vint16mf2_t vs2, vint16m1_t vs1,
                             size_t vl);
vint16m1_t __riscv_vredor_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                             size_t vl);
vint16m1_t __riscv_vredor_tu(vint16m1_t vd, vint16m2_t vs2, vint16m1_t vs1,
                             size_t vl);
```

```
vint16m1_t __riscv_vredor_tu(vint16m1_t vd, vint16m4_t vs2, vint16m1_t vs1,
                             size_t vl);
vint16m1_t __riscv_vredor_tu(vint16m1_t vd, vint16m8_t vs2, vint16m1_t vs1,
                             size_t vl);
vint32m1_t __riscv_vredor_tu(vint32m1_t vd, vint32mf2_t vs2, vint32m1_t vs1,
                             size_t vl);
vint32m1_t __riscv_vredor_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                             size_t vl);
vint32m1_t __riscv_vredor_tu(vint32m1_t vd, vint32m2_t vs2, vint32m1_t vs1,
                             size_t vl);
vint32m1_t __riscv_vredor_tu(vint32m1_t vd, vint32m4_t vs2, vint32m1_t vs1,
                             size_t vl);
vint32m1_t __riscv_vredor_tu(vint32m1_t vd, vint32m8_t vs2, vint32m1_t vs1,
                             size_t vl);
vint64m1_t __riscv_vredor_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                             size_t vl);
vint64m1_t __riscv_vredor_tu(vint64m1_t vd, vint64m2_t vs2, vint64m1_t vs1,
                             size_t vl);
vint64m1_t __riscv_vredor_tu(vint64m1_t vd, vint64m4_t vs2, vint64m1_t vs1,
                             size_t vl);
vint64m1_t __riscv_vredor_tu(vint64m1_t vd, vint64m8_t vs2, vint64m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredxor_tu(vint8m1_t vd, vint8mf8_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredxor_tu(vint8m1_t vd, vint8mf4_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredxor_tu(vint8m1_t vd, vint8mf2_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredxor_tu(vint8m1_t vd, vint8m1_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredxor_tu(vint8m1_t vd, vint8m2_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredxor_tu(vint8m1_t vd, vint8m4_t vs2, vint8m1_t vs1,
                             size_t vl);
vint8m1_t __riscv_vredxor_tu(vint8m1_t vd, vint8m8_t vs2, vint8m1_t vs1,
                             size_t vl);
vint16m1_t __riscv_vredxor_tu(vint16m1_t vd, vint16mf4_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredxor_tu(vint16m1_t vd, vint16mf2_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredxor_tu(vint16m1_t vd, vint16m1_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredxor_tu(vint16m1_t vd, vint16m2_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredxor_tu(vint16m1_t vd, vint16m4_t vs2, vint16m1_t vs1,
                              size_t vl);
vint16m1_t __riscv_vredxor_tu(vint16m1_t vd, vint16m8_t vs2, vint16m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredxor_tu(vint32m1_t vd, vint32mf2_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredxor_tu(vint32m1_t vd, vint32m1_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredxor_tu(vint32m1_t vd, vint32m2_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredxor_tu(vint32m1_t vd, vint32m4_t vs2, vint32m1_t vs1,
                              size_t vl);
vint32m1_t __riscv_vredxor_tu(vint32m1_t vd, vint32m8_t vs2, vint32m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredxor_tu(vint64m1_t vd, vint64m1_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredxor_tu(vint64m1_t vd, vint64m2_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredxor_tu(vint64m1_t vd, vint64m4_t vs2, vint64m1_t vs1,
                              size_t vl);
vint64m1_t __riscv_vredxor_tu(vint64m1_t vd, vint64m8_t vs2, vint64m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredsum_tu(vuint8m1_t vd, vuint8mf8_t vs2, vuint8m1_t vs1,
```

```
                              size_t vl);
vuint8m1_t __riscv_vredsum_tu(vuint8m1_t vd, vuint8mf4_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredsum_tu(vuint8m1_t vd, vuint8mf2_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredsum_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredsum_tu(vuint8m1_t vd, vuint8m2_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredsum_tu(vuint8m1_t vd, vuint8m4_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredsum_tu(vuint8m1_t vd, vuint8m8_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vredsum_tu(vuint16m1_t vd, vuint16mf4_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_tu(vuint16m1_t vd, vuint16mf2_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint16m1_t __riscv_vredsum_tu(vuint16m1_t vd, vuint16m2_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint16m1_t __riscv_vredsum_tu(vuint16m1_t vd, vuint16m4_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint16m1_t __riscv_vredsum_tu(vuint16m1_t vd, vuint16m8_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredsum_tu(vuint32m1_t vd, vuint32mf2_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredsum_tu(vuint32m1_t vd, vuint32m2_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredsum_tu(vuint32m1_t vd, vuint32m4_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredsum_tu(vuint32m1_t vd, vuint32m8_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredsum_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredsum_tu(vuint64m1_t vd, vuint64m2_t vs2, vuint64m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredsum_tu(vuint64m1_t vd, vuint64m4_t vs2, vuint64m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredsum_tu(vuint64m1_t vd, vuint64m8_t vs2, vuint64m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredmaxu_tu(vuint8m1_t vd, vuint8mf8_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredmaxu_tu(vuint8m1_t vd, vuint8mf4_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredmaxu_tu(vuint8m1_t vd, vuint8mf2_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredmaxu_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredmaxu_tu(vuint8m1_t vd, vuint8m2_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredmaxu_tu(vuint8m1_t vd, vuint8m4_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredmaxu_tu(vuint8m1_t vd, vuint8m8_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint16m1_t __riscv_vredmaxu_tu(vuint16m1_t vd, vuint16mf4_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_tu(vuint16m1_t vd, vuint16mf2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_tu(vuint16m1_t vd, vuint16m2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_tu(vuint16m1_t vd, vuint16m4_t vs2,
                                vuint16m1_t vs1, size_t vl);
```

```
vuint16m1_t __riscv_vredmaxu_tu(vuint16m1_t vd, vuint16m8_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_tu(vuint32m1_t vd, vuint32mf2_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_tu(vuint32m1_t vd, vuint32m2_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_tu(vuint32m1_t vd, vuint32m4_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_tu(vuint32m1_t vd, vuint32m8_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_tu(vuint64m1_t vd, vuint64m2_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_tu(vuint64m1_t vd, vuint64m4_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_tu(vuint64m1_t vd, vuint64m8_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_tu(vuint8m1_t vd, vuint8mf8_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredminu_tu(vuint8m1_t vd, vuint8mf4_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredminu_tu(vuint8m1_t vd, vuint8mf2_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredminu_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredminu_tu(vuint8m1_t vd, vuint8m2_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredminu_tu(vuint8m1_t vd, vuint8m4_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredminu_tu(vuint8m1_t vd, vuint8m8_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint16m1_t __riscv_vredminu_tu(vuint16m1_t vd, vuint16mf4_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_tu(vuint16m1_t vd, vuint16mf2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_tu(vuint16m1_t vd, vuint16m2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_tu(vuint16m1_t vd, vuint16m4_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_tu(vuint16m1_t vd, vuint16m8_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_tu(vuint32m1_t vd, vuint32mf2_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_tu(vuint32m1_t vd, vuint32m2_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_tu(vuint32m1_t vd, vuint32m4_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_tu(vuint32m1_t vd, vuint32m8_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_tu(vuint64m1_t vd, vuint64m2_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_tu(vuint64m1_t vd, vuint64m4_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_tu(vuint64m1_t vd, vuint64m8_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_tu(vuint8m1_t vd, vuint8mf8_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredand_tu(vuint8m1_t vd, vuint8mf4_t vs2, vuint8m1_t vs1,
```

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                              size_t vl);
vuint8m1_t __riscv_vredand_tu(vuint8m1_t vd, vuint8mf2_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredand_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredand_tu(vuint8m1_t vd, vuint8m2_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredand_tu(vuint8m1_t vd, vuint8m4_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredand_tu(vuint8m1_t vd, vuint8m8_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vredand_tu(vuint16m1_t vd, vuint16mf4_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_tu(vuint16m1_t vd, vuint16mf2_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint16m1_t __riscv_vredand_tu(vuint16m1_t vd, vuint16m2_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint16m1_t __riscv_vredand_tu(vuint16m1_t vd, vuint16m4_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint16m1_t __riscv_vredand_tu(vuint16m1_t vd, vuint16m8_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredand_tu(vuint32m1_t vd, vuint32mf2_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredand_tu(vuint32m1_t vd, vuint32m2_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredand_tu(vuint32m1_t vd, vuint32m4_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredand_tu(vuint32m1_t vd, vuint32m8_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredand_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredand_tu(vuint64m1_t vd, vuint64m2_t vs2, vuint64m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredand_tu(vuint64m1_t vd, vuint64m4_t vs2, vuint64m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredand_tu(vuint64m1_t vd, vuint64m8_t vs2, vuint64m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vredor_tu(vuint8m1_t vd, vuint8mf8_t vs2, vuint8m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vredor_tu(vuint8m1_t vd, vuint8mf4_t vs2, vuint8m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vredor_tu(vuint8m1_t vd, vuint8mf2_t vs2, vuint8m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vredor_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vredor_tu(vuint8m1_t vd, vuint8m2_t vs2, vuint8m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vredor_tu(vuint8m1_t vd, vuint8m4_t vs2, vuint8m1_t vs1,
                             size_t vl);
vuint8m1_t __riscv_vredor_tu(vuint8m1_t vd, vuint8m8_t vs2, vuint8m1_t vs1,
                             size_t vl);
vuint16m1_t __riscv_vredor_tu(vuint16m1_t vd, vuint16mf4_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vredor_tu(vuint16m1_t vd, vuint16mf2_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vredor_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vredor_tu(vuint16m1_t vd, vuint16m2_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vredor_tu(vuint16m1_t vd, vuint16m4_t vs2, vuint16m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vredor_tu(vuint16m1_t vd, vuint16m8_t vs2, vuint16m1_t vs1,
                              size_t vl);
```

```
vuint32m1_t __riscv_vredor_tu(vuint32m1_t vd, vuint32mf2_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vredor_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vredor_tu(vuint32m1_t vd, vuint32m2_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vredor_tu(vuint32m1_t vd, vuint32m4_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint32m1_t __riscv_vredor_tu(vuint32m1_t vd, vuint32m8_t vs2, vuint32m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vredor_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vredor_tu(vuint64m1_t vd, vuint64m2_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vredor_tu(vuint64m1_t vd, vuint64m4_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint64m1_t __riscv_vredor_tu(vuint64m1_t vd, vuint64m8_t vs2, vuint64m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredxor_tu(vuint8m1_t vd, vuint8mf8_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredxor_tu(vuint8m1_t vd, vuint8mf4_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredxor_tu(vuint8m1_t vd, vuint8mf2_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredxor_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredxor_tu(vuint8m1_t vd, vuint8m2_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredxor_tu(vuint8m1_t vd, vuint8m4_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint8m1_t __riscv_vredxor_tu(vuint8m1_t vd, vuint8m8_t vs2, vuint8m1_t vs1,
                              size_t vl);
vuint16m1_t __riscv_vredxor_tu(vuint16m1_t vd, vuint16mf4_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_tu(vuint16m1_t vd, vuint16mf2_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_tu(vuint16m1_t vd, vuint16m1_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint16m1_t __riscv_vredxor_tu(vuint16m1_t vd, vuint16m2_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint16m1_t __riscv_vredxor_tu(vuint16m1_t vd, vuint16m4_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint16m1_t __riscv_vredxor_tu(vuint16m1_t vd, vuint16m8_t vs2, vuint16m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredxor_tu(vuint32m1_t vd, vuint32mf2_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_tu(vuint32m1_t vd, vuint32m1_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredxor_tu(vuint32m1_t vd, vuint32m2_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredxor_tu(vuint32m1_t vd, vuint32m4_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint32m1_t __riscv_vredxor_tu(vuint32m1_t vd, vuint32m8_t vs2, vuint32m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredxor_tu(vuint64m1_t vd, vuint64m1_t vs2, vuint64m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredxor_tu(vuint64m1_t vd, vuint64m2_t vs2, vuint64m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredxor_tu(vuint64m1_t vd, vuint64m4_t vs2, vuint64m1_t vs1,
                               size_t vl);
vuint64m1_t __riscv_vredxor_tu(vuint64m1_t vd, vuint64m8_t vs2, vuint64m1_t vs1,
                               size_t vl);
// masked functions
vint8m1_t __riscv_vredsum_tum(vbool64_t vm, vint8m1_t vd, vint8mf8_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_tum(vbool32_t vm, vint8m1_t vd, vint8mf4_t vs2,
                              vint8m1_t vs1, size_t vl);
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vint8m1_t __riscv_vredsum_tum(vbool16_t vm, vint8m1_t vd, vint8mf2_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_tum(vbool4_t vm, vint8m1_t vd, vint8m2_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_tum(vbool2_t vm, vint8m1_t vd, vint8m4_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredsum_tum(vbool1_t vm, vint8m1_t vd, vint8m8_t vs2,
                              vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_tum(vbool64_t vm, vint16m1_t vd, vint16mf4_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_tum(vbool32_t vm, vint16m1_t vd, vint16mf2_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_tum(vbool8_t vm, vint16m1_t vd, vint16m2_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_tum(vbool4_t vm, vint16m1_t vd, vint16m4_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredsum_tum(vbool2_t vm, vint16m1_t vd, vint16m8_t vs2,
                               vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_tum(vbool64_t vm, vint32m1_t vd, vint32mf2_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_tum(vbool16_t vm, vint32m1_t vd, vint32m2_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_tum(vbool8_t vm, vint32m1_t vd, vint32m4_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredsum_tum(vbool4_t vm, vint32m1_t vd, vint32m8_t vs2,
                               vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_tum(vbool32_t vm, vint64m1_t vd, vint64m2_t vs2,
                               vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_tum(vbool16_t vm, vint64m1_t vd, vint64m4_t vs2,
                               vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredsum_tum(vbool8_t vm, vint64m1_t vd, vint64m8_t vs2,
                               vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_tum(vbool64_t vm, vint8m1_t vd, vint8mf8_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_tum(vbool32_t vm, vint8m1_t vd, vint8mf4_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_tum(vbool16_t vm, vint8m1_t vd, vint8mf2_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_tum(vbool4_t vm, vint8m1_t vd, vint8m2_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_tum(vbool2_t vm, vint8m1_t vd, vint8m4_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmax_tum(vbool1_t vm, vint8m1_t vd, vint8m8_t vs2,
                              vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_tum(vbool64_t vm, vint16m1_t vd, vint16mf4_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_tum(vbool32_t vm, vint16m1_t vd, vint16mf2_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_tum(vbool8_t vm, vint16m1_t vd, vint16m2_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_tum(vbool4_t vm, vint16m1_t vd, vint16m4_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmax_tum(vbool2_t vm, vint16m1_t vd, vint16m8_t vs2,
                               vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_tum(vbool64_t vm, vint32m1_t vd, vint32mf2_t vs2,
```

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                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_tum(vbool16_t vm, vint32m1_t vd, vint32m2_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_tum(vbool8_t vm, vint32m1_t vd, vint32m4_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmax_tum(vbool4_t vm, vint32m1_t vd, vint32m8_t vs2,
                                vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_tum(vbool32_t vm, vint64m1_t vd, vint64m2_t vs2,
                                vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_tum(vbool16_t vm, vint64m1_t vd, vint64m4_t vs2,
                                vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmax_tum(vbool8_t vm, vint64m1_t vd, vint64m8_t vs2,
                                vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_tum(vbool64_t vm, vint8m1_t vd, vint8mf8_t vs2,
                               vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_tum(vbool32_t vm, vint8m1_t vd, vint8mf4_t vs2,
                               vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_tum(vbool16_t vm, vint8m1_t vd, vint8mf2_t vs2,
                               vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                               vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_tum(vbool4_t vm, vint8m1_t vd, vint8m2_t vs2,
                               vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_tum(vbool2_t vm, vint8m1_t vd, vint8m4_t vs2,
                               vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredmin_tum(vbool1_t vm, vint8m1_t vd, vint8m8_t vs2,
                               vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_tum(vbool64_t vm, vint16m1_t vd, vint16mf4_t vs2,
                                vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_tum(vbool32_t vm, vint16m1_t vd, vint16mf2_t vs2,
                                vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_tum(vbool8_t vm, vint16m1_t vd, vint16m2_t vs2,
                                vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_tum(vbool4_t vm, vint16m1_t vd, vint16m4_t vs2,
                                vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredmin_tum(vbool2_t vm, vint16m1_t vd, vint16m8_t vs2,
                                vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_tum(vbool64_t vm, vint32m1_t vd, vint32mf2_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_tum(vbool16_t vm, vint32m1_t vd, vint32m2_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_tum(vbool8_t vm, vint32m1_t vd, vint32m4_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredmin_tum(vbool4_t vm, vint32m1_t vd, vint32m8_t vs2,
                                vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin_tum(vbool32_t vm, vint64m1_t vd, vint64m2_t vs2,
                                vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin_tum(vbool16_t vm, vint64m1_t vd, vint64m4_t vs2,
                                vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredmin_tum(vbool8_t vm, vint64m1_t vd, vint64m8_t vs2,
                                vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_tum(vbool64_t vm, vint8m1_t vd, vint8mf8_t vs2,
                               vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_tum(vbool32_t vm, vint8m1_t vd, vint8mf4_t vs2,
                               vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_tum(vbool16_t vm, vint8m1_t vd, vint8mf2_t vs2,
                               vint8m1_t vs1, size_t vl);
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vint8m1_t __riscv_vredand_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_tum(vbool4_t vm, vint8m1_t vd, vint8m2_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_tum(vbool2_t vm, vint8m1_t vd, vint8m4_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredand_tum(vbool1_t vm, vint8m1_t vd, vint8m8_t vs2,
                              vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_tum(vbool64_t vm, vint16m1_t vd, vint16mf4_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_tum(vbool32_t vm, vint16m1_t vd, vint16mf2_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_tum(vbool8_t vm, vint16m1_t vd, vint16m2_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_tum(vbool4_t vm, vint16m1_t vd, vint16m4_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredand_tum(vbool2_t vm, vint16m1_t vd, vint16m8_t vs2,
                               vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_tum(vbool64_t vm, vint32m1_t vd, vint32mf2_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_tum(vbool16_t vm, vint32m1_t vd, vint32m2_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_tum(vbool8_t vm, vint32m1_t vd, vint32m4_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredand_tum(vbool4_t vm, vint32m1_t vd, vint32m8_t vs2,
                               vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_tum(vbool32_t vm, vint64m1_t vd, vint64m2_t vs2,
                               vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_tum(vbool16_t vm, vint64m1_t vd, vint64m4_t vs2,
                               vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredand_tum(vbool8_t vm, vint64m1_t vd, vint64m8_t vs2,
                               vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_tum(vbool64_t vm, vint8m1_t vd, vint8mf8_t vs2,
                             vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_tum(vbool32_t vm, vint8m1_t vd, vint8mf4_t vs2,
                             vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_tum(vbool16_t vm, vint8m1_t vd, vint8mf2_t vs2,
                             vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                             vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_tum(vbool4_t vm, vint8m1_t vd, vint8m2_t vs2,
                             vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_tum(vbool2_t vm, vint8m1_t vd, vint8m4_t vs2,
                             vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredor_tum(vbool1_t vm, vint8m1_t vd, vint8m8_t vs2,
                             vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_tum(vbool64_t vm, vint16m1_t vd, vint16mf4_t vs2,
                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_tum(vbool32_t vm, vint16m1_t vd, vint16mf2_t vs2,
                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_tum(vbool8_t vm, vint16m1_t vd, vint16m2_t vs2,
                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_tum(vbool4_t vm, vint16m1_t vd, vint16m4_t vs2,
                              vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredor_tum(vbool2_t vm, vint16m1_t vd, vint16m8_t vs2,
                              vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_tum(vbool64_t vm, vint32m1_t vd, vint32mf2_t vs2,
                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
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                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_tum(vbool16_t vm, vint32m1_t vd, vint32m2_t vs2,
                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_tum(vbool8_t vm, vint32m1_t vd, vint32m4_t vs2,
                              vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredor_tum(vbool4_t vm, vint32m1_t vd, vint32m8_t vs2,
                              vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_tum(vbool32_t vm, vint64m1_t vd, vint64m2_t vs2,
                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_tum(vbool16_t vm, vint64m1_t vd, vint64m4_t vs2,
                              vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredor_tum(vbool8_t vm, vint64m1_t vd, vint64m8_t vs2,
                              vint64m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_tum(vbool64_t vm, vint8m1_t vd, vint8mf8_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_tum(vbool32_t vm, vint8m1_t vd, vint8mf4_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_tum(vbool16_t vm, vint8m1_t vd, vint8mf2_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_tum(vbool4_t vm, vint8m1_t vd, vint8m2_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_tum(vbool2_t vm, vint8m1_t vd, vint8m4_t vs2,
                              vint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vredxor_tum(vbool1_t vm, vint8m1_t vd, vint8m8_t vs2,
                              vint8m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_tum(vbool64_t vm, vint16m1_t vd, vint16mf4_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_tum(vbool32_t vm, vint16m1_t vd, vint16mf2_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_tum(vbool8_t vm, vint16m1_t vd, vint16m2_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_tum(vbool4_t vm, vint16m1_t vd, vint16m4_t vs2,
                               vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vredxor_tum(vbool2_t vm, vint16m1_t vd, vint16m8_t vs2,
                               vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_tum(vbool64_t vm, vint32m1_t vd, vint32mf2_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_tum(vbool16_t vm, vint32m1_t vd, vint32m2_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_tum(vbool8_t vm, vint32m1_t vd, vint32m4_t vs2,
                               vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vredxor_tum(vbool4_t vm, vint32m1_t vd, vint32m8_t vs2,
                               vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor_tum(vbool32_t vm, vint64m1_t vd, vint64m2_t vs2,
                               vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor_tum(vbool16_t vm, vint64m1_t vd, vint64m4_t vs2,
                               vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vredxor_tum(vbool8_t vm, vint64m1_t vd, vint64m8_t vs2,
                               vint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_tum(vbool64_t vm, vuint8m1_t vd, vuint8mf8_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_tum(vbool32_t vm, vuint8m1_t vd, vuint8mf4_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_tum(vbool16_t vm, vuint8m1_t vd, vuint8mf2_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               vuint8m1_t vs1, size_t vl);
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vuint8m1_t __riscv_vredsum_tum(vbool4_t vm, vuint8m1_t vd, vuint8m2_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_tum(vbool2_t vm, vuint8m1_t vd, vuint8m4_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredsum_tum(vbool1_t vm, vuint8m1_t vd, vuint8m8_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_tum(vbool64_t vm, vuint16m1_t vd, vuint16mf4_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_tum(vbool32_t vm, vuint16m1_t vd, vuint16mf2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_tum(vbool8_t vm, vuint16m1_t vd, vuint16m2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_tum(vbool4_t vm, vuint16m1_t vd, vuint16m4_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredsum_tum(vbool2_t vm, vuint16m1_t vd, vuint16m8_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_tum(vbool64_t vm, vuint32m1_t vd, vuint32mf2_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_tum(vbool16_t vm, vuint32m1_t vd, vuint32m2_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_tum(vbool8_t vm, vuint32m1_t vd, vuint32m4_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredsum_tum(vbool4_t vm, vuint32m1_t vd, vuint32m8_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_tum(vbool32_t vm, vuint64m1_t vd, vuint64m2_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_tum(vbool16_t vm, vuint64m1_t vd, vuint64m4_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredsum_tum(vbool8_t vm, vuint64m1_t vd, vuint64m8_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_tum(vbool64_t vm, vuint8m1_t vd, vuint8mf8_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_tum(vbool32_t vm, vuint8m1_t vd, vuint8mf4_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_tum(vbool16_t vm, vuint8m1_t vd, vuint8mf2_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_tum(vbool4_t vm, vuint8m1_t vd, vuint8m2_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_tum(vbool2_t vm, vuint8m1_t vd, vuint8m4_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredmaxu_tum(vbool1_t vm, vuint8m1_t vd, vuint8m8_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_tum(vbool64_t vm, vuint16m1_t vd, vuint16mf4_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_tum(vbool32_t vm, vuint16m1_t vd, vuint16mf2_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_tum(vbool8_t vm, vuint16m1_t vd, vuint16m2_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_tum(vbool4_t vm, vuint16m1_t vd, vuint16m4_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredmaxu_tum(vbool2_t vm, vuint16m1_t vd, vuint16m8_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_tum(vbool64_t vm, vuint32m1_t vd, vuint32mf2_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_tum(vbool16_t vm, vuint32m1_t vd, vuint32m2_t vs2,
```

```
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_tum(vbool8_t vm, vuint32m1_t vd, vuint32m4_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredmaxu_tum(vbool4_t vm, vuint32m1_t vd, vuint32m8_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_tum(vbool32_t vm, vuint64m1_t vd, vuint64m2_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_tum(vbool16_t vm, vuint64m1_t vd, vuint64m4_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredmaxu_tum(vbool8_t vm, vuint64m1_t vd, vuint64m8_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_tum(vbool64_t vm, vuint8m1_t vd, vuint8mf8_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_tum(vbool32_t vm, vuint8m1_t vd, vuint8mf4_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_tum(vbool16_t vm, vuint8m1_t vd, vuint8mf2_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_tum(vbool4_t vm, vuint8m1_t vd, vuint8m2_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_tum(vbool2_t vm, vuint8m1_t vd, vuint8m4_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredminu_tum(vbool1_t vm, vuint8m1_t vd, vuint8m8_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_tum(vbool64_t vm, vuint16m1_t vd, vuint16mf4_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_tum(vbool32_t vm, vuint16m1_t vd, vuint16mf2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_tum(vbool8_t vm, vuint16m1_t vd, vuint16m2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_tum(vbool4_t vm, vuint16m1_t vd, vuint16m4_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredminu_tum(vbool2_t vm, vuint16m1_t vd, vuint16m8_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_tum(vbool64_t vm, vuint32m1_t vd, vuint32mf2_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_tum(vbool16_t vm, vuint32m1_t vd, vuint32m2_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_tum(vbool8_t vm, vuint32m1_t vd, vuint32m4_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredminu_tum(vbool4_t vm, vuint32m1_t vd, vuint32m8_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_tum(vbool32_t vm, vuint64m1_t vd, vuint64m2_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_tum(vbool16_t vm, vuint64m1_t vd, vuint64m4_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredminu_tum(vbool8_t vm, vuint64m1_t vd, vuint64m8_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_tum(vbool64_t vm, vuint8m1_t vd, vuint8mf8_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_tum(vbool32_t vm, vuint8m1_t vd, vuint8mf4_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_tum(vbool16_t vm, vuint8m1_t vd, vuint8mf2_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_tum(vbool4_t vm, vuint8m1_t vd, vuint8m2_t vs2,
                              vuint8m1_t vs1, size_t vl);
```

```
vuint8m1_t __riscv_vredand_tum(vbool2_t vm, vuint8m1_t vd, vuint8m4_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredand_tum(vbool1_t vm, vuint8m1_t vd, vuint8m8_t vs2,
                               vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_tum(vbool64_t vm, vuint16m1_t vd, vuint16mf4_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_tum(vbool32_t vm, vuint16m1_t vd, vuint16mf2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_tum(vbool8_t vm, vuint16m1_t vd, vuint16m2_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_tum(vbool4_t vm, vuint16m1_t vd, vuint16m4_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredand_tum(vbool2_t vm, vuint16m1_t vd, vuint16m8_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_tum(vbool64_t vm, vuint32m1_t vd, vuint32mf2_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_tum(vbool16_t vm, vuint32m1_t vd, vuint32m2_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_tum(vbool8_t vm, vuint32m1_t vd, vuint32m4_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredand_tum(vbool4_t vm, vuint32m1_t vd, vuint32m8_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_tum(vbool32_t vm, vuint64m1_t vd, vuint64m2_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_tum(vbool16_t vm, vuint64m1_t vd, vuint64m4_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredand_tum(vbool8_t vm, vuint64m1_t vd, vuint64m8_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_tum(vbool64_t vm, vuint8m1_t vd, vuint8mf8_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_tum(vbool32_t vm, vuint8m1_t vd, vuint8mf4_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_tum(vbool16_t vm, vuint8m1_t vd, vuint8mf2_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_tum(vbool4_t vm, vuint8m1_t vd, vuint8m2_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_tum(vbool2_t vm, vuint8m1_t vd, vuint8m4_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredor_tum(vbool1_t vm, vuint8m1_t vd, vuint8m8_t vs2,
                              vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_tum(vbool64_t vm, vuint16m1_t vd, vuint16mf4_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_tum(vbool32_t vm, vuint16m1_t vd, vuint16mf2_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_tum(vbool8_t vm, vuint16m1_t vd, vuint16m2_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_tum(vbool4_t vm, vuint16m1_t vd, vuint16m4_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredor_tum(vbool2_t vm, vuint16m1_t vd, vuint16m8_t vs2,
                               vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_tum(vbool64_t vm, vuint32m1_t vd, vuint32mf2_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_tum(vbool16_t vm, vuint32m1_t vd, vuint32m2_t vs2,
                               vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_tum(vbool8_t vm, vuint32m1_t vd, vuint32m4_t vs2,
```

```
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredor_tum(vbool4_t vm, vuint32m1_t vd, vuint32m8_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_tum(vbool32_t vm, vuint64m1_t vd, vuint64m2_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_tum(vbool16_t vm, vuint64m1_t vd, vuint64m4_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredor_tum(vbool8_t vm, vuint64m1_t vd, vuint64m8_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_tum(vbool64_t vm, vuint8m1_t vd, vuint8mf8_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_tum(vbool32_t vm, vuint8m1_t vd, vuint8mf4_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_tum(vbool16_t vm, vuint8m1_t vd, vuint8mf2_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_tum(vbool4_t vm, vuint8m1_t vd, vuint8m2_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_tum(vbool2_t vm, vuint8m1_t vd, vuint8m4_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vredxor_tum(vbool1_t vm, vuint8m1_t vd, vuint8m8_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_tum(vbool64_t vm, vuint16m1_t vd, vuint16mf4_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_tum(vbool32_t vm, vuint16m1_t vd, vuint16mf2_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_tum(vbool8_t vm, vuint16m1_t vd, vuint16m2_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_tum(vbool4_t vm, vuint16m1_t vd, vuint16m4_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vredxor_tum(vbool2_t vm, vuint16m1_t vd, vuint16m8_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_tum(vbool64_t vm, vuint32m1_t vd, vuint32mf2_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_tum(vbool16_t vm, vuint32m1_t vd, vuint32m2_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_tum(vbool8_t vm, vuint32m1_t vd, vuint32m4_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vredxor_tum(vbool4_t vm, vuint32m1_t vd, vuint32m8_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                 vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_tum(vbool32_t vm, vuint64m1_t vd, vuint64m2_t vs2,
                                 vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_tum(vbool16_t vm, vuint64m1_t vd, vuint64m4_t vs2,
                                 vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vredxor_tum(vbool8_t vm, vuint64m1_t vd, vuint64m8_t vs2,
                                 vuint64m1_t vs1, size_t vl);
```

D.6.2. Vector Widening Integer Reduction Intrinsics

```
vint16m1_t __riscv_vwredsum_tu(vint16m1_t vd, vint8mf8_t vs2, vint16m1_t vs1,
                               size_t vl);
vint16m1_t __riscv_vwredsum_tu(vint16m1_t vd, vint8mf4_t vs2, vint16m1_t vs1,
                               size_t vl);
vint16m1_t __riscv_vwredsum_tu(vint16m1_t vd, vint8mf2_t vs2, vint16m1_t vs1,
                               size_t vl);
vint16m1_t __riscv_vwredsum_tu(vint16m1_t vd, vint8m1_t vs2, vint16m1_t vs1,
```

```
                                size_t vl);
vint16m1_t __riscv_vwredsum_tu(vint16m1_t vd, vint8m2_t vs2, vint16m1_t vs1,
                                size_t vl);
vint16m1_t __riscv_vwredsum_tu(vint16m1_t vd, vint8m4_t vs2, vint16m1_t vs1,
                                size_t vl);
vint16m1_t __riscv_vwredsum_tu(vint16m1_t vd, vint8m8_t vs2, vint16m1_t vs1,
                                size_t vl);
vint32m1_t __riscv_vwredsum_tu(vint32m1_t vd, vint16mf4_t vs2, vint32m1_t vs1,
                                size_t vl);
vint32m1_t __riscv_vwredsum_tu(vint32m1_t vd, vint16mf2_t vs2, vint32m1_t vs1,
                                size_t vl);
vint32m1_t __riscv_vwredsum_tu(vint32m1_t vd, vint16m1_t vs2, vint32m1_t vs1,
                                size_t vl);
vint32m1_t __riscv_vwredsum_tu(vint32m1_t vd, vint16m2_t vs2, vint32m1_t vs1,
                                size_t vl);
vint32m1_t __riscv_vwredsum_tu(vint32m1_t vd, vint16m4_t vs2, vint32m1_t vs1,
                                size_t vl);
vint32m1_t __riscv_vwredsum_tu(vint32m1_t vd, vint16m8_t vs2, vint32m1_t vs1,
                                size_t vl);
vint64m1_t __riscv_vwredsum_tu(vint64m1_t vd, vint32mf2_t vs2, vint64m1_t vs1,
                                size_t vl);
vint64m1_t __riscv_vwredsum_tu(vint64m1_t vd, vint32m1_t vs2, vint64m1_t vs1,
                                size_t vl);
vint64m1_t __riscv_vwredsum_tu(vint64m1_t vd, vint32m2_t vs2, vint64m1_t vs1,
                                size_t vl);
vint64m1_t __riscv_vwredsum_tu(vint64m1_t vd, vint32m4_t vs2, vint64m1_t vs1,
                                size_t vl);
vint64m1_t __riscv_vwredsum_tu(vint64m1_t vd, vint32m8_t vs2, vint64m1_t vs1,
                                size_t vl);
vuint16m1_t __riscv_vwredsumu_tu(vuint16m1_t vd, vuint8mf8_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tu(vuint16m1_t vd, vuint8mf4_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tu(vuint16m1_t vd, vuint8mf2_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tu(vuint16m1_t vd, vuint8m1_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tu(vuint16m1_t vd, vuint8m2_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tu(vuint16m1_t vd, vuint8m4_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tu(vuint16m1_t vd, vuint8m8_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tu(vuint32m1_t vd, vuint16mf4_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tu(vuint32m1_t vd, vuint16mf2_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tu(vuint32m1_t vd, vuint16m1_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tu(vuint32m1_t vd, vuint16m2_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tu(vuint32m1_t vd, vuint16m4_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tu(vuint32m1_t vd, vuint16m8_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_tu(vuint64m1_t vd, vuint32mf2_t vs2,
                                  vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_tu(vuint64m1_t vd, vuint32m1_t vs2,
                                  vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_tu(vuint64m1_t vd, vuint32m2_t vs2,
                                  vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_tu(vuint64m1_t vd, vuint32m4_t vs2,
                                  vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_tu(vuint64m1_t vd, vuint32m8_t vs2,
                                  vuint64m1_t vs1, size_t vl);
// masked functions
vint16m1_t __riscv_vwredsum_tum(vbool64_t vm, vint16m1_t vd, vint8mf8_t vs2,
```

```
                                vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_tum(vbool32_t vm, vint16m1_t vd, vint8mf4_t vs2,
                                vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_tum(vbool16_t vm, vint16m1_t vd, vint8mf2_t vs2,
                                vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_tum(vbool8_t vm, vint16m1_t vd, vint8m1_t vs2,
                                vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_tum(vbool4_t vm, vint16m1_t vd, vint8m2_t vs2,
                                vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_tum(vbool2_t vm, vint16m1_t vd, vint8m4_t vs2,
                                vint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vwredsum_tum(vbool1_t vm, vint16m1_t vd, vint8m8_t vs2,
                                vint16m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_tum(vbool64_t vm, vint32m1_t vd, vint16mf4_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_tum(vbool32_t vm, vint32m1_t vd, vint16mf2_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_tum(vbool16_t vm, vint32m1_t vd, vint16m1_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_tum(vbool8_t vm, vint32m1_t vd, vint16m2_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_tum(vbool4_t vm, vint32m1_t vd, vint16m4_t vs2,
                                vint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vwredsum_tum(vbool2_t vm, vint32m1_t vd, vint16m8_t vs2,
                                vint32m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_tum(vbool64_t vm, vint64m1_t vd, vint32mf2_t vs2,
                                vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_tum(vbool32_t vm, vint64m1_t vd, vint32m1_t vs2,
                                vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_tum(vbool16_t vm, vint64m1_t vd, vint32m2_t vs2,
                                vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_tum(vbool8_t vm, vint64m1_t vd, vint32m4_t vs2,
                                vint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vwredsum_tum(vbool4_t vm, vint64m1_t vd, vint32m8_t vs2,
                                vint64m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tum(vbool64_t vm, vuint16m1_t vd, vuint8mf8_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tum(vbool32_t vm, vuint16m1_t vd, vuint8mf4_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tum(vbool16_t vm, vuint16m1_t vd, vuint8mf2_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tum(vbool8_t vm, vuint16m1_t vd, vuint8m1_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tum(vbool4_t vm, vuint16m1_t vd, vuint8m2_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tum(vbool2_t vm, vuint16m1_t vd, vuint8m4_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vwredsumu_tum(vbool1_t vm, vuint16m1_t vd, vuint8m8_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tum(vbool64_t vm, vuint32m1_t vd,
                                  vuint16mf4_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tum(vbool32_t vm, vuint32m1_t vd,
                                  vuint16mf2_t vs2, vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tum(vbool16_t vm, vuint32m1_t vd, vuint16m1_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tum(vbool8_t vm, vuint32m1_t vd, vuint16m2_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tum(vbool4_t vm, vuint32m1_t vd, vuint16m4_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vwredsumu_tum(vbool2_t vm, vuint32m1_t vd, vuint16m8_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_tum(vbool64_t vm, vuint64m1_t vd,
                                  vuint32mf2_t vs2, vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_tum(vbool32_t vm, vuint64m1_t vd, vuint32m1_t vs2,
                                  vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_tum(vbool16_t vm, vuint64m1_t vd, vuint32m2_t vs2,
                                  vuint64m1_t vs1, size_t vl);
```

```
vuint64m1_t __riscv_vwredsumu_tum(vbool8_t vm, vuint64m1_t vd, vuint32m4_t vs2,
                                  vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vwredsumu_tum(vbool4_t vm, vuint64m1_t vd, vuint32m8_t vs2,
                                  vuint64m1_t vs1, size_t vl);
```

D.6.3. Vector Single-Width Floating-Point Reduction Intrinsics

```
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16mf4_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16mf2_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16m2_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16m4_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16m8_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_tu(vfloat32m1_t vd, vfloat32mf2_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_tu(vfloat32m1_t vd, vfloat32m2_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_tu(vfloat32m1_t vd, vfloat32m4_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredosum_tu(vfloat32m1_t vd, vfloat32m8_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_tu(vfloat64m1_t vd, vfloat64m2_t vs2,
                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_tu(vfloat64m1_t vd, vfloat64m4_t vs2,
                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredosum_tu(vfloat64m1_t vd, vfloat64m8_t vs2,
                                  vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16mf4_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16mf2_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16m2_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16m4_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16m8_t vs2,
                                  vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_tu(vfloat32m1_t vd, vfloat32mf2_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_tu(vfloat32m1_t vd, vfloat32m2_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_tu(vfloat32m1_t vd, vfloat32m4_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredusum_tu(vfloat32m1_t vd, vfloat32m8_t vs2,
                                  vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_tu(vfloat64m1_t vd, vfloat64m2_t vs2,
                                  vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredusum_tu(vfloat64m1_t vd, vfloat64m4_t vs2,
                                  vfloat64m1_t vs1, size_t vl);
```

```
vfloat64m1_t __riscv_vfredusum_tu(vfloat64m1_t vd, vfloat64m8_t vs2,
                                  vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_tu(vfloat16m1_t vd, vfloat16mf4_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_tu(vfloat16m1_t vd, vfloat16mf2_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_tu(vfloat16m1_t vd, vfloat16m2_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_tu(vfloat16m1_t vd, vfloat16m4_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmax_tu(vfloat16m1_t vd, vfloat16m8_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_tu(vfloat32m1_t vd, vfloat32mf2_t vs2,
                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_tu(vfloat32m1_t vd, vfloat32m2_t vs2,
                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_tu(vfloat32m1_t vd, vfloat32m4_t vs2,
                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmax_tu(vfloat32m1_t vd, vfloat32m8_t vs2,
                                 vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_tu(vfloat64m1_t vd, vfloat64m2_t vs2,
                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_tu(vfloat64m1_t vd, vfloat64m4_t vs2,
                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmax_tu(vfloat64m1_t vd, vfloat64m8_t vs2,
                                 vfloat64m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_tu(vfloat16m1_t vd, vfloat16mf4_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_tu(vfloat16m1_t vd, vfloat16mf2_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_tu(vfloat16m1_t vd, vfloat16m2_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_tu(vfloat16m1_t vd, vfloat16m4_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vfredmin_tu(vfloat16m1_t vd, vfloat16m8_t vs2,
                                 vfloat16m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_tu(vfloat32m1_t vd, vfloat32mf2_t vs2,
                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_tu(vfloat32m1_t vd, vfloat32m2_t vs2,
                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_tu(vfloat32m1_t vd, vfloat32m4_t vs2,
                                 vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfredmin_tu(vfloat32m1_t vd, vfloat32m8_t vs2,
                                 vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_tu(vfloat64m1_t vd, vfloat64m2_t vs2,
                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_tu(vfloat64m1_t vd, vfloat64m4_t vs2,
                                 vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfredmin_tu(vfloat64m1_t vd, vfloat64m8_t vs2,
                                 vfloat64m1_t vs1, size_t vl);
// masked functions
vfloat16m1_t __riscv_vfredosum_tum(vbool64_t vm, vfloat16m1_t vd,
                                   vfloat16mf4_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
vfloat16m1_t __riscv_vfredosum_tum(vbool32_t vm, vfloat16m1_t vd,
```

```
                                    vfloat16mf2_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfredosum_tum(vbool16_t vm, vfloat16m1_t vd,
                                    vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfredosum_tum(vbool8_t vm, vfloat16m1_t vd,
                                    vfloat16m2_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfredosum_tum(vbool4_t vm, vfloat16m1_t vd,
                                    vfloat16m4_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfredosum_tum(vbool2_t vm, vfloat16m1_t vd,
                                    vfloat16m8_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfredosum_tum(vbool64_t vm, vfloat32m1_t vd,
                                    vfloat32mf2_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfredosum_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfredosum_tum(vbool16_t vm, vfloat32m1_t vd,
                                    vfloat32m2_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfredosum_tum(vbool8_t vm, vfloat32m1_t vd,
                                    vfloat32m4_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfredosum_tum(vbool4_t vm, vfloat32m1_t vd,
                                    vfloat32m8_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfredosum_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfredosum_tum(vbool32_t vm, vfloat64m1_t vd,
                                    vfloat64m2_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfredosum_tum(vbool16_t vm, vfloat64m1_t vd,
                                    vfloat64m4_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfredosum_tum(vbool8_t vm, vfloat64m1_t vd,
                                    vfloat64m8_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool64_t vm, vfloat16m1_t vd,
                                    vfloat16mf4_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool32_t vm, vfloat16m1_t vd,
                                    vfloat16mf2_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool16_t vm, vfloat16m1_t vd,
                                    vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool8_t vm, vfloat16m1_t vd,
                                    vfloat16m2_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool4_t vm, vfloat16m1_t vd,
                                    vfloat16m4_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool2_t vm, vfloat16m1_t vd,
                                    vfloat16m8_t vs2, vfloat16m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfredusum_tum(vbool64_t vm, vfloat32m1_t vd,
                                    vfloat32mf2_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfredusum_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfredusum_tum(vbool16_t vm, vfloat32m1_t vd,
                                    vfloat32m2_t vs2, vfloat32m1_t vs1,
```

```
                                    size_t vl);
vfloat32m1_t __riscv_vfredusum_tum(vbool8_t vm, vfloat32m1_t vd,
                                    vfloat32m4_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfredusum_tum(vbool4_t vm, vfloat32m1_t vd,
                                    vfloat32m8_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfredusum_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfredusum_tum(vbool32_t vm, vfloat64m1_t vd,
                                    vfloat64m2_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfredusum_tum(vbool16_t vm, vfloat64m1_t vd,
                                    vfloat64m4_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfredusum_tum(vbool8_t vm, vfloat64m1_t vd,
                                    vfloat64m8_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat16m1_t __riscv_vfredmax_tum(vbool64_t vm, vfloat16m1_t vd,
                                   vfloat16mf4_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
vfloat16m1_t __riscv_vfredmax_tum(vbool32_t vm, vfloat16m1_t vd,
                                   vfloat16mf2_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
vfloat16m1_t __riscv_vfredmax_tum(vbool16_t vm, vfloat16m1_t vd,
                                   vfloat16m1_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
vfloat16m1_t __riscv_vfredmax_tum(vbool8_t vm, vfloat16m1_t vd,
                                   vfloat16m2_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
vfloat16m1_t __riscv_vfredmax_tum(vbool4_t vm, vfloat16m1_t vd,
                                   vfloat16m4_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
vfloat16m1_t __riscv_vfredmax_tum(vbool2_t vm, vfloat16m1_t vd,
                                   vfloat16m8_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vfredmax_tum(vbool64_t vm, vfloat32m1_t vd,
                                   vfloat32mf2_t vs2, vfloat32m1_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vfredmax_tum(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, vfloat32m1_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vfredmax_tum(vbool16_t vm, vfloat32m1_t vd,
                                   vfloat32m2_t vs2, vfloat32m1_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vfredmax_tum(vbool8_t vm, vfloat32m1_t vd,
                                   vfloat32m4_t vs2, vfloat32m1_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vfredmax_tum(vbool4_t vm, vfloat32m1_t vd,
                                   vfloat32m8_t vs2, vfloat32m1_t vs1,
                                   size_t vl);
vfloat64m1_t __riscv_vfredmax_tum(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, vfloat64m1_t vs1,
                                   size_t vl);
vfloat64m1_t __riscv_vfredmax_tum(vbool32_t vm, vfloat64m1_t vd,
                                   vfloat64m2_t vs2, vfloat64m1_t vs1,
                                   size_t vl);
vfloat64m1_t __riscv_vfredmax_tum(vbool16_t vm, vfloat64m1_t vd,
                                   vfloat64m4_t vs2, vfloat64m1_t vs1,
                                   size_t vl);
vfloat64m1_t __riscv_vfredmax_tum(vbool8_t vm, vfloat64m1_t vd,
                                   vfloat64m8_t vs2, vfloat64m1_t vs1,
                                   size_t vl);
vfloat16m1_t __riscv_vfredmin_tum(vbool64_t vm, vfloat16m1_t vd,
                                   vfloat16mf4_t vs2, vfloat16m1_t vs1,
                                   size_t vl);
```

```
vfloat16m1_t __riscv_vfredmin_tum(vbool32_t vm, vfloat16m1_t vd,
                                  vfloat16mf2_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat16m1_t __riscv_vfredmin_tum(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat16m1_t __riscv_vfredmin_tum(vbool8_t vm, vfloat16m1_t vd,
                                  vfloat16m2_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat16m1_t __riscv_vfredmin_tum(vbool4_t vm, vfloat16m1_t vd,
                                  vfloat16m4_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat16m1_t __riscv_vfredmin_tum(vbool2_t vm, vfloat16m1_t vd,
                                  vfloat16m8_t vs2, vfloat16m1_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfredmin_tum(vbool64_t vm, vfloat32m1_t vd,
                                  vfloat32mf2_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfredmin_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfredmin_tum(vbool16_t vm, vfloat32m1_t vd,
                                  vfloat32m2_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfredmin_tum(vbool8_t vm, vfloat32m1_t vd,
                                  vfloat32m4_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat32m1_t __riscv_vfredmin_tum(vbool4_t vm, vfloat32m1_t vd,
                                  vfloat32m8_t vs2, vfloat32m1_t vs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfredmin_tum(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, vfloat64m1_t vs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfredmin_tum(vbool32_t vm, vfloat64m1_t vd,
                                  vfloat64m2_t vs2, vfloat64m1_t vs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfredmin_tum(vbool16_t vm, vfloat64m1_t vd,
                                  vfloat64m4_t vs2, vfloat64m1_t vs1,
                                  size_t vl);
vfloat64m1_t __riscv_vfredmin_tum(vbool8_t vm, vfloat64m1_t vd,
                                  vfloat64m8_t vs2, vfloat64m1_t vs1,
                                  size_t vl);
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16mf4_t vs2,
                                  vfloat16m1_t vs1, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16mf2_t vs2,
                                  vfloat16m1_t vs1, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                  vfloat16m1_t vs1, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16m2_t vs2,
                                  vfloat16m1_t vs1, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16m4_t vs2,
                                  vfloat16m1_t vs1, unsigned int frm,
                                  size_t vl);
vfloat16m1_t __riscv_vfredosum_tu(vfloat16m1_t vd, vfloat16m8_t vs2,
                                  vfloat16m1_t vs1, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfredosum_tu(vfloat32m1_t vd, vfloat32mf2_t vs2,
                                  vfloat32m1_t vs1, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfredosum_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                  vfloat32m1_t vs1, unsigned int frm,
                                  size_t vl);
vfloat32m1_t __riscv_vfredosum_tu(vfloat32m1_t vd, vfloat32m2_t vs2,
```

```
                                vfloat32m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfredosum_tu(vfloat32m1_t vd, vfloat32m4_t vs2,
                                vfloat32m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfredosum_tu(vfloat32m1_t vd, vfloat32m8_t vs2,
                                vfloat32m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfredosum_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfredosum_tu(vfloat64m1_t vd, vfloat64m2_t vs2,
                                vfloat64m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfredosum_tu(vfloat64m1_t vd, vfloat64m4_t vs2,
                                vfloat64m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfredosum_tu(vfloat64m1_t vd, vfloat64m8_t vs2,
                                vfloat64m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16mf4_t vs2,
                                vfloat16m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16mf2_t vs2,
                                vfloat16m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                vfloat16m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16m2_t vs2,
                                vfloat16m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16m4_t vs2,
                                vfloat16m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat16m1_t __riscv_vfredusum_tu(vfloat16m1_t vd, vfloat16m8_t vs2,
                                vfloat16m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfredusum_tu(vfloat32m1_t vd, vfloat32mf2_t vs2,
                                vfloat32m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfredusum_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                vfloat32m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfredusum_tu(vfloat32m1_t vd, vfloat32m2_t vs2,
                                vfloat32m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfredusum_tu(vfloat32m1_t vd, vfloat32m4_t vs2,
                                vfloat32m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat32m1_t __riscv_vfredusum_tu(vfloat32m1_t vd, vfloat32m8_t vs2,
                                vfloat32m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfredusum_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                vfloat64m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfredusum_tu(vfloat64m1_t vd, vfloat64m2_t vs2,
                                vfloat64m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfredusum_tu(vfloat64m1_t vd, vfloat64m4_t vs2,
                                vfloat64m1_t vs1, unsigned int frm,
                                size_t vl);
vfloat64m1_t __riscv_vfredusum_tu(vfloat64m1_t vd, vfloat64m8_t vs2,
                                vfloat64m1_t vs1, unsigned int frm,
                                size_t vl);
// masked functions
vfloat16m1_t __riscv_vfredosum_tum(vbool64_t vm, vfloat16m1_t vd,
```

```
                                    vfloat16mf4_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_tum(vbool32_t vm, vfloat16m1_t vd,
                                    vfloat16mf2_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_tum(vbool16_t vm, vfloat16m1_t vd,
                                    vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_tum(vbool8_t vm, vfloat16m1_t vd,
                                    vfloat16m2_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_tum(vbool4_t vm, vfloat16m1_t vd,
                                    vfloat16m4_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredosum_tum(vbool2_t vm, vfloat16m1_t vd,
                                    vfloat16m8_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_tum(vbool64_t vm, vfloat32m1_t vd,
                                    vfloat32mf2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_tum(vbool16_t vm, vfloat32m1_t vd,
                                    vfloat32m2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_tum(vbool8_t vm, vfloat32m1_t vd,
                                    vfloat32m4_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredosum_tum(vbool4_t vm, vfloat32m1_t vd,
                                    vfloat32m8_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_tum(vbool32_t vm, vfloat64m1_t vd,
                                    vfloat64m2_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_tum(vbool16_t vm, vfloat64m1_t vd,
                                    vfloat64m4_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredosum_tum(vbool8_t vm, vfloat64m1_t vd,
                                    vfloat64m8_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool64_t vm, vfloat16m1_t vd,
                                    vfloat16mf4_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool32_t vm, vfloat16m1_t vd,
                                    vfloat16mf2_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool16_t vm, vfloat16m1_t vd,
                                    vfloat16m1_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool8_t vm, vfloat16m1_t vd,
                                    vfloat16m2_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool4_t vm, vfloat16m1_t vd,
                                    vfloat16m4_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat16m1_t __riscv_vfredusum_tum(vbool2_t vm, vfloat16m1_t vd,
                                    vfloat16m8_t vs2, vfloat16m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_tum(vbool64_t vm, vfloat32m1_t vd,
                                    vfloat32mf2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, vfloat32m1_t vs1,
```

```
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_tum(vbool16_t vm, vfloat32m1_t vd,
                                    vfloat32m2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_tum(vbool8_t vm, vfloat32m1_t vd,
                                    vfloat32m4_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfredusum_tum(vbool4_t vm, vfloat32m1_t vd,
                                    vfloat32m8_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_tum(vbool32_t vm, vfloat64m1_t vd,
                                    vfloat64m2_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_tum(vbool16_t vm, vfloat64m1_t vd,
                                    vfloat64m4_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfredusum_tum(vbool8_t vm, vfloat64m1_t vd,
                                    vfloat64m8_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
```

D.6.4. Vector Widening Floating-Point Reduction Intrinsics

```
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16mf4_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16m1_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16m2_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16m4_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16m8_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                    vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_tu(vfloat64m1_t vd, vfloat32m1_t vs2,
                                    vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_tu(vfloat64m1_t vd, vfloat32m2_t vs2,
                                    vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_tu(vfloat64m1_t vd, vfloat32m4_t vs2,
                                    vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredosum_tu(vfloat64m1_t vd, vfloat32m8_t vs2,
                                    vfloat64m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16mf4_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16m1_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16m2_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16m4_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16m8_t vs2,
                                    vfloat32m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                    vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_tu(vfloat64m1_t vd, vfloat32m1_t vs2,
                                    vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_tu(vfloat64m1_t vd, vfloat32m2_t vs2,
                                    vfloat64m1_t vs1, size_t vl);
```

```
vfloat64m1_t __riscv_vfwredusum_tu(vfloat64m1_t vd, vfloat32m4_t vs2,
                                   vfloat64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vfwredusum_tu(vfloat64m1_t vd, vfloat32m8_t vs2,
                                   vfloat64m1_t vs1, size_t vl);
// masked functions
vfloat32m1_t __riscv_vfwredosum_tum(vbool64_t vm, vfloat32m1_t vd,
                                    vfloat16mf4_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat16mf2_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_tum(vbool16_t vm, vfloat32m1_t vd,
                                    vfloat16m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_tum(vbool8_t vm, vfloat32m1_t vd,
                                    vfloat16m2_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_tum(vbool4_t vm, vfloat32m1_t vd,
                                    vfloat16m4_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_tum(vbool2_t vm, vfloat32m1_t vd,
                                    vfloat16m8_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_tum(vbool32_t vm, vfloat64m1_t vd,
                                    vfloat32m1_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_tum(vbool16_t vm, vfloat64m1_t vd,
                                    vfloat32m2_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_tum(vbool8_t vm, vfloat64m1_t vd,
                                    vfloat32m4_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwredosum_tum(vbool4_t vm, vfloat64m1_t vd,
                                    vfloat32m8_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool64_t vm, vfloat32m1_t vd,
                                    vfloat16mf4_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat16mf2_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool16_t vm, vfloat32m1_t vd,
                                    vfloat16m1_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool8_t vm, vfloat32m1_t vd,
                                    vfloat16m2_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool4_t vm, vfloat32m1_t vd,
                                    vfloat16m4_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool2_t vm, vfloat32m1_t vd,
                                    vfloat16m8_t vs2, vfloat32m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_tum(vbool32_t vm, vfloat64m1_t vd,
                                    vfloat32m1_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_tum(vbool16_t vm, vfloat64m1_t vd,
                                    vfloat32m2_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_tum(vbool8_t vm, vfloat64m1_t vd,
                                    vfloat32m4_t vs2, vfloat64m1_t vs1,
```

```
                                    size_t vl);
vfloat64m1_t __riscv_vfwredusum_tum(vbool4_t vm, vfloat64m1_t vd,
                                    vfloat32m8_t vs2, vfloat64m1_t vs1,
                                    size_t vl);
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16mf4_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16m1_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16m2_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16m4_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwredosum_tu(vfloat32m1_t vd, vfloat16m8_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat64m1_t __riscv_vfwredosum_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                   vfloat64m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat64m1_t __riscv_vfwredosum_tu(vfloat64m1_t vd, vfloat32m1_t vs2,
                                   vfloat64m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat64m1_t __riscv_vfwredosum_tu(vfloat64m1_t vd, vfloat32m2_t vs2,
                                   vfloat64m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat64m1_t __riscv_vfwredosum_tu(vfloat64m1_t vd, vfloat32m4_t vs2,
                                   vfloat64m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat64m1_t __riscv_vfwredosum_tu(vfloat64m1_t vd, vfloat32m8_t vs2,
                                   vfloat64m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16mf4_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16mf2_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16m1_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16m2_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16m4_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat32m1_t __riscv_vfwredusum_tu(vfloat32m1_t vd, vfloat16m8_t vs2,
                                   vfloat32m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat64m1_t __riscv_vfwredusum_tu(vfloat64m1_t vd, vfloat32mf2_t vs2,
                                   vfloat64m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat64m1_t __riscv_vfwredusum_tu(vfloat64m1_t vd, vfloat32m1_t vs2,
                                   vfloat64m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat64m1_t __riscv_vfwredusum_tu(vfloat64m1_t vd, vfloat32m2_t vs2,
                                   vfloat64m1_t vs1, unsigned int frm,
                                   size_t vl);
vfloat64m1_t __riscv_vfwredusum_tu(vfloat64m1_t vd, vfloat32m4_t vs2,
                                   vfloat64m1_t vs1, unsigned int frm,
                                   size_t vl);
```

```
vfloat64m1_t __riscv_vfwredusum_tu(vfloat64m1_t vd, vfloat32m8_t vs2,
                                   vfloat64m1_t vs1, unsigned int frm,
                                   size_t vl);
// masked functions
vfloat32m1_t __riscv_vfwredosum_tum(vbool64_t vm, vfloat32m1_t vd,
                                    vfloat16mf4_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat16mf2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum_tum(vbool16_t vm, vfloat32m1_t vd,
                                    vfloat16m1_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum_tum(vbool8_t vm, vfloat32m1_t vd,
                                    vfloat16m2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum_tum(vbool4_t vm, vfloat32m1_t vd,
                                    vfloat16m4_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredosum_tum(vbool2_t vm, vfloat32m1_t vd,
                                    vfloat16m8_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum_tum(vbool32_t vm, vfloat64m1_t vd,
                                    vfloat32m1_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum_tum(vbool16_t vm, vfloat64m1_t vd,
                                    vfloat32m2_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum_tum(vbool8_t vm, vfloat64m1_t vd,
                                    vfloat32m4_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredosum_tum(vbool4_t vm, vfloat64m1_t vd,
                                    vfloat32m8_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool64_t vm, vfloat32m1_t vd,
                                    vfloat16mf4_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat16mf2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool16_t vm, vfloat32m1_t vd,
                                    vfloat16m1_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool8_t vm, vfloat32m1_t vd,
                                    vfloat16m2_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool4_t vm, vfloat32m1_t vd,
                                    vfloat16m4_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat32m1_t __riscv_vfwredusum_tum(vbool2_t vm, vfloat32m1_t vd,
                                    vfloat16m8_t vs2, vfloat32m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat32mf2_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum_tum(vbool32_t vm, vfloat64m1_t vd,
                                    vfloat32m1_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum_tum(vbool16_t vm, vfloat64m1_t vd,
                                    vfloat32m2_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
vfloat64m1_t __riscv_vfwredusum_tum(vbool8_t vm, vfloat64m1_t vd,
                                    vfloat32m4_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
```

```
vfloat64m1_t __riscv_vfwredusum_tum(vbool4_t vm, vfloat64m1_t vd,
                                    vfloat32m8_t vs2, vfloat64m1_t vs1,
                                    unsigned int frm, size_t vl);
```

D.7. Vector Mask Intrinsics

D.7.1. Vector Mask-Register Logical

Intrinsics here don't have a policy variant.

D.7.2. Vector count population in mask `vcpop.m`

Intrinsics here don't have a policy variant.

D.7.3. `vfirst` find-first-set mask bit

Intrinsics here don't have a policy variant.

D.7.4. `vmsbf.m` set-before-first mask bit

```
// masked functions
vbool1_t __riscv_vmsbf_mu(vbool1_t vm, vbool1_t vd, vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsbf_mu(vbool2_t vm, vbool2_t vd, vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsbf_mu(vbool4_t vm, vbool4_t vd, vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsbf_mu(vbool8_t vm, vbool8_t vd, vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsbf_mu(vbool16_t vm, vbool16_t vd, vbool16_t vs2,
                           size_t vl);
vbool32_t __riscv_vmsbf_mu(vbool32_t vm, vbool32_t vd, vbool32_t vs2,
                           size_t vl);
vbool64_t __riscv_vmsbf_mu(vbool64_t vm, vbool64_t vd, vbool64_t vs2,
                           size_t vl);
```

D.7.5. `vmsif.m` set-including-first mask bit

```
// masked functions
vbool1_t __riscv_vmsif_mu(vbool1_t vm, vbool1_t vd, vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsif_mu(vbool2_t vm, vbool2_t vd, vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsif_mu(vbool4_t vm, vbool4_t vd, vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsif_mu(vbool8_t vm, vbool8_t vd, vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsif_mu(vbool16_t vm, vbool16_t vd, vbool16_t vs2,
                           size_t vl);
vbool32_t __riscv_vmsif_mu(vbool32_t vm, vbool32_t vd, vbool32_t vs2,
                           size_t vl);
vbool64_t __riscv_vmsif_mu(vbool64_t vm, vbool64_t vd, vbool64_t vs2,
                           size_t vl);
```

D.7.6. `vmsof.m` set-only-first mask bit

```
// masked functions
vbool1_t __riscv_vmsof_mu(vbool1_t vm, vbool1_t vd, vbool1_t vs2, size_t vl);
vbool2_t __riscv_vmsof_mu(vbool2_t vm, vbool2_t vd, vbool2_t vs2, size_t vl);
vbool4_t __riscv_vmsof_mu(vbool4_t vm, vbool4_t vd, vbool4_t vs2, size_t vl);
vbool8_t __riscv_vmsof_mu(vbool8_t vm, vbool8_t vd, vbool8_t vs2, size_t vl);
vbool16_t __riscv_vmsof_mu(vbool16_t vm, vbool16_t vd, vbool16_t vs2,
```

```
                            size_t vl);
vbool32_t __riscv_vmsof_mu(vbool32_t vm, vbool32_t vd, vbool32_t vs2,
                            size_t vl);
vbool64_t __riscv_vmsof_mu(vbool64_t vm, vbool64_t vd, vbool64_t vs2,
                            size_t vl);
```

D.7.7. Vector Iota Intrinsics

```
vuint8mf8_t __riscv_viota_tu(vuint8mf8_t vd, vbool64_t vs2, size_t vl);
vuint8mf4_t __riscv_viota_tu(vuint8mf4_t vd, vbool32_t vs2, size_t vl);
vuint8mf2_t __riscv_viota_tu(vuint8mf2_t vd, vbool16_t vs2, size_t vl);
vuint8m1_t __riscv_viota_tu(vuint8m1_t vd, vbool8_t vs2, size_t vl);
vuint8m2_t __riscv_viota_tu(vuint8m2_t vd, vbool4_t vs2, size_t vl);
vuint8m4_t __riscv_viota_tu(vuint8m4_t vd, vbool2_t vs2, size_t vl);
vuint8m8_t __riscv_viota_tu(vuint8m8_t vd, vbool1_t vs2, size_t vl);
vuint16mf4_t __riscv_viota_tu(vuint16mf4_t vd, vbool64_t vs2, size_t vl);
vuint16mf2_t __riscv_viota_tu(vuint16mf2_t vd, vbool32_t vs2, size_t vl);
vuint16m1_t __riscv_viota_tu(vuint16m1_t vd, vbool16_t vs2, size_t vl);
vuint16m2_t __riscv_viota_tu(vuint16m2_t vd, vbool8_t vs2, size_t vl);
vuint16m4_t __riscv_viota_tu(vuint16m4_t vd, vbool4_t vs2, size_t vl);
vuint16m8_t __riscv_viota_tu(vuint16m8_t vd, vbool2_t vs2, size_t vl);
vuint32mf2_t __riscv_viota_tu(vuint32mf2_t vd, vbool64_t vs2, size_t vl);
vuint32m1_t __riscv_viota_tu(vuint32m1_t vd, vbool32_t vs2, size_t vl);
vuint32m2_t __riscv_viota_tu(vuint32m2_t vd, vbool16_t vs2, size_t vl);
vuint32m4_t __riscv_viota_tu(vuint32m4_t vd, vbool8_t vs2, size_t vl);
vuint32m8_t __riscv_viota_tu(vuint32m8_t vd, vbool4_t vs2, size_t vl);
vuint64m1_t __riscv_viota_tu(vuint64m1_t vd, vbool64_t vs2, size_t vl);
vuint64m2_t __riscv_viota_tu(vuint64m2_t vd, vbool32_t vs2, size_t vl);
vuint64m4_t __riscv_viota_tu(vuint64m4_t vd, vbool16_t vs2, size_t vl);
vuint64m8_t __riscv_viota_tu(vuint64m8_t vd, vbool8_t vs2, size_t vl);
// masked functions
vuint8mf8_t __riscv_viota_tum(vbool64_t vm, vuint8mf8_t vd, vbool64_t vs2,
                              size_t vl);
vuint8mf4_t __riscv_viota_tum(vbool32_t vm, vuint8mf4_t vd, vbool32_t vs2,
                              size_t vl);
vuint8mf2_t __riscv_viota_tum(vbool16_t vm, vuint8mf2_t vd, vbool16_t vs2,
                              size_t vl);
vuint8m1_t __riscv_viota_tum(vbool8_t vm, vuint8m1_t vd, vbool8_t vs2,
                             size_t vl);
vuint8m2_t __riscv_viota_tum(vbool4_t vm, vuint8m2_t vd, vbool4_t vs2,
                             size_t vl);
vuint8m4_t __riscv_viota_tum(vbool2_t vm, vuint8m4_t vd, vbool2_t vs2,
                             size_t vl);
vuint8m8_t __riscv_viota_tum(vbool1_t vm, vuint8m8_t vd, vbool1_t vs2,
                             size_t vl);
vuint16mf4_t __riscv_viota_tum(vbool64_t vm, vuint16mf4_t vd, vbool64_t vs2,
                               size_t vl);
vuint16mf2_t __riscv_viota_tum(vbool32_t vm, vuint16mf2_t vd, vbool32_t vs2,
                               size_t vl);
vuint16m1_t __riscv_viota_tum(vbool16_t vm, vuint16m1_t vd, vbool16_t vs2,
                              size_t vl);
vuint16m2_t __riscv_viota_tum(vbool8_t vm, vuint16m2_t vd, vbool8_t vs2,
                              size_t vl);
vuint16m4_t __riscv_viota_tum(vbool4_t vm, vuint16m4_t vd, vbool4_t vs2,
                              size_t vl);
vuint16m8_t __riscv_viota_tum(vbool2_t vm, vuint16m8_t vd, vbool2_t vs2,
                              size_t vl);
vuint32mf2_t __riscv_viota_tum(vbool64_t vm, vuint32mf2_t vd, vbool64_t vs2,
                               size_t vl);
vuint32m1_t __riscv_viota_tum(vbool32_t vm, vuint32m1_t vd, vbool32_t vs2,
                              size_t vl);
vuint32m2_t __riscv_viota_tum(vbool16_t vm, vuint32m2_t vd, vbool16_t vs2,
                              size_t vl);
vuint32m4_t __riscv_viota_tum(vbool8_t vm, vuint32m4_t vd, vbool8_t vs2,
                              size_t vl);
```

```
vuint32m8_t __riscv_viota_tum(vbool4_t vm, vuint32m8_t vd, vbool4_t vs2,
                              size_t vl);
vuint64m1_t __riscv_viota_tum(vbool64_t vm, vuint64m1_t vd, vbool64_t vs2,
                              size_t vl);
vuint64m2_t __riscv_viota_tum(vbool32_t vm, vuint64m2_t vd, vbool32_t vs2,
                              size_t vl);
vuint64m4_t __riscv_viota_tum(vbool16_t vm, vuint64m4_t vd, vbool16_t vs2,
                              size_t vl);
vuint64m8_t __riscv_viota_tum(vbool8_t vm, vuint64m8_t vd, vbool8_t vs2,
                              size_t vl);
// masked functions
vuint8mf8_t __riscv_viota_tumu(vbool64_t vm, vuint8mf8_t vd, vbool64_t vs2,
                               size_t vl);
vuint8mf4_t __riscv_viota_tumu(vbool32_t vm, vuint8mf4_t vd, vbool32_t vs2,
                               size_t vl);
vuint8mf2_t __riscv_viota_tumu(vbool16_t vm, vuint8mf2_t vd, vbool16_t vs2,
                               size_t vl);
vuint8m1_t __riscv_viota_tumu(vbool8_t vm, vuint8m1_t vd, vbool8_t vs2,
                              size_t vl);
vuint8m2_t __riscv_viota_tumu(vbool4_t vm, vuint8m2_t vd, vbool4_t vs2,
                              size_t vl);
vuint8m4_t __riscv_viota_tumu(vbool2_t vm, vuint8m4_t vd, vbool2_t vs2,
                              size_t vl);
vuint8m8_t __riscv_viota_tumu(vbool1_t vm, vuint8m8_t vd, vbool1_t vs2,
                              size_t vl);
vuint16mf4_t __riscv_viota_tumu(vbool64_t vm, vuint16mf4_t vd, vbool64_t vs2,
                                size_t vl);
vuint16mf2_t __riscv_viota_tumu(vbool32_t vm, vuint16mf2_t vd, vbool32_t vs2,
                                size_t vl);
vuint16m1_t __riscv_viota_tumu(vbool16_t vm, vuint16m1_t vd, vbool16_t vs2,
                               size_t vl);
vuint16m2_t __riscv_viota_tumu(vbool8_t vm, vuint16m2_t vd, vbool8_t vs2,
                               size_t vl);
vuint16m4_t __riscv_viota_tumu(vbool4_t vm, vuint16m4_t vd, vbool4_t vs2,
                               size_t vl);
vuint16m8_t __riscv_viota_tumu(vbool2_t vm, vuint16m8_t vd, vbool2_t vs2,
                               size_t vl);
vuint32mf2_t __riscv_viota_tumu(vbool64_t vm, vuint32mf2_t vd, vbool64_t vs2,
                                size_t vl);
vuint32m1_t __riscv_viota_tumu(vbool32_t vm, vuint32m1_t vd, vbool32_t vs2,
                               size_t vl);
vuint32m2_t __riscv_viota_tumu(vbool16_t vm, vuint32m2_t vd, vbool16_t vs2,
                               size_t vl);
vuint32m4_t __riscv_viota_tumu(vbool8_t vm, vuint32m4_t vd, vbool8_t vs2,
                               size_t vl);
vuint32m8_t __riscv_viota_tumu(vbool4_t vm, vuint32m8_t vd, vbool4_t vs2,
                               size_t vl);
vuint64m1_t __riscv_viota_tumu(vbool64_t vm, vuint64m1_t vd, vbool64_t vs2,
                               size_t vl);
vuint64m2_t __riscv_viota_tumu(vbool32_t vm, vuint64m2_t vd, vbool32_t vs2,
                               size_t vl);
vuint64m4_t __riscv_viota_tumu(vbool16_t vm, vuint64m4_t vd, vbool16_t vs2,
                               size_t vl);
vuint64m8_t __riscv_viota_tumu(vbool8_t vm, vuint64m8_t vd, vbool8_t vs2,
                               size_t vl);
// masked functions
vuint8mf8_t __riscv_viota_mu(vbool64_t vm, vuint8mf8_t vd, vbool64_t vs2,
                             size_t vl);
vuint8mf4_t __riscv_viota_mu(vbool32_t vm, vuint8mf4_t vd, vbool32_t vs2,
                             size_t vl);
vuint8mf2_t __riscv_viota_mu(vbool16_t vm, vuint8mf2_t vd, vbool16_t vs2,
                             size_t vl);
vuint8m1_t __riscv_viota_mu(vbool8_t vm, vuint8m1_t vd, vbool8_t vs2,
                            size_t vl);
vuint8m2_t __riscv_viota_mu(vbool4_t vm, vuint8m2_t vd, vbool4_t vs2,
                            size_t vl);
vuint8m4_t __riscv_viota_mu(vbool2_t vm, vuint8m4_t vd, vbool2_t vs2,
```

```
                            size_t vl);
vuint8m8_t __riscv_viota_mu(vbool1_t vm, vuint8m8_t vd, vbool1_t vs2,
                            size_t vl);
vuint16mf4_t __riscv_viota_mu(vbool64_t vm, vuint16mf4_t vd, vbool64_t vs2,
                              size_t vl);
vuint16mf2_t __riscv_viota_mu(vbool32_t vm, vuint16mf2_t vd, vbool32_t vs2,
                              size_t vl);
vuint16m1_t __riscv_viota_mu(vbool16_t vm, vuint16m1_t vd, vbool16_t vs2,
                             size_t vl);
vuint16m2_t __riscv_viota_mu(vbool8_t vm, vuint16m2_t vd, vbool8_t vs2,
                             size_t vl);
vuint16m4_t __riscv_viota_mu(vbool4_t vm, vuint16m4_t vd, vbool4_t vs2,
                             size_t vl);
vuint16m8_t __riscv_viota_mu(vbool2_t vm, vuint16m8_t vd, vbool2_t vs2,
                             size_t vl);
vuint32mf2_t __riscv_viota_mu(vbool64_t vm, vuint32mf2_t vd, vbool64_t vs2,
                              size_t vl);
vuint32m1_t __riscv_viota_mu(vbool32_t vm, vuint32m1_t vd, vbool32_t vs2,
                             size_t vl);
vuint32m2_t __riscv_viota_mu(vbool16_t vm, vuint32m2_t vd, vbool16_t vs2,
                             size_t vl);
vuint32m4_t __riscv_viota_mu(vbool8_t vm, vuint32m4_t vd, vbool8_t vs2,
                             size_t vl);
vuint32m8_t __riscv_viota_mu(vbool4_t vm, vuint32m8_t vd, vbool4_t vs2,
                             size_t vl);
vuint64m1_t __riscv_viota_mu(vbool64_t vm, vuint64m1_t vd, vbool64_t vs2,
                             size_t vl);
vuint64m2_t __riscv_viota_mu(vbool32_t vm, vuint64m2_t vd, vbool32_t vs2,
                             size_t vl);
vuint64m4_t __riscv_viota_mu(vbool16_t vm, vuint64m4_t vd, vbool16_t vs2,
                             size_t vl);
vuint64m8_t __riscv_viota_mu(vbool8_t vm, vuint64m8_t vd, vbool8_t vs2,
                             size_t vl);
```

D.7.8. Vector Element Index Intrinsics

```
vuint8mf8_t __riscv_vid_tu(vuint8mf8_t vd, size_t vl);
vuint8mf4_t __riscv_vid_tu(vuint8mf4_t vd, size_t vl);
vuint8mf2_t __riscv_vid_tu(vuint8mf2_t vd, size_t vl);
vuint8m1_t __riscv_vid_tu(vuint8m1_t vd, size_t vl);
vuint8m2_t __riscv_vid_tu(vuint8m2_t vd, size_t vl);
vuint8m4_t __riscv_vid_tu(vuint8m4_t vd, size_t vl);
vuint8m8_t __riscv_vid_tu(vuint8m8_t vd, size_t vl);
vuint16mf4_t __riscv_vid_tu(vuint16mf4_t vd, size_t vl);
vuint16mf2_t __riscv_vid_tu(vuint16mf2_t vd, size_t vl);
vuint16m1_t __riscv_vid_tu(vuint16m1_t vd, size_t vl);
vuint16m2_t __riscv_vid_tu(vuint16m2_t vd, size_t vl);
vuint16m4_t __riscv_vid_tu(vuint16m4_t vd, size_t vl);
vuint16m8_t __riscv_vid_tu(vuint16m8_t vd, size_t vl);
vuint32mf2_t __riscv_vid_tu(vuint32mf2_t vd, size_t vl);
vuint32m1_t __riscv_vid_tu(vuint32m1_t vd, size_t vl);
vuint32m2_t __riscv_vid_tu(vuint32m2_t vd, size_t vl);
vuint32m4_t __riscv_vid_tu(vuint32m4_t vd, size_t vl);
vuint32m8_t __riscv_vid_tu(vuint32m8_t vd, size_t vl);
vuint64m1_t __riscv_vid_tu(vuint64m1_t vd, size_t vl);
vuint64m2_t __riscv_vid_tu(vuint64m2_t vd, size_t vl);
vuint64m4_t __riscv_vid_tu(vuint64m4_t vd, size_t vl);
vuint64m8_t __riscv_vid_tu(vuint64m8_t vd, size_t vl);
// masked functions
vuint8mf8_t __riscv_vid_tum(vbool64_t vm, vuint8mf8_t vd, size_t vl);
vuint8mf4_t __riscv_vid_tum(vbool32_t vm, vuint8mf4_t vd, size_t vl);
vuint8mf2_t __riscv_vid_tum(vbool16_t vm, vuint8mf2_t vd, size_t vl);
vuint8m1_t __riscv_vid_tum(vbool8_t vm, vuint8m1_t vd, size_t vl);
vuint8m2_t __riscv_vid_tum(vbool4_t vm, vuint8m2_t vd, size_t vl);
vuint8m4_t __riscv_vid_tum(vbool2_t vm, vuint8m4_t vd, size_t vl);
```

```
vuint8m8_t __riscv_vid_tum(vbool1_t vm, vuint8m8_t vd, size_t vl);
vuint16mf4_t __riscv_vid_tum(vbool64_t vm, vuint16mf4_t vd, size_t vl);
vuint16mf2_t __riscv_vid_tum(vbool32_t vm, vuint16mf2_t vd, size_t vl);
vuint16m1_t __riscv_vid_tum(vbool16_t vm, vuint16m1_t vd, size_t vl);
vuint16m2_t __riscv_vid_tum(vbool8_t vm, vuint16m2_t vd, size_t vl);
vuint16m4_t __riscv_vid_tum(vbool4_t vm, vuint16m4_t vd, size_t vl);
vuint16m8_t __riscv_vid_tum(vbool2_t vm, vuint16m8_t vd, size_t vl);
vuint32mf2_t __riscv_vid_tum(vbool64_t vm, vuint32mf2_t vd, size_t vl);
vuint32m1_t __riscv_vid_tum(vbool32_t vm, vuint32m1_t vd, size_t vl);
vuint32m2_t __riscv_vid_tum(vbool16_t vm, vuint32m2_t vd, size_t vl);
vuint32m4_t __riscv_vid_tum(vbool8_t vm, vuint32m4_t vd, size_t vl);
vuint32m8_t __riscv_vid_tum(vbool4_t vm, vuint32m8_t vd, size_t vl);
vuint64m1_t __riscv_vid_tum(vbool64_t vm, vuint64m1_t vd, size_t vl);
vuint64m2_t __riscv_vid_tum(vbool32_t vm, vuint64m2_t vd, size_t vl);
vuint64m4_t __riscv_vid_tum(vbool16_t vm, vuint64m4_t vd, size_t vl);
vuint64m8_t __riscv_vid_tum(vbool8_t vm, vuint64m8_t vd, size_t vl);
// masked functions
vuint8mf8_t __riscv_vid_tumu(vbool64_t vm, vuint8mf8_t vd, size_t vl);
vuint8mf4_t __riscv_vid_tumu(vbool32_t vm, vuint8mf4_t vd, size_t vl);
vuint8mf2_t __riscv_vid_tumu(vbool16_t vm, vuint8mf2_t vd, size_t vl);
vuint8m1_t __riscv_vid_tumu(vbool8_t vm, vuint8m1_t vd, size_t vl);
vuint8m2_t __riscv_vid_tumu(vbool4_t vm, vuint8m2_t vd, size_t vl);
vuint8m4_t __riscv_vid_tumu(vbool2_t vm, vuint8m4_t vd, size_t vl);
vuint8m8_t __riscv_vid_tumu(vbool1_t vm, vuint8m8_t vd, size_t vl);
vuint16mf4_t __riscv_vid_tumu(vbool64_t vm, vuint16mf4_t vd, size_t vl);
vuint16mf2_t __riscv_vid_tumu(vbool32_t vm, vuint16mf2_t vd, size_t vl);
vuint16m1_t __riscv_vid_tumu(vbool16_t vm, vuint16m1_t vd, size_t vl);
vuint16m2_t __riscv_vid_tumu(vbool8_t vm, vuint16m2_t vd, size_t vl);
vuint16m4_t __riscv_vid_tumu(vbool4_t vm, vuint16m4_t vd, size_t vl);
vuint16m8_t __riscv_vid_tumu(vbool2_t vm, vuint16m8_t vd, size_t vl);
vuint32mf2_t __riscv_vid_tumu(vbool64_t vm, vuint32mf2_t vd, size_t vl);
vuint32m1_t __riscv_vid_tumu(vbool32_t vm, vuint32m1_t vd, size_t vl);
vuint32m2_t __riscv_vid_tumu(vbool16_t vm, vuint32m2_t vd, size_t vl);
vuint32m4_t __riscv_vid_tumu(vbool8_t vm, vuint32m4_t vd, size_t vl);
vuint32m8_t __riscv_vid_tumu(vbool4_t vm, vuint32m8_t vd, size_t vl);
vuint64m1_t __riscv_vid_tumu(vbool64_t vm, vuint64m1_t vd, size_t vl);
vuint64m2_t __riscv_vid_tumu(vbool32_t vm, vuint64m2_t vd, size_t vl);
vuint64m4_t __riscv_vid_tumu(vbool16_t vm, vuint64m4_t vd, size_t vl);
vuint64m8_t __riscv_vid_tumu(vbool8_t vm, vuint64m8_t vd, size_t vl);
// masked functions
vuint8mf8_t __riscv_vid_mu(vbool64_t vm, vuint8mf8_t vd, size_t vl);
vuint8mf4_t __riscv_vid_mu(vbool32_t vm, vuint8mf4_t vd, size_t vl);
vuint8mf2_t __riscv_vid_mu(vbool16_t vm, vuint8mf2_t vd, size_t vl);
vuint8m1_t __riscv_vid_mu(vbool8_t vm, vuint8m1_t vd, size_t vl);
vuint8m2_t __riscv_vid_mu(vbool4_t vm, vuint8m2_t vd, size_t vl);
vuint8m4_t __riscv_vid_mu(vbool2_t vm, vuint8m4_t vd, size_t vl);
vuint8m8_t __riscv_vid_mu(vbool1_t vm, vuint8m8_t vd, size_t vl);
vuint16mf4_t __riscv_vid_mu(vbool64_t vm, vuint16mf4_t vd, size_t vl);
vuint16mf2_t __riscv_vid_mu(vbool32_t vm, vuint16mf2_t vd, size_t vl);
vuint16m1_t __riscv_vid_mu(vbool16_t vm, vuint16m1_t vd, size_t vl);
vuint16m2_t __riscv_vid_mu(vbool8_t vm, vuint16m2_t vd, size_t vl);
vuint16m4_t __riscv_vid_mu(vbool4_t vm, vuint16m4_t vd, size_t vl);
vuint16m8_t __riscv_vid_mu(vbool2_t vm, vuint16m8_t vd, size_t vl);
vuint32mf2_t __riscv_vid_mu(vbool64_t vm, vuint32mf2_t vd, size_t vl);
vuint32m1_t __riscv_vid_mu(vbool32_t vm, vuint32m1_t vd, size_t vl);
vuint32m2_t __riscv_vid_mu(vbool16_t vm, vuint32m2_t vd, size_t vl);
vuint32m4_t __riscv_vid_mu(vbool8_t vm, vuint32m4_t vd, size_t vl);
vuint32m8_t __riscv_vid_mu(vbool4_t vm, vuint32m8_t vd, size_t vl);
vuint64m1_t __riscv_vid_mu(vbool64_t vm, vuint64m1_t vd, size_t vl);
vuint64m2_t __riscv_vid_mu(vbool32_t vm, vuint64m2_t vd, size_t vl);
vuint64m4_t __riscv_vid_mu(vbool16_t vm, vuint64m4_t vd, size_t vl);
vuint64m8_t __riscv_vid_mu(vbool8_t vm, vuint64m8_t vd, size_t vl);
```

D.8. Vector Permutation Intrinsics

D.8.1. Integer and Floating-Point Scalar Move Intrinsics

```
vfloat16mf4_t __riscv_vfmv_s_tu(vfloat16mf4_t vd, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfmv_s_tu(vfloat16mf2_t vd, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfmv_s_tu(vfloat16m1_t vd, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfmv_s_tu(vfloat16m2_t vd, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfmv_s_tu(vfloat16m4_t vd, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfmv_s_tu(vfloat16m8_t vd, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfmv_s_tu(vfloat32mf2_t vd, float rs1, size_t vl);
vfloat32m1_t __riscv_vfmv_s_tu(vfloat32m1_t vd, float rs1, size_t vl);
vfloat32m2_t __riscv_vfmv_s_tu(vfloat32m2_t vd, float rs1, size_t vl);
vfloat32m4_t __riscv_vfmv_s_tu(vfloat32m4_t vd, float rs1, size_t vl);
vfloat32m8_t __riscv_vfmv_s_tu(vfloat32m8_t vd, float rs1, size_t vl);
vfloat64m1_t __riscv_vfmv_s_tu(vfloat64m1_t vd, double rs1, size_t vl);
vfloat64m2_t __riscv_vfmv_s_tu(vfloat64m2_t vd, double rs1, size_t vl);
vfloat64m4_t __riscv_vfmv_s_tu(vfloat64m4_t vd, double rs1, size_t vl);
vfloat64m8_t __riscv_vfmv_s_tu(vfloat64m8_t vd, double rs1, size_t vl);
vint8mf8_t __riscv_vmv_s_tu(vint8mf8_t vd, int8_t rs1, size_t vl);
vint8mf4_t __riscv_vmv_s_tu(vint8mf4_t vd, int8_t rs1, size_t vl);
vint8mf2_t __riscv_vmv_s_tu(vint8mf2_t vd, int8_t rs1, size_t vl);
vint8m1_t __riscv_vmv_s_tu(vint8m1_t vd, int8_t rs1, size_t vl);
vint8m2_t __riscv_vmv_s_tu(vint8m2_t vd, int8_t rs1, size_t vl);
vint8m4_t __riscv_vmv_s_tu(vint8m4_t vd, int8_t rs1, size_t vl);
vint8m8_t __riscv_vmv_s_tu(vint8m8_t vd, int8_t rs1, size_t vl);
vint16mf4_t __riscv_vmv_s_tu(vint16mf4_t vd, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vmv_s_tu(vint16mf2_t vd, int16_t rs1, size_t vl);
vint16m1_t __riscv_vmv_s_tu(vint16m1_t vd, int16_t rs1, size_t vl);
vint16m2_t __riscv_vmv_s_tu(vint16m2_t vd, int16_t rs1, size_t vl);
vint16m4_t __riscv_vmv_s_tu(vint16m4_t vd, int16_t rs1, size_t vl);
vint16m8_t __riscv_vmv_s_tu(vint16m8_t vd, int16_t rs1, size_t vl);
vint32mf2_t __riscv_vmv_s_tu(vint32mf2_t vd, int32_t rs1, size_t vl);
vint32m1_t __riscv_vmv_s_tu(vint32m1_t vd, int32_t rs1, size_t vl);
vint32m2_t __riscv_vmv_s_tu(vint32m2_t vd, int32_t rs1, size_t vl);
vint32m4_t __riscv_vmv_s_tu(vint32m4_t vd, int32_t rs1, size_t vl);
vint32m8_t __riscv_vmv_s_tu(vint32m8_t vd, int32_t rs1, size_t vl);
vint64m1_t __riscv_vmv_s_tu(vint64m1_t vd, int64_t rs1, size_t vl);
vint64m2_t __riscv_vmv_s_tu(vint64m2_t vd, int64_t rs1, size_t vl);
vint64m4_t __riscv_vmv_s_tu(vint64m4_t vd, int64_t rs1, size_t vl);
vint64m8_t __riscv_vmv_s_tu(vint64m8_t vd, int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vmv_s_tu(vuint8mf8_t vd, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vmv_s_tu(vuint8mf4_t vd, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vmv_s_tu(vuint8mf2_t vd, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vmv_s_tu(vuint8m1_t vd, uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vmv_s_tu(vuint8m2_t vd, uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vmv_s_tu(vuint8m4_t vd, uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vmv_s_tu(vuint8m8_t vd, uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vmv_s_tu(vuint16mf4_t vd, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vmv_s_tu(vuint16mf2_t vd, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vmv_s_tu(vuint16m1_t vd, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vmv_s_tu(vuint16m2_t vd, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vmv_s_tu(vuint16m4_t vd, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vmv_s_tu(vuint16m8_t vd, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vmv_s_tu(vuint32mf2_t vd, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vmv_s_tu(vuint32m1_t vd, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vmv_s_tu(vuint32m2_t vd, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vmv_s_tu(vuint32m4_t vd, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vmv_s_tu(vuint32m8_t vd, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vmv_s_tu(vuint64m1_t vd, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vmv_s_tu(vuint64m2_t vd, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vmv_s_tu(vuint64m4_t vd, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vmv_s_tu(vuint64m8_t vd, uint64_t rs1, size_t vl);
```

D.8.2. Vector Slideup Intrinsics

```
vfloat16mf4_t __riscv_vslideup_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                  size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslideup_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                  size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslideup_tu(vfloat16m1_t vd, vfloat16m1_t vs2, size_t rs1,
                                 size_t vl);
vfloat16m2_t __riscv_vslideup_tu(vfloat16m2_t vd, vfloat16m2_t vs2, size_t rs1,
                                 size_t vl);
vfloat16m4_t __riscv_vslideup_tu(vfloat16m4_t vd, vfloat16m4_t vs2, size_t rs1,
                                 size_t vl);
vfloat16m8_t __riscv_vslideup_tu(vfloat16m8_t vd, vfloat16m8_t vs2, size_t rs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vslideup_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                  size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslideup_tu(vfloat32m1_t vd, vfloat32m1_t vs2, size_t rs1,
                                 size_t vl);
vfloat32m2_t __riscv_vslideup_tu(vfloat32m2_t vd, vfloat32m2_t vs2, size_t rs1,
                                 size_t vl);
vfloat32m4_t __riscv_vslideup_tu(vfloat32m4_t vd, vfloat32m4_t vs2, size_t rs1,
                                 size_t vl);
vfloat32m8_t __riscv_vslideup_tu(vfloat32m8_t vd, vfloat32m8_t vs2, size_t rs1,
                                 size_t vl);
vfloat64m1_t __riscv_vslideup_tu(vfloat64m1_t vd, vfloat64m1_t vs2, size_t rs1,
                                 size_t vl);
vfloat64m2_t __riscv_vslideup_tu(vfloat64m2_t vd, vfloat64m2_t vs2, size_t rs1,
                                 size_t vl);
vfloat64m4_t __riscv_vslideup_tu(vfloat64m4_t vd, vfloat64m4_t vs2, size_t rs1,
                                 size_t vl);
vfloat64m8_t __riscv_vslideup_tu(vfloat64m8_t vd, vfloat64m8_t vs2, size_t rs1,
                                 size_t vl);
vint8mf8_t __riscv_vslideup_tu(vint8mf8_t vd, vint8mf8_t vs2, size_t rs1,
                               size_t vl);
vint8mf4_t __riscv_vslideup_tu(vint8mf4_t vd, vint8mf4_t vs2, size_t rs1,
                               size_t vl);
vint8mf2_t __riscv_vslideup_tu(vint8mf2_t vd, vint8mf2_t vs2, size_t rs1,
                               size_t vl);
vint8m1_t __riscv_vslideup_tu(vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                              size_t vl);
vint8m2_t __riscv_vslideup_tu(vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                              size_t vl);
vint8m4_t __riscv_vslideup_tu(vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                              size_t vl);
vint8m8_t __riscv_vslideup_tu(vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                              size_t vl);
vint16mf4_t __riscv_vslideup_tu(vint16mf4_t vd, vint16mf4_t vs2, size_t rs1,
                                size_t vl);
vint16mf2_t __riscv_vslideup_tu(vint16mf2_t vd, vint16mf2_t vs2, size_t rs1,
                                size_t vl);
vint16m1_t __riscv_vslideup_tu(vint16m1_t vd, vint16m1_t vs2, size_t rs1,
                               size_t vl);
vint16m2_t __riscv_vslideup_tu(vint16m2_t vd, vint16m2_t vs2, size_t rs1,
                               size_t vl);
vint16m4_t __riscv_vslideup_tu(vint16m4_t vd, vint16m4_t vs2, size_t rs1,
                               size_t vl);
vint16m8_t __riscv_vslideup_tu(vint16m8_t vd, vint16m8_t vs2, size_t rs1,
                               size_t vl);
vint32mf2_t __riscv_vslideup_tu(vint32mf2_t vd, vint32mf2_t vs2, size_t rs1,
                                size_t vl);
vint32m1_t __riscv_vslideup_tu(vint32m1_t vd, vint32m1_t vs2, size_t rs1,
                               size_t vl);
vint32m2_t __riscv_vslideup_tu(vint32m2_t vd, vint32m2_t vs2, size_t rs1,
                               size_t vl);
vint32m4_t __riscv_vslideup_tu(vint32m4_t vd, vint32m4_t vs2, size_t rs1,
                               size_t vl);
```

```
vint32m8_t __riscv_vslideup_tu(vint32m8_t vd, vint32m8_t vs2, size_t rs1,
                               size_t vl);
vint64m1_t __riscv_vslideup_tu(vint64m1_t vd, vint64m1_t vs2, size_t rs1,
                               size_t vl);
vint64m2_t __riscv_vslideup_tu(vint64m2_t vd, vint64m2_t vs2, size_t rs1,
                               size_t vl);
vint64m4_t __riscv_vslideup_tu(vint64m4_t vd, vint64m4_t vs2, size_t rs1,
                               size_t vl);
vint64m8_t __riscv_vslideup_tu(vint64m8_t vd, vint64m8_t vs2, size_t rs1,
                               size_t vl);
vuint8mf8_t __riscv_vslideup_tu(vuint8mf8_t vd, vuint8mf8_t vs2, size_t rs1,
                                size_t vl);
vuint8mf4_t __riscv_vslideup_tu(vuint8mf4_t vd, vuint8mf4_t vs2, size_t rs1,
                                size_t vl);
vuint8mf2_t __riscv_vslideup_tu(vuint8mf2_t vd, vuint8mf2_t vs2, size_t rs1,
                                size_t vl);
vuint8m1_t __riscv_vslideup_tu(vuint8m1_t vd, vuint8m1_t vs2, size_t rs1,
                               size_t vl);
vuint8m2_t __riscv_vslideup_tu(vuint8m2_t vd, vuint8m2_t vs2, size_t rs1,
                               size_t vl);
vuint8m4_t __riscv_vslideup_tu(vuint8m4_t vd, vuint8m4_t vs2, size_t rs1,
                               size_t vl);
vuint8m8_t __riscv_vslideup_tu(vuint8m8_t vd, vuint8m8_t vs2, size_t rs1,
                               size_t vl);
vuint16mf4_t __riscv_vslideup_tu(vuint16mf4_t vd, vuint16mf4_t vs2, size_t rs1,
                                 size_t vl);
vuint16mf2_t __riscv_vslideup_tu(vuint16mf2_t vd, vuint16mf2_t vs2, size_t rs1,
                                 size_t vl);
vuint16m1_t __riscv_vslideup_tu(vuint16m1_t vd, vuint16m1_t vs2, size_t rs1,
                                size_t vl);
vuint16m2_t __riscv_vslideup_tu(vuint16m2_t vd, vuint16m2_t vs2, size_t rs1,
                                size_t vl);
vuint16m4_t __riscv_vslideup_tu(vuint16m4_t vd, vuint16m4_t vs2, size_t rs1,
                                size_t vl);
vuint16m8_t __riscv_vslideup_tu(vuint16m8_t vd, vuint16m8_t vs2, size_t rs1,
                                size_t vl);
vuint32mf2_t __riscv_vslideup_tu(vuint32mf2_t vd, vuint32mf2_t vs2, size_t rs1,
                                 size_t vl);
vuint32m1_t __riscv_vslideup_tu(vuint32m1_t vd, vuint32m1_t vs2, size_t rs1,
                                size_t vl);
vuint32m2_t __riscv_vslideup_tu(vuint32m2_t vd, vuint32m2_t vs2, size_t rs1,
                                size_t vl);
vuint32m4_t __riscv_vslideup_tu(vuint32m4_t vd, vuint32m4_t vs2, size_t rs1,
                                size_t vl);
vuint32m8_t __riscv_vslideup_tu(vuint32m8_t vd, vuint32m8_t vs2, size_t rs1,
                                size_t vl);
vuint64m1_t __riscv_vslideup_tu(vuint64m1_t vd, vuint64m1_t vs2, size_t rs1,
                                size_t vl);
vuint64m2_t __riscv_vslideup_tu(vuint64m2_t vd, vuint64m2_t vs2, size_t rs1,
                                size_t vl);
vuint64m4_t __riscv_vslideup_tu(vuint64m4_t vd, vuint64m4_t vs2, size_t rs1,
                                size_t vl);
vuint64m8_t __riscv_vslideup_tu(vuint64m8_t vd, vuint64m8_t vs2, size_t rs1,
                                size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslideup_tum(vbool64_t vm, vfloat16mf4_t vd,
                                   vfloat16mf4_t vs2, size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslideup_tum(vbool32_t vm, vfloat16mf2_t vd,
                                   vfloat16mf2_t vs2, size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslideup_tum(vbool16_t vm, vfloat16m1_t vd,
                                  vfloat16m1_t vs2, size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslideup_tum(vbool8_t vm, vfloat16m2_t vd,
                                  vfloat16m2_t vs2, size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslideup_tum(vbool4_t vm, vfloat16m4_t vd,
                                  vfloat16m4_t vs2, size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslideup_tum(vbool2_t vm, vfloat16m8_t vd,
                                  vfloat16m8_t vs2, size_t rs1, size_t vl);
```

```
vfloat32mf2_t __riscv_vslideup_tum(vbool64_t vm, vfloat32mf2_t vd,
                                   vfloat32mf2_t vs2, size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslideup_tum(vbool32_t vm, vfloat32m1_t vd,
                                  vfloat32m1_t vs2, size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslideup_tum(vbool16_t vm, vfloat32m2_t vd,
                                  vfloat32m2_t vs2, size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslideup_tum(vbool8_t vm, vfloat32m4_t vd,
                                  vfloat32m4_t vs2, size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslideup_tum(vbool4_t vm, vfloat32m8_t vd,
                                  vfloat32m8_t vs2, size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslideup_tum(vbool64_t vm, vfloat64m1_t vd,
                                  vfloat64m1_t vs2, size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslideup_tum(vbool32_t vm, vfloat64m2_t vd,
                                  vfloat64m2_t vs2, size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslideup_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslideup_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, size_t rs1, size_t vl);
vint8mf8_t __riscv_vslideup_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                size_t rs1, size_t vl);
vint8mf4_t __riscv_vslideup_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                size_t rs1, size_t vl);
vint8mf2_t __riscv_vslideup_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                size_t rs1, size_t vl);
vint8m1_t __riscv_vslideup_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                               size_t rs1, size_t vl);
vint8m2_t __riscv_vslideup_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                               size_t rs1, size_t vl);
vint8m4_t __riscv_vslideup_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                               size_t rs1, size_t vl);
vint8m8_t __riscv_vslideup_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                               size_t rs1, size_t vl);
vint16mf4_t __riscv_vslideup_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                 size_t rs1, size_t vl);
vint16mf2_t __riscv_vslideup_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                 size_t rs1, size_t vl);
vint16m1_t __riscv_vslideup_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                size_t rs1, size_t vl);
vint16m2_t __riscv_vslideup_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                size_t rs1, size_t vl);
vint16m4_t __riscv_vslideup_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                size_t rs1, size_t vl);
vint16m8_t __riscv_vslideup_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                size_t rs1, size_t vl);
vint32mf2_t __riscv_vslideup_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 size_t rs1, size_t vl);
vint32m1_t __riscv_vslideup_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                size_t rs1, size_t vl);
vint32m2_t __riscv_vslideup_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                size_t rs1, size_t vl);
vint32m4_t __riscv_vslideup_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                size_t rs1, size_t vl);
vint32m8_t __riscv_vslideup_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                size_t rs1, size_t vl);
vint64m1_t __riscv_vslideup_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                size_t rs1, size_t vl);
vint64m2_t __riscv_vslideup_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                size_t rs1, size_t vl);
vint64m4_t __riscv_vslideup_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                size_t rs1, size_t vl);
vint64m8_t __riscv_vslideup_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslideup_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                 size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslideup_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                 size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslideup_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
```

```
                                size_t rs1, size_t vl);
vuint8m1_t __riscv_vslideup_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                size_t rs1, size_t vl);
vuint8m2_t __riscv_vslideup_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                size_t rs1, size_t vl);
vuint8m4_t __riscv_vslideup_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                size_t rs1, size_t vl);
vuint8m8_t __riscv_vslideup_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslideup_tum(vbool64_t vm, vuint16mf4_t vd,
                                  vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslideup_tum(vbool32_t vm, vuint16mf2_t vd,
                                  vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vslideup_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                 size_t rs1, size_t vl);
vuint16m2_t __riscv_vslideup_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                 size_t rs1, size_t vl);
vuint16m4_t __riscv_vslideup_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                 size_t rs1, size_t vl);
vuint16m8_t __riscv_vslideup_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                 size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslideup_tum(vbool64_t vm, vuint32mf2_t vd,
                                  vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vslideup_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                 size_t rs1, size_t vl);
vuint32m2_t __riscv_vslideup_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                 size_t rs1, size_t vl);
vuint32m4_t __riscv_vslideup_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                 size_t rs1, size_t vl);
vuint32m8_t __riscv_vslideup_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                 size_t rs1, size_t vl);
vuint64m1_t __riscv_vslideup_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                 size_t rs1, size_t vl);
vuint64m2_t __riscv_vslideup_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                 size_t rs1, size_t vl);
vuint64m4_t __riscv_vslideup_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                 size_t rs1, size_t vl);
vuint64m8_t __riscv_vslideup_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                 size_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslideup_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    vfloat16mf4_t vs2, size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslideup_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    vfloat16mf2_t vs2, size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslideup_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   vfloat16m1_t vs2, size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslideup_tumu(vbool8_t vm, vfloat16m2_t vd,
                                   vfloat16m2_t vs2, size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslideup_tumu(vbool4_t vm, vfloat16m4_t vd,
                                   vfloat16m4_t vs2, size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslideup_tumu(vbool2_t vm, vfloat16m8_t vd,
                                   vfloat16m8_t vs2, size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslideup_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslideup_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslideup_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslideup_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslideup_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslideup_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslideup_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat64m2_t vs2, size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslideup_tumu(vbool16_t vm, vfloat64m4_t vd,
```

```
                                    vfloat64m4_t vs2, size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslideup_tumu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, size_t rs1, size_t vl);
vint8mf8_t __riscv_vslideup_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                 size_t rs1, size_t vl);
vint8mf4_t __riscv_vslideup_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                 size_t rs1, size_t vl);
vint8mf2_t __riscv_vslideup_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                 size_t rs1, size_t vl);
vint8m1_t __riscv_vslideup_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                size_t rs1, size_t vl);
vint8m2_t __riscv_vslideup_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                size_t rs1, size_t vl);
vint8m4_t __riscv_vslideup_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                size_t rs1, size_t vl);
vint8m8_t __riscv_vslideup_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                size_t rs1, size_t vl);
vint16mf4_t __riscv_vslideup_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                  size_t rs1, size_t vl);
vint16mf2_t __riscv_vslideup_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                  size_t rs1, size_t vl);
vint16m1_t __riscv_vslideup_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                 size_t rs1, size_t vl);
vint16m2_t __riscv_vslideup_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                 size_t rs1, size_t vl);
vint16m4_t __riscv_vslideup_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                 size_t rs1, size_t vl);
vint16m8_t __riscv_vslideup_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                 size_t rs1, size_t vl);
vint32mf2_t __riscv_vslideup_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                  size_t rs1, size_t vl);
vint32m1_t __riscv_vslideup_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                 size_t rs1, size_t vl);
vint32m2_t __riscv_vslideup_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                 size_t rs1, size_t vl);
vint32m4_t __riscv_vslideup_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                 size_t rs1, size_t vl);
vint32m8_t __riscv_vslideup_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                 size_t rs1, size_t vl);
vint64m1_t __riscv_vslideup_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                 size_t rs1, size_t vl);
vint64m2_t __riscv_vslideup_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                 size_t rs1, size_t vl);
vint64m4_t __riscv_vslideup_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                 size_t rs1, size_t vl);
vint64m8_t __riscv_vslideup_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                 size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslideup_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                  size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslideup_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                  size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslideup_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                  size_t rs1, size_t vl);
vuint8m1_t __riscv_vslideup_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                 size_t rs1, size_t vl);
vuint8m2_t __riscv_vslideup_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                 size_t rs1, size_t vl);
vuint8m4_t __riscv_vslideup_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                 size_t rs1, size_t vl);
vuint8m8_t __riscv_vslideup_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                 size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslideup_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslideup_tumu(vbool32_t vm, vuint16mf2_t vd,
                                   vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vslideup_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                  size_t rs1, size_t vl);
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vuint16m2_t __riscv_vslideup_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                  size_t rs1, size_t vl);
vuint16m4_t __riscv_vslideup_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                  size_t rs1, size_t vl);
vuint16m8_t __riscv_vslideup_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                  size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslideup_tumu(vbool64_t vm, vuint32mf2_t vd,
                                   vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vslideup_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                  size_t rs1, size_t vl);
vuint32m2_t __riscv_vslideup_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                  size_t rs1, size_t vl);
vuint32m4_t __riscv_vslideup_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                  size_t rs1, size_t vl);
vuint32m8_t __riscv_vslideup_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                  size_t rs1, size_t vl);
vuint64m1_t __riscv_vslideup_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                  size_t rs1, size_t vl);
vuint64m2_t __riscv_vslideup_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                  size_t rs1, size_t vl);
vuint64m4_t __riscv_vslideup_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                  size_t rs1, size_t vl);
vuint64m8_t __riscv_vslideup_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                  size_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslideup_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslideup_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslideup_mu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslideup_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslideup_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslideup_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslideup_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslideup_mu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslideup_mu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslideup_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslideup_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslideup_mu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslideup_mu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslideup_mu(vbool16_t vm, vfloat64m4_t vd,
                                 vfloat64m4_t vs2, size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslideup_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                 size_t rs1, size_t vl);
vint8mf8_t __riscv_vslideup_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                               size_t rs1, size_t vl);
vint8mf4_t __riscv_vslideup_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                               size_t rs1, size_t vl);
vint8mf2_t __riscv_vslideup_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                               size_t rs1, size_t vl);
vint8m1_t __riscv_vslideup_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                              size_t rs1, size_t vl);
vint8m2_t __riscv_vslideup_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                              size_t rs1, size_t vl);
vint8m4_t __riscv_vslideup_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                              size_t rs1, size_t vl);
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vint8m8_t __riscv_vslideup_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                              size_t rs1, size_t vl);
vint16mf4_t __riscv_vslideup_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                size_t rs1, size_t vl);
vint16mf2_t __riscv_vslideup_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                size_t rs1, size_t vl);
vint16m1_t __riscv_vslideup_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               size_t rs1, size_t vl);
vint16m2_t __riscv_vslideup_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               size_t rs1, size_t vl);
vint16m4_t __riscv_vslideup_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               size_t rs1, size_t vl);
vint16m8_t __riscv_vslideup_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               size_t rs1, size_t vl);
vint32mf2_t __riscv_vslideup_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                size_t rs1, size_t vl);
vint32m1_t __riscv_vslideup_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               size_t rs1, size_t vl);
vint32m2_t __riscv_vslideup_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               size_t rs1, size_t vl);
vint32m4_t __riscv_vslideup_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               size_t rs1, size_t vl);
vint32m8_t __riscv_vslideup_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               size_t rs1, size_t vl);
vint64m1_t __riscv_vslideup_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               size_t rs1, size_t vl);
vint64m2_t __riscv_vslideup_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               size_t rs1, size_t vl);
vint64m4_t __riscv_vslideup_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               size_t rs1, size_t vl);
vint64m8_t __riscv_vslideup_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                               size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslideup_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslideup_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslideup_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                size_t rs1, size_t vl);
vuint8m1_t __riscv_vslideup_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               size_t rs1, size_t vl);
vuint8m2_t __riscv_vslideup_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               size_t rs1, size_t vl);
vuint8m4_t __riscv_vslideup_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               size_t rs1, size_t vl);
vuint8m8_t __riscv_vslideup_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslideup_mu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslideup_mu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vslideup_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                size_t rs1, size_t vl);
vuint16m2_t __riscv_vslideup_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                size_t rs1, size_t vl);
vuint16m4_t __riscv_vslideup_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                size_t rs1, size_t vl);
vuint16m8_t __riscv_vslideup_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslideup_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vslideup_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                size_t rs1, size_t vl);
vuint32m2_t __riscv_vslideup_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                size_t rs1, size_t vl);
vuint32m4_t __riscv_vslideup_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                size_t rs1, size_t vl);
vuint32m8_t __riscv_vslideup_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
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                                size_t rs1, size_t vl);
vuint64m1_t __riscv_vslideup_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                size_t rs1, size_t vl);
vuint64m2_t __riscv_vslideup_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                size_t rs1, size_t vl);
vuint64m4_t __riscv_vslideup_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                size_t rs1, size_t vl);
vuint64m8_t __riscv_vslideup_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                size_t rs1, size_t vl);
```

D.8.3. Vector Slidedown Intrinsics

```
vfloat16mf4_t __riscv_vslidedown_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                    size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslidedown_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                    size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslidedown_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                   size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslidedown_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                   size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslidedown_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                   size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslidedown_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                   size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslidedown_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                    size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslidedown_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                   size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslidedown_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                   size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslidedown_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                   size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslidedown_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                   size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslidedown_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                   size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslidedown_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                   size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslidedown_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                   size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslidedown_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                   size_t rs1, size_t vl);
vint8mf8_t __riscv_vslidedown_tu(vint8mf8_t vd, vint8mf8_t vs2, size_t rs1,
                                 size_t vl);
vint8mf4_t __riscv_vslidedown_tu(vint8mf4_t vd, vint8mf4_t vs2, size_t rs1,
                                 size_t vl);
vint8mf2_t __riscv_vslidedown_tu(vint8mf2_t vd, vint8mf2_t vs2, size_t rs1,
                                 size_t vl);
vint8m1_t __riscv_vslidedown_tu(vint8m1_t vd, vint8m1_t vs2, size_t rs1,
                                size_t vl);
vint8m2_t __riscv_vslidedown_tu(vint8m2_t vd, vint8m2_t vs2, size_t rs1,
                                size_t vl);
vint8m4_t __riscv_vslidedown_tu(vint8m4_t vd, vint8m4_t vs2, size_t rs1,
                                size_t vl);
vint8m8_t __riscv_vslidedown_tu(vint8m8_t vd, vint8m8_t vs2, size_t rs1,
                                size_t vl);
vint16mf4_t __riscv_vslidedown_tu(vint16mf4_t vd, vint16mf4_t vs2, size_t rs1,
                                  size_t vl);
vint16mf2_t __riscv_vslidedown_tu(vint16mf2_t vd, vint16mf2_t vs2, size_t rs1,
                                  size_t vl);
vint16m1_t __riscv_vslidedown_tu(vint16m1_t vd, vint16m1_t vs2, size_t rs1,
                                 size_t vl);
vint16m2_t __riscv_vslidedown_tu(vint16m2_t vd, vint16m2_t vs2, size_t rs1,
                                 size_t vl);
vint16m4_t __riscv_vslidedown_tu(vint16m4_t vd, vint16m4_t vs2, size_t rs1,
```

```
                                  size_t vl);
vint16m8_t __riscv_vslidedown_tu(vint16m8_t vd, vint16m8_t vs2, size_t rs1,
                                  size_t vl);
vint32mf2_t __riscv_vslidedown_tu(vint32mf2_t vd, vint32mf2_t vs2, size_t rs1,
                                   size_t vl);
vint32m1_t __riscv_vslidedown_tu(vint32m1_t vd, vint32m1_t vs2, size_t rs1,
                                  size_t vl);
vint32m2_t __riscv_vslidedown_tu(vint32m2_t vd, vint32m2_t vs2, size_t rs1,
                                  size_t vl);
vint32m4_t __riscv_vslidedown_tu(vint32m4_t vd, vint32m4_t vs2, size_t rs1,
                                  size_t vl);
vint32m8_t __riscv_vslidedown_tu(vint32m8_t vd, vint32m8_t vs2, size_t rs1,
                                  size_t vl);
vint64m1_t __riscv_vslidedown_tu(vint64m1_t vd, vint64m1_t vs2, size_t rs1,
                                  size_t vl);
vint64m2_t __riscv_vslidedown_tu(vint64m2_t vd, vint64m2_t vs2, size_t rs1,
                                  size_t vl);
vint64m4_t __riscv_vslidedown_tu(vint64m4_t vd, vint64m4_t vs2, size_t rs1,
                                  size_t vl);
vint64m8_t __riscv_vslidedown_tu(vint64m8_t vd, vint64m8_t vs2, size_t rs1,
                                  size_t vl);
vuint8mf8_t __riscv_vslidedown_tu(vuint8mf8_t vd, vuint8mf8_t vs2, size_t rs1,
                                   size_t vl);
vuint8mf4_t __riscv_vslidedown_tu(vuint8mf4_t vd, vuint8mf4_t vs2, size_t rs1,
                                   size_t vl);
vuint8mf2_t __riscv_vslidedown_tu(vuint8mf2_t vd, vuint8mf2_t vs2, size_t rs1,
                                   size_t vl);
vuint8m1_t __riscv_vslidedown_tu(vuint8m1_t vd, vuint8m1_t vs2, size_t rs1,
                                  size_t vl);
vuint8m2_t __riscv_vslidedown_tu(vuint8m2_t vd, vuint8m2_t vs2, size_t rs1,
                                  size_t vl);
vuint8m4_t __riscv_vslidedown_tu(vuint8m4_t vd, vuint8m4_t vs2, size_t rs1,
                                  size_t vl);
vuint8m8_t __riscv_vslidedown_tu(vuint8m8_t vd, vuint8m8_t vs2, size_t rs1,
                                  size_t vl);
vuint16mf4_t __riscv_vslidedown_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                    size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslidedown_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                    size_t rs1, size_t vl);
vuint16m1_t __riscv_vslidedown_tu(vuint16m1_t vd, vuint16m1_t vs2, size_t rs1,
                                   size_t vl);
vuint16m2_t __riscv_vslidedown_tu(vuint16m2_t vd, vuint16m2_t vs2, size_t rs1,
                                   size_t vl);
vuint16m4_t __riscv_vslidedown_tu(vuint16m4_t vd, vuint16m4_t vs2, size_t rs1,
                                   size_t vl);
vuint16m8_t __riscv_vslidedown_tu(vuint16m8_t vd, vuint16m8_t vs2, size_t rs1,
                                   size_t vl);
vuint32mf2_t __riscv_vslidedown_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                    size_t rs1, size_t vl);
vuint32m1_t __riscv_vslidedown_tu(vuint32m1_t vd, vuint32m1_t vs2, size_t rs1,
                                   size_t vl);
vuint32m2_t __riscv_vslidedown_tu(vuint32m2_t vd, vuint32m2_t vs2, size_t rs1,
                                   size_t vl);
vuint32m4_t __riscv_vslidedown_tu(vuint32m4_t vd, vuint32m4_t vs2, size_t rs1,
                                   size_t vl);
vuint32m8_t __riscv_vslidedown_tu(vuint32m8_t vd, vuint32m8_t vs2, size_t rs1,
                                   size_t vl);
vuint64m1_t __riscv_vslidedown_tu(vuint64m1_t vd, vuint64m1_t vs2, size_t rs1,
                                   size_t vl);
vuint64m2_t __riscv_vslidedown_tu(vuint64m2_t vd, vuint64m2_t vs2, size_t rs1,
                                   size_t vl);
vuint64m4_t __riscv_vslidedown_tu(vuint64m4_t vd, vuint64m4_t vs2, size_t rs1,
                                   size_t vl);
vuint64m8_t __riscv_vslidedown_tu(vuint64m8_t vd, vuint64m8_t vs2, size_t rs1,
                                   size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslidedown_tum(vbool64_t vm, vfloat16mf4_t vd,
```

```
                                     vfloat16mf4_t vs2, size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslidedown_tum(vbool32_t vm, vfloat16mf2_t vd,
                                     vfloat16mf2_t vs2, size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslidedown_tum(vbool16_t vm, vfloat16m1_t vd,
                                    vfloat16m1_t vs2, size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslidedown_tum(vbool8_t vm, vfloat16m2_t vd,
                                    vfloat16m2_t vs2, size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslidedown_tum(vbool4_t vm, vfloat16m4_t vd,
                                    vfloat16m4_t vs2, size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslidedown_tum(vbool2_t vm, vfloat16m8_t vd,
                                    vfloat16m8_t vs2, size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslidedown_tum(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat32mf2_t vs2, size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslidedown_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslidedown_tum(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs2, size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslidedown_tum(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslidedown_tum(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslidedown_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslidedown_tum(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslidedown_tum(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslidedown_tum(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, size_t rs1, size_t vl);
vint8mf8_t __riscv_vslidedown_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                  size_t rs1, size_t vl);
vint8mf4_t __riscv_vslidedown_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                  size_t rs1, size_t vl);
vint8mf2_t __riscv_vslidedown_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                  size_t rs1, size_t vl);
vint8m1_t __riscv_vslidedown_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                 size_t rs1, size_t vl);
vint8m2_t __riscv_vslidedown_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                 size_t rs1, size_t vl);
vint8m4_t __riscv_vslidedown_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                 size_t rs1, size_t vl);
vint8m8_t __riscv_vslidedown_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                 size_t rs1, size_t vl);
vint16mf4_t __riscv_vslidedown_tum(vbool64_t vm, vint16mf4_t vd,
                                   vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vslidedown_tum(vbool32_t vm, vint16mf2_t vd,
                                   vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vslidedown_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                  size_t rs1, size_t vl);
vint16m2_t __riscv_vslidedown_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                  size_t rs1, size_t vl);
vint16m4_t __riscv_vslidedown_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                  size_t rs1, size_t vl);
vint16m8_t __riscv_vslidedown_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                  size_t rs1, size_t vl);
vint32mf2_t __riscv_vslidedown_tum(vbool64_t vm, vint32mf2_t vd,
                                   vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vslidedown_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                  size_t rs1, size_t vl);
vint32m2_t __riscv_vslidedown_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                  size_t rs1, size_t vl);
vint32m4_t __riscv_vslidedown_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                  size_t rs1, size_t vl);
vint32m8_t __riscv_vslidedown_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                  size_t rs1, size_t vl);
vint64m1_t __riscv_vslidedown_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                  size_t rs1, size_t vl);
```

```
vint64m2_t __riscv_vslidedown_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                  size_t rs1, size_t vl);
vint64m4_t __riscv_vslidedown_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                  size_t rs1, size_t vl);
vint64m8_t __riscv_vslidedown_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                  size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslidedown_tum(vbool64_t vm, vuint8mf8_t vd,
                                   vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslidedown_tum(vbool32_t vm, vuint8mf4_t vd,
                                   vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslidedown_tum(vbool16_t vm, vuint8mf2_t vd,
                                   vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vslidedown_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                  size_t rs1, size_t vl);
vuint8m2_t __riscv_vslidedown_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                  size_t rs1, size_t vl);
vuint8m4_t __riscv_vslidedown_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                  size_t rs1, size_t vl);
vuint8m8_t __riscv_vslidedown_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                  size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslidedown_tum(vbool64_t vm, vuint16mf4_t vd,
                                    vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslidedown_tum(vbool32_t vm, vuint16mf2_t vd,
                                    vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vslidedown_tum(vbool16_t vm, vuint16m1_t vd,
                                   vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vslidedown_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                   size_t rs1, size_t vl);
vuint16m4_t __riscv_vslidedown_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                   size_t rs1, size_t vl);
vuint16m8_t __riscv_vslidedown_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                   size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslidedown_tum(vbool64_t vm, vuint32mf2_t vd,
                                    vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vslidedown_tum(vbool32_t vm, vuint32m1_t vd,
                                   vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vslidedown_tum(vbool16_t vm, vuint32m2_t vd,
                                   vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vslidedown_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                   size_t rs1, size_t vl);
vuint32m8_t __riscv_vslidedown_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                   size_t rs1, size_t vl);
vuint64m1_t __riscv_vslidedown_tum(vbool64_t vm, vuint64m1_t vd,
                                   vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vslidedown_tum(vbool32_t vm, vuint64m2_t vd,
                                   vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vslidedown_tum(vbool16_t vm, vuint64m4_t vd,
                                   vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vslidedown_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                   size_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslidedown_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                      vfloat16mf4_t vs2, size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslidedown_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                      vfloat16mf2_t vs2, size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslidedown_tumu(vbool16_t vm, vfloat16m1_t vd,
                                     vfloat16m1_t vs2, size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslidedown_tumu(vbool8_t vm, vfloat16m2_t vd,
                                     vfloat16m2_t vs2, size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslidedown_tumu(vbool4_t vm, vfloat16m4_t vd,
                                     vfloat16m4_t vs2, size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslidedown_tumu(vbool2_t vm, vfloat16m8_t vd,
                                     vfloat16m8_t vs2, size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslidedown_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                      vfloat32mf2_t vs2, size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslidedown_tumu(vbool32_t vm, vfloat32m1_t vd,
                                     vfloat32m1_t vs2, size_t rs1, size_t vl);
```

```
vfloat32m2_t __riscv_vslidedown_tumu(vbool16_t vm, vfloat32m2_t vd,
                                     vfloat32m2_t vs2, size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslidedown_tumu(vbool8_t vm, vfloat32m4_t vd,
                                     vfloat32m4_t vs2, size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslidedown_tumu(vbool4_t vm, vfloat32m8_t vd,
                                     vfloat32m8_t vs2, size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslidedown_tumu(vbool64_t vm, vfloat64m1_t vd,
                                     vfloat64m1_t vs2, size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslidedown_tumu(vbool32_t vm, vfloat64m2_t vd,
                                     vfloat64m2_t vs2, size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslidedown_tumu(vbool16_t vm, vfloat64m4_t vd,
                                     vfloat64m4_t vs2, size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslidedown_tumu(vbool8_t vm, vfloat64m8_t vd,
                                     vfloat64m8_t vs2, size_t rs1, size_t vl);
vint8mf8_t __riscv_vslidedown_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                   size_t rs1, size_t vl);
vint8mf4_t __riscv_vslidedown_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                   size_t rs1, size_t vl);
vint8mf2_t __riscv_vslidedown_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                   size_t rs1, size_t vl);
vint8m1_t __riscv_vslidedown_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  size_t rs1, size_t vl);
vint8m2_t __riscv_vslidedown_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  size_t rs1, size_t vl);
vint8m4_t __riscv_vslidedown_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  size_t rs1, size_t vl);
vint8m8_t __riscv_vslidedown_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  size_t rs1, size_t vl);
vint16mf4_t __riscv_vslidedown_tumu(vbool64_t vm, vint16mf4_t vd,
                                    vint16mf4_t vs2, size_t rs1, size_t vl);
vint16mf2_t __riscv_vslidedown_tumu(vbool32_t vm, vint16mf2_t vd,
                                    vint16mf2_t vs2, size_t rs1, size_t vl);
vint16m1_t __riscv_vslidedown_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                   size_t rs1, size_t vl);
vint16m2_t __riscv_vslidedown_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                   size_t rs1, size_t vl);
vint16m4_t __riscv_vslidedown_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                   size_t rs1, size_t vl);
vint16m8_t __riscv_vslidedown_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                   size_t rs1, size_t vl);
vint32mf2_t __riscv_vslidedown_tumu(vbool64_t vm, vint32mf2_t vd,
                                    vint32mf2_t vs2, size_t rs1, size_t vl);
vint32m1_t __riscv_vslidedown_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                   size_t rs1, size_t vl);
vint32m2_t __riscv_vslidedown_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                   size_t rs1, size_t vl);
vint32m4_t __riscv_vslidedown_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                   size_t rs1, size_t vl);
vint32m8_t __riscv_vslidedown_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                   size_t rs1, size_t vl);
vint64m1_t __riscv_vslidedown_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                   size_t rs1, size_t vl);
vint64m2_t __riscv_vslidedown_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                   size_t rs1, size_t vl);
vint64m4_t __riscv_vslidedown_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                   size_t rs1, size_t vl);
vint64m8_t __riscv_vslidedown_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                   size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslidedown_tumu(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslidedown_tumu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslidedown_tumu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, size_t rs1, size_t vl);
vuint8m1_t __riscv_vslidedown_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   size_t rs1, size_t vl);
vuint8m2_t __riscv_vslidedown_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
```

```
                                    size_t rs1, size_t vl);
vuint8m4_t __riscv_vslidedown_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    size_t rs1, size_t vl);
vuint8m8_t __riscv_vslidedown_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslidedown_tumu(vbool64_t vm, vuint16mf4_t vd,
                                     vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslidedown_tumu(vbool32_t vm, vuint16mf2_t vd,
                                     vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vslidedown_tumu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, size_t rs1, size_t vl);
vuint16m2_t __riscv_vslidedown_tumu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, size_t rs1, size_t vl);
vuint16m4_t __riscv_vslidedown_tumu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, size_t rs1, size_t vl);
vuint16m8_t __riscv_vslidedown_tumu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslidedown_tumu(vbool64_t vm, vuint32mf2_t vd,
                                     vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vslidedown_tumu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, size_t rs1, size_t vl);
vuint32m2_t __riscv_vslidedown_tumu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, size_t rs1, size_t vl);
vuint32m4_t __riscv_vslidedown_tumu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, size_t rs1, size_t vl);
vuint32m8_t __riscv_vslidedown_tumu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, size_t rs1, size_t vl);
vuint64m1_t __riscv_vslidedown_tumu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, size_t rs1, size_t vl);
vuint64m2_t __riscv_vslidedown_tumu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, size_t rs1, size_t vl);
vuint64m4_t __riscv_vslidedown_tumu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, size_t rs1, size_t vl);
vuint64m8_t __riscv_vslidedown_tumu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, size_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vslidedown_mu(vbool64_t vm, vfloat16mf4_t vd,
                                    vfloat16mf4_t vs2, size_t rs1, size_t vl);
vfloat16mf2_t __riscv_vslidedown_mu(vbool32_t vm, vfloat16mf2_t vd,
                                    vfloat16mf2_t vs2, size_t rs1, size_t vl);
vfloat16m1_t __riscv_vslidedown_mu(vbool16_t vm, vfloat16m1_t vd,
                                   vfloat16m1_t vs2, size_t rs1, size_t vl);
vfloat16m2_t __riscv_vslidedown_mu(vbool8_t vm, vfloat16m2_t vd,
                                   vfloat16m2_t vs2, size_t rs1, size_t vl);
vfloat16m4_t __riscv_vslidedown_mu(vbool4_t vm, vfloat16m4_t vd,
                                   vfloat16m4_t vs2, size_t rs1, size_t vl);
vfloat16m8_t __riscv_vslidedown_mu(vbool2_t vm, vfloat16m8_t vd,
                                   vfloat16m8_t vs2, size_t rs1, size_t vl);
vfloat32mf2_t __riscv_vslidedown_mu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, size_t rs1, size_t vl);
vfloat32m1_t __riscv_vslidedown_mu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, size_t rs1, size_t vl);
vfloat32m2_t __riscv_vslidedown_mu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, size_t rs1, size_t vl);
vfloat32m4_t __riscv_vslidedown_mu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, size_t rs1, size_t vl);
vfloat32m8_t __riscv_vslidedown_mu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, size_t rs1, size_t vl);
vfloat64m1_t __riscv_vslidedown_mu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, size_t rs1, size_t vl);
vfloat64m2_t __riscv_vslidedown_mu(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat64m2_t vs2, size_t rs1, size_t vl);
vfloat64m4_t __riscv_vslidedown_mu(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat64m4_t vs2, size_t rs1, size_t vl);
vfloat64m8_t __riscv_vslidedown_mu(vbool8_t vm, vfloat64m8_t vd,
                                   vfloat64m8_t vs2, size_t rs1, size_t vl);
vint8mf8_t __riscv_vslidedown_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
```

```
                                  size_t rs1, size_t vl);
vint8mf4_t __riscv_vslidedown_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                  size_t rs1, size_t vl);
vint8mf2_t __riscv_vslidedown_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                  size_t rs1, size_t vl);
vint8m1_t __riscv_vslidedown_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                 size_t rs1, size_t vl);
vint8m2_t __riscv_vslidedown_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                 size_t rs1, size_t vl);
vint8m4_t __riscv_vslidedown_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                 size_t rs1, size_t vl);
vint8m8_t __riscv_vslidedown_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                 size_t rs1, size_t vl);
vint16mf4_t __riscv_vslidedown_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                   size_t rs1, size_t vl);
vint16mf2_t __riscv_vslidedown_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                   size_t rs1, size_t vl);
vint16m1_t __riscv_vslidedown_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                  size_t rs1, size_t vl);
vint16m2_t __riscv_vslidedown_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                  size_t rs1, size_t vl);
vint16m4_t __riscv_vslidedown_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                  size_t rs1, size_t vl);
vint16m8_t __riscv_vslidedown_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                  size_t rs1, size_t vl);
vint32mf2_t __riscv_vslidedown_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                   size_t rs1, size_t vl);
vint32m1_t __riscv_vslidedown_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                  size_t rs1, size_t vl);
vint32m2_t __riscv_vslidedown_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                  size_t rs1, size_t vl);
vint32m4_t __riscv_vslidedown_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                  size_t rs1, size_t vl);
vint32m8_t __riscv_vslidedown_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                  size_t rs1, size_t vl);
vint64m1_t __riscv_vslidedown_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                  size_t rs1, size_t vl);
vint64m2_t __riscv_vslidedown_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                  size_t rs1, size_t vl);
vint64m4_t __riscv_vslidedown_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                  size_t rs1, size_t vl);
vint64m8_t __riscv_vslidedown_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                  size_t rs1, size_t vl);
vuint8mf8_t __riscv_vslidedown_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                   size_t rs1, size_t vl);
vuint8mf4_t __riscv_vslidedown_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                   size_t rs1, size_t vl);
vuint8mf2_t __riscv_vslidedown_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                   size_t rs1, size_t vl);
vuint8m1_t __riscv_vslidedown_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                  size_t rs1, size_t vl);
vuint8m2_t __riscv_vslidedown_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                  size_t rs1, size_t vl);
vuint8m4_t __riscv_vslidedown_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                  size_t rs1, size_t vl);
vuint8m8_t __riscv_vslidedown_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                  size_t rs1, size_t vl);
vuint16mf4_t __riscv_vslidedown_mu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint16mf4_t vs2, size_t rs1, size_t vl);
vuint16mf2_t __riscv_vslidedown_mu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint16mf2_t vs2, size_t rs1, size_t vl);
vuint16m1_t __riscv_vslidedown_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                   size_t rs1, size_t vl);
vuint16m2_t __riscv_vslidedown_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                   size_t rs1, size_t vl);
vuint16m4_t __riscv_vslidedown_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                   size_t rs1, size_t vl);
```

```
vuint16m8_t __riscv_vslidedown_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                  size_t rs1, size_t vl);
vuint32mf2_t __riscv_vslidedown_mu(vbool64_t vm, vuint32mf2_t vd,
                                   vuint32mf2_t vs2, size_t rs1, size_t vl);
vuint32m1_t __riscv_vslidedown_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                  size_t rs1, size_t vl);
vuint32m2_t __riscv_vslidedown_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                  size_t rs1, size_t vl);
vuint32m4_t __riscv_vslidedown_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                  size_t rs1, size_t vl);
vuint32m8_t __riscv_vslidedown_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                  size_t rs1, size_t vl);
vuint64m1_t __riscv_vslidedown_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                  size_t rs1, size_t vl);
vuint64m2_t __riscv_vslidedown_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                  size_t rs1, size_t vl);
vuint64m4_t __riscv_vslidedown_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                  size_t rs1, size_t vl);
vuint64m8_t __riscv_vslidedown_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                  size_t rs1, size_t vl);
```

D.8.4. Vector Slide1up and Slide1down Intrinsics

```
vfloat16mf4_t __riscv_vfslide1up_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfslide1up_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                    _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfslide1up_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                   _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1up_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                   _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1up_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                   _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1up_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                   _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfslide1up_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                    float rs1, size_t vl);
vfloat32m1_t __riscv_vfslide1up_tu(vfloat32m1_t vd, vfloat32m1_t vs2, float rs1,
                                   size_t vl);
vfloat32m2_t __riscv_vfslide1up_tu(vfloat32m2_t vd, vfloat32m2_t vs2, float rs1,
                                   size_t vl);
vfloat32m4_t __riscv_vfslide1up_tu(vfloat32m4_t vd, vfloat32m4_t vs2, float rs1,
                                   size_t vl);
vfloat32m8_t __riscv_vfslide1up_tu(vfloat32m8_t vd, vfloat32m8_t vs2, float rs1,
                                   size_t vl);
vfloat64m1_t __riscv_vfslide1up_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                   double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1up_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                   double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1up_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                   double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1up_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                   double rs1, size_t vl);
vfloat16mf4_t __riscv_vfslide1down_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfslide1down_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                      _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfslide1down_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                     _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1down_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                     _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1down_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                     _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1down_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                     _Float16 rs1, size_t vl);
```

```
vfloat32mf2_t __riscv_vfslide1down_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                      float rs1, size_t vl);
vfloat32m1_t __riscv_vfslide1down_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                     float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1down_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                     float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1down_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                     float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1down_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                     float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1down_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                     double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1down_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                     double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1down_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                     double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1down_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                     double rs1, size_t vl);
vint8mf8_t __riscv_vslide1up_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                size_t vl);
vint8mf4_t __riscv_vslide1up_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                size_t vl);
vint8mf2_t __riscv_vslide1up_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
                                size_t vl);
vint8m1_t __riscv_vslide1up_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                               size_t vl);
vint8m2_t __riscv_vslide1up_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                               size_t vl);
vint8m4_t __riscv_vslide1up_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                               size_t vl);
vint8m8_t __riscv_vslide1up_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                               size_t vl);
vint16mf4_t __riscv_vslide1up_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                                 size_t vl);
vint16mf2_t __riscv_vslide1up_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                                 size_t vl);
vint16m1_t __riscv_vslide1up_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                size_t vl);
vint16m2_t __riscv_vslide1up_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                size_t vl);
vint16m4_t __riscv_vslide1up_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                size_t vl);
vint16m8_t __riscv_vslide1up_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                size_t vl);
vint32mf2_t __riscv_vslide1up_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                                 size_t vl);
vint32m1_t __riscv_vslide1up_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                size_t vl);
vint32m2_t __riscv_vslide1up_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                size_t vl);
vint32m4_t __riscv_vslide1up_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                size_t vl);
vint32m8_t __riscv_vslide1up_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                size_t vl);
vint64m1_t __riscv_vslide1up_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                size_t vl);
vint64m2_t __riscv_vslide1up_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                size_t vl);
vint64m4_t __riscv_vslide1up_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                size_t vl);
vint64m8_t __riscv_vslide1up_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                size_t vl);
vint8mf8_t __riscv_vslide1down_tu(vint8mf8_t vd, vint8mf8_t vs2, int8_t rs1,
                                  size_t vl);
vint8mf4_t __riscv_vslide1down_tu(vint8mf4_t vd, vint8mf4_t vs2, int8_t rs1,
                                  size_t vl);
vint8mf2_t __riscv_vslide1down_tu(vint8mf2_t vd, vint8mf2_t vs2, int8_t rs1,
```

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                                  size_t vl);
vint8m1_t __riscv_vslide1down_tu(vint8m1_t vd, vint8m1_t vs2, int8_t rs1,
                                 size_t vl);
vint8m2_t __riscv_vslide1down_tu(vint8m2_t vd, vint8m2_t vs2, int8_t rs1,
                                 size_t vl);
vint8m4_t __riscv_vslide1down_tu(vint8m4_t vd, vint8m4_t vs2, int8_t rs1,
                                 size_t vl);
vint8m8_t __riscv_vslide1down_tu(vint8m8_t vd, vint8m8_t vs2, int8_t rs1,
                                 size_t vl);
vint16mf4_t __riscv_vslide1down_tu(vint16mf4_t vd, vint16mf4_t vs2, int16_t rs1,
                                   size_t vl);
vint16mf2_t __riscv_vslide1down_tu(vint16mf2_t vd, vint16mf2_t vs2, int16_t rs1,
                                   size_t vl);
vint16m1_t __riscv_vslide1down_tu(vint16m1_t vd, vint16m1_t vs2, int16_t rs1,
                                  size_t vl);
vint16m2_t __riscv_vslide1down_tu(vint16m2_t vd, vint16m2_t vs2, int16_t rs1,
                                  size_t vl);
vint16m4_t __riscv_vslide1down_tu(vint16m4_t vd, vint16m4_t vs2, int16_t rs1,
                                  size_t vl);
vint16m8_t __riscv_vslide1down_tu(vint16m8_t vd, vint16m8_t vs2, int16_t rs1,
                                  size_t vl);
vint32mf2_t __riscv_vslide1down_tu(vint32mf2_t vd, vint32mf2_t vs2, int32_t rs1,
                                   size_t vl);
vint32m1_t __riscv_vslide1down_tu(vint32m1_t vd, vint32m1_t vs2, int32_t rs1,
                                  size_t vl);
vint32m2_t __riscv_vslide1down_tu(vint32m2_t vd, vint32m2_t vs2, int32_t rs1,
                                  size_t vl);
vint32m4_t __riscv_vslide1down_tu(vint32m4_t vd, vint32m4_t vs2, int32_t rs1,
                                  size_t vl);
vint32m8_t __riscv_vslide1down_tu(vint32m8_t vd, vint32m8_t vs2, int32_t rs1,
                                  size_t vl);
vint64m1_t __riscv_vslide1down_tu(vint64m1_t vd, vint64m1_t vs2, int64_t rs1,
                                  size_t vl);
vint64m2_t __riscv_vslide1down_tu(vint64m2_t vd, vint64m2_t vs2, int64_t rs1,
                                  size_t vl);
vint64m4_t __riscv_vslide1down_tu(vint64m4_t vd, vint64m4_t vs2, int64_t rs1,
                                  size_t vl);
vint64m8_t __riscv_vslide1down_tu(vint64m8_t vd, vint64m8_t vs2, int64_t rs1,
                                  size_t vl);
vuint8mf8_t __riscv_vslide1up_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                                 size_t vl);
vuint8mf4_t __riscv_vslide1up_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                                 size_t vl);
vuint8mf2_t __riscv_vslide1up_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                                 size_t vl);
vuint8m1_t __riscv_vslide1up_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                size_t vl);
vuint8m2_t __riscv_vslide1up_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                size_t vl);
vuint8m4_t __riscv_vslide1up_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                size_t vl);
vuint8m8_t __riscv_vslide1up_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                size_t vl);
vuint16mf4_t __riscv_vslide1up_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                  uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1up_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                  uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1up_tu(vuint16m1_t vd, vuint16m1_t vs2, uint16_t rs1,
                                 size_t vl);
vuint16m2_t __riscv_vslide1up_tu(vuint16m2_t vd, vuint16m2_t vs2, uint16_t rs1,
                                 size_t vl);
vuint16m4_t __riscv_vslide1up_tu(vuint16m4_t vd, vuint16m4_t vs2, uint16_t rs1,
                                 size_t vl);
vuint16m8_t __riscv_vslide1up_tu(vuint16m8_t vd, vuint16m8_t vs2, uint16_t rs1,
                                 size_t vl);
vuint32mf2_t __riscv_vslide1up_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                  uint32_t rs1, size_t vl);
```

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vuint32m1_t __riscv_vslide1up_tu(vuint32m1_t vd, vuint32m1_t vs2, uint32_t rs1,
                                 size_t vl);
vuint32m2_t __riscv_vslide1up_tu(vuint32m2_t vd, vuint32m2_t vs2, uint32_t rs1,
                                 size_t vl);
vuint32m4_t __riscv_vslide1up_tu(vuint32m4_t vd, vuint32m4_t vs2, uint32_t rs1,
                                 size_t vl);
vuint32m8_t __riscv_vslide1up_tu(vuint32m8_t vd, vuint32m8_t vs2, uint32_t rs1,
                                 size_t vl);
vuint64m1_t __riscv_vslide1up_tu(vuint64m1_t vd, vuint64m1_t vs2, uint64_t rs1,
                                 size_t vl);
vuint64m2_t __riscv_vslide1up_tu(vuint64m2_t vd, vuint64m2_t vs2, uint64_t rs1,
                                 size_t vl);
vuint64m4_t __riscv_vslide1up_tu(vuint64m4_t vd, vuint64m4_t vs2, uint64_t rs1,
                                 size_t vl);
vuint64m8_t __riscv_vslide1up_tu(vuint64m8_t vd, vuint64m8_t vs2, uint64_t rs1,
                                 size_t vl);
vuint8mf8_t __riscv_vslide1down_tu(vuint8mf8_t vd, vuint8mf8_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8mf4_t __riscv_vslide1down_tu(vuint8mf4_t vd, vuint8mf4_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8mf2_t __riscv_vslide1down_tu(vuint8mf2_t vd, vuint8mf2_t vs2, uint8_t rs1,
                                   size_t vl);
vuint8m1_t __riscv_vslide1down_tu(vuint8m1_t vd, vuint8m1_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m2_t __riscv_vslide1down_tu(vuint8m2_t vd, vuint8m2_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m4_t __riscv_vslide1down_tu(vuint8m4_t vd, vuint8m4_t vs2, uint8_t rs1,
                                  size_t vl);
vuint8m8_t __riscv_vslide1down_tu(vuint8m8_t vd, vuint8m8_t vs2, uint8_t rs1,
                                  size_t vl);
vuint16mf4_t __riscv_vslide1down_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1down_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                    uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1down_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                   uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1down_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                   uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1down_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                   uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1down_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                   uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1down_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                    uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1down_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                   uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1down_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                   uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1down_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                   uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1down_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                   uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1down_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                   uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1down_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                   uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1down_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                   uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1down_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                   uint64_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfslide1up_tum(vbool64_t vm, vfloat16mf4_t vd,
                                     vfloat16mf4_t vs2, _Float16 rs1,
                                     size_t vl);
vfloat16mf2_t __riscv_vfslide1up_tum(vbool32_t vm, vfloat16mf2_t vd,
                                     vfloat16mf2_t vs2, _Float16 rs1,
                                     size_t vl);
```

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vfloat16m1_t __riscv_vfslide1up_tum(vbool16_t vm, vfloat16m1_t vd,
                                    vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1up_tum(vbool8_t vm, vfloat16m2_t vd,
                                    vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1up_tum(vbool4_t vm, vfloat16m4_t vd,
                                    vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1up_tum(vbool2_t vm, vfloat16m8_t vd,
                                    vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfslide1up_tum(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfslide1up_tum(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1up_tum(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1up_tum(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1up_tum(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1up_tum(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1up_tum(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1up_tum(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1up_tum(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfslide1down_tum(vbool64_t vm, vfloat16mf4_t vd,
                                       vfloat16mf4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16mf2_t __riscv_vfslide1down_tum(vbool32_t vm, vfloat16mf2_t vd,
                                       vfloat16mf2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m1_t __riscv_vfslide1down_tum(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m2_t __riscv_vfslide1down_tum(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m4_t __riscv_vfslide1down_tum(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m8_t __riscv_vfslide1down_tum(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vfslide1down_tum(vbool64_t vm, vfloat32mf2_t vd,
                                       vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfslide1down_tum(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1down_tum(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1down_tum(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1down_tum(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1down_tum(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1down_tum(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1down_tum(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1down_tum(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, double rs1, size_t vl);
vint8mf8_t __riscv_vslide1up_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                 int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1up_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                 int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1up_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
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                                  int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1up_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1up_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1up_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1up_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1up_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                  int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1up_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                  int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1up_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                 int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1up_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                 int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1up_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                 int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1up_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                 int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1up_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                  int32_t rs1, size_t vl);
vint32m1_t __riscv_vslide1up_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                 int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1up_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                 int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1up_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                 int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1up_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                 int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1up_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                 int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1up_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                 int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1up_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                 int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1up_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                 int64_t rs1, size_t vl);
vint8mf8_t __riscv_vslide1down_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                   int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1down_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                   int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1down_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1down_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1down_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1down_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1down_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                  int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1down_tum(vbool64_t vm, vint16mf4_t vd,
                                    vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1down_tum(vbool32_t vm, vint16mf2_t vd,
                                    vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1down_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                   int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1down_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                   int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1down_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                   int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1down_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                   int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1down_tum(vbool64_t vm, vint32mf2_t vd,
                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
```

```
vint32m1_t __riscv_vslide1down_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                   int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1down_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                   int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1down_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                   int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1down_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                   int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1down_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                   int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1down_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                   int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1down_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                   int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1down_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                   int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1up_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1up_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1up_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1up_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                 uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1up_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                 uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1up_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                 uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1up_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                 uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1up_tum(vbool64_t vm, vuint16mf4_t vd,
                                   vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1up_tum(vbool32_t vm, vuint16mf2_t vd,
                                   vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1up_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                  uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1up_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                  uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1up_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                  uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1up_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                  uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1up_tum(vbool64_t vm, vuint32mf2_t vd,
                                   vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1up_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                  uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1up_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                  uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1up_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                  uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1up_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                  uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1up_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                  uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1up_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                  uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1up_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                  uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1up_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                  uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1down_tum(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1down_tum(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1down_tum(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1down_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
```

```
                                    uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1down_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1down_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1down_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1down_tum(vbool64_t vm, vuint16mf4_t vd,
                                     vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1down_tum(vbool32_t vm, vuint16mf2_t vd,
                                     vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1down_tum(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1down_tum(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1down_tum(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1down_tum(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1down_tum(vbool64_t vm, vuint32mf2_t vd,
                                     vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1down_tum(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1down_tum(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1down_tum(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1down_tum(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1down_tum(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1down_tum(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1down_tum(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1down_tum(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfslide1up_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                      vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfslide1up_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                      vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfslide1up_tumu(vbool16_t vm, vfloat16m1_t vd,
                                     vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1up_tumu(vbool8_t vm, vfloat16m2_t vd,
                                     vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1up_tumu(vbool4_t vm, vfloat16m4_t vd,
                                     vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1up_tumu(vbool2_t vm, vfloat16m8_t vd,
                                     vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfslide1up_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                      vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfslide1up_tumu(vbool32_t vm, vfloat32m1_t vd,
                                     vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1up_tumu(vbool16_t vm, vfloat32m2_t vd,
                                     vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1up_tumu(vbool8_t vm, vfloat32m4_t vd,
                                     vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1up_tumu(vbool4_t vm, vfloat32m8_t vd,
                                     vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1up_tumu(vbool64_t vm, vfloat64m1_t vd,
                                     vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1up_tumu(vbool32_t vm, vfloat64m2_t vd,
                                     vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1up_tumu(vbool16_t vm, vfloat64m4_t vd,
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                                      vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1up_tumu(vbool8_t vm, vfloat64m8_t vd,
                                     vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfslide1down_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                        vfloat16mf4_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16mf2_t __riscv_vfslide1down_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                        vfloat16mf2_t vs2, _Float16 rs1,
                                        size_t vl);
vfloat16m1_t __riscv_vfslide1down_tumu(vbool16_t vm, vfloat16m1_t vd,
                                       vfloat16m1_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m2_t __riscv_vfslide1down_tumu(vbool8_t vm, vfloat16m2_t vd,
                                       vfloat16m2_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m4_t __riscv_vfslide1down_tumu(vbool4_t vm, vfloat16m4_t vd,
                                       vfloat16m4_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat16m8_t __riscv_vfslide1down_tumu(vbool2_t vm, vfloat16m8_t vd,
                                       vfloat16m8_t vs2, _Float16 rs1,
                                       size_t vl);
vfloat32mf2_t __riscv_vfslide1down_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                        vfloat32mf2_t vs2, float rs1,
                                        size_t vl);
vfloat32m1_t __riscv_vfslide1down_tumu(vbool32_t vm, vfloat32m1_t vd,
                                       vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1down_tumu(vbool16_t vm, vfloat32m2_t vd,
                                       vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1down_tumu(vbool8_t vm, vfloat32m4_t vd,
                                       vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1down_tumu(vbool4_t vm, vfloat32m8_t vd,
                                       vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1down_tumu(vbool64_t vm, vfloat64m1_t vd,
                                       vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1down_tumu(vbool32_t vm, vfloat64m2_t vd,
                                       vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1down_tumu(vbool16_t vm, vfloat64m4_t vd,
                                       vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1down_tumu(vbool8_t vm, vfloat64m8_t vd,
                                       vfloat64m8_t vs2, double rs1, size_t vl);
vint8mf8_t __riscv_vslide1up_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                  int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1up_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                  int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1up_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1up_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                 int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1up_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                 int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1up_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                 int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1up_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                 int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1up_tumu(vbool64_t vm, vint16mf4_t vd,
                                   vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1up_tumu(vbool32_t vm, vint16mf2_t vd,
                                   vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1up_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                  int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1up_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                  int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1up_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                  int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1up_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                  int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1up_tumu(vbool64_t vm, vint32mf2_t vd,
```

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                                    vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vslide1up_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                  int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1up_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                  int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1up_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                  int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1up_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                  int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1up_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                  int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1up_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                  int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1up_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                  int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1up_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                  int64_t rs1, size_t vl);
vint8mf8_t __riscv_vslide1down_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1down_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1down_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1down_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1down_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1down_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1down_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                   int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1down_tumu(vbool64_t vm, vint16mf4_t vd,
                                     vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1down_tumu(vbool32_t vm, vint16mf2_t vd,
                                     vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1down_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1down_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1down_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1down_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1down_tumu(vbool64_t vm, vint32mf2_t vd,
                                     vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vslide1down_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1down_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1down_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1down_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1down_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1down_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1down_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1down_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1up_tumu(vbool64_t vm, vuint8mf8_t vd,
                                   vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1up_tumu(vbool32_t vm, vuint8mf4_t vd,
                                   vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1up_tumu(vbool16_t vm, vuint8mf2_t vd,
                                   vuint8mf2_t vs2, uint8_t rs1, size_t vl);
```

```
vuint8m1_t __riscv_vslide1up_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1up_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1up_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1up_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1up_tumu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1up_tumu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1up_tumu(vbool16_t vm, vuint16m1_t vd,
                                   vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1up_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                   uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1up_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                   uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1up_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                   uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1up_tumu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1up_tumu(vbool32_t vm, vuint32m1_t vd,
                                   vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1up_tumu(vbool16_t vm, vuint32m2_t vd,
                                   vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1up_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                   uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1up_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                   uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1up_tumu(vbool64_t vm, vuint64m1_t vd,
                                   vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1up_tumu(vbool32_t vm, vuint64m2_t vd,
                                   vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1up_tumu(vbool16_t vm, vuint64m4_t vd,
                                   vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1up_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                   uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1down_tumu(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1down_tumu(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1down_tumu(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1down_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1down_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1down_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1down_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                    uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1down_tumu(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16mf2_t __riscv_vslide1down_tumu(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, uint16_t rs1,
                                      size_t vl);
vuint16m1_t __riscv_vslide1down_tumu(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1down_tumu(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1down_tumu(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1down_tumu(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1down_tumu(vbool64_t vm, vuint32mf2_t vd,
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```
                                     vuint32mf2_t vs2, uint32_t rs1,
                                     size_t vl);
vuint32m1_t __riscv_vslide1down_tumu(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1down_tumu(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1down_tumu(vbool8_t vm, vuint32m4_t vd,
                                     vuint32m4_t vs2, uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1down_tumu(vbool4_t vm, vuint32m8_t vd,
                                     vuint32m8_t vs2, uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1down_tumu(vbool64_t vm, vuint64m1_t vd,
                                     vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1down_tumu(vbool32_t vm, vuint64m2_t vd,
                                     vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1down_tumu(vbool16_t vm, vuint64m4_t vd,
                                     vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1down_tumu(vbool8_t vm, vuint64m8_t vd,
                                     vuint64m8_t vs2, uint64_t rs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vfslide1up_mu(vbool64_t vm, vfloat16mf4_t vd,
                                    vfloat16mf4_t vs2, _Float16 rs1, size_t vl);
vfloat16mf2_t __riscv_vfslide1up_mu(vbool32_t vm, vfloat16mf2_t vd,
                                    vfloat16mf2_t vs2, _Float16 rs1, size_t vl);
vfloat16m1_t __riscv_vfslide1up_mu(vbool16_t vm, vfloat16m1_t vd,
                                   vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1up_mu(vbool8_t vm, vfloat16m2_t vd,
                                   vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1up_mu(vbool4_t vm, vfloat16m4_t vd,
                                   vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1up_mu(vbool2_t vm, vfloat16m8_t vd,
                                   vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfslide1up_mu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfslide1up_mu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, float rs1, size_t vl);
vfloat32m2_t __riscv_vfslide1up_mu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1up_mu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1up_mu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1up_mu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1up_mu(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1up_mu(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1up_mu(vbool8_t vm, vfloat64m8_t vd,
                                   vfloat64m8_t vs2, double rs1, size_t vl);
vfloat16mf4_t __riscv_vfslide1down_mu(vbool64_t vm, vfloat16mf4_t vd,
                                      vfloat16mf4_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16mf2_t __riscv_vfslide1down_mu(vbool32_t vm, vfloat16mf2_t vd,
                                      vfloat16mf2_t vs2, _Float16 rs1,
                                      size_t vl);
vfloat16m1_t __riscv_vfslide1down_mu(vbool16_t vm, vfloat16m1_t vd,
                                     vfloat16m1_t vs2, _Float16 rs1, size_t vl);
vfloat16m2_t __riscv_vfslide1down_mu(vbool8_t vm, vfloat16m2_t vd,
                                     vfloat16m2_t vs2, _Float16 rs1, size_t vl);
vfloat16m4_t __riscv_vfslide1down_mu(vbool4_t vm, vfloat16m4_t vd,
                                     vfloat16m4_t vs2, _Float16 rs1, size_t vl);
vfloat16m8_t __riscv_vfslide1down_mu(vbool2_t vm, vfloat16m8_t vd,
                                     vfloat16m8_t vs2, _Float16 rs1, size_t vl);
vfloat32mf2_t __riscv_vfslide1down_mu(vbool64_t vm, vfloat32mf2_t vd,
                                      vfloat32mf2_t vs2, float rs1, size_t vl);
vfloat32m1_t __riscv_vfslide1down_mu(vbool32_t vm, vfloat32m1_t vd,
                                     vfloat32m1_t vs2, float rs1, size_t vl);
```

```
vfloat32m2_t __riscv_vfslide1down_mu(vbool16_t vm, vfloat32m2_t vd,
                                     vfloat32m2_t vs2, float rs1, size_t vl);
vfloat32m4_t __riscv_vfslide1down_mu(vbool8_t vm, vfloat32m4_t vd,
                                     vfloat32m4_t vs2, float rs1, size_t vl);
vfloat32m8_t __riscv_vfslide1down_mu(vbool4_t vm, vfloat32m8_t vd,
                                     vfloat32m8_t vs2, float rs1, size_t vl);
vfloat64m1_t __riscv_vfslide1down_mu(vbool64_t vm, vfloat64m1_t vd,
                                     vfloat64m1_t vs2, double rs1, size_t vl);
vfloat64m2_t __riscv_vfslide1down_mu(vbool32_t vm, vfloat64m2_t vd,
                                     vfloat64m2_t vs2, double rs1, size_t vl);
vfloat64m4_t __riscv_vfslide1down_mu(vbool16_t vm, vfloat64m4_t vd,
                                     vfloat64m4_t vs2, double rs1, size_t vl);
vfloat64m8_t __riscv_vfslide1down_mu(vbool8_t vm, vfloat64m8_t vd,
                                     vfloat64m8_t vs2, double rs1, size_t vl);
vint8mf8_t __riscv_vslide1up_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1up_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1up_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1up_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                               int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1up_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                               int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1up_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                               int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1up_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                               int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1up_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                 int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1up_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                 int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1up_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1up_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1up_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1up_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1up_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 int32_t rs1, size_t vl);
vint32m1_t __riscv_vslide1up_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1up_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1up_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1up_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1up_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1up_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1up_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1up_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                int64_t rs1, size_t vl);
vint8mf8_t __riscv_vslide1down_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                  int8_t rs1, size_t vl);
vint8mf4_t __riscv_vslide1down_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                  int8_t rs1, size_t vl);
vint8mf2_t __riscv_vslide1down_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                  int8_t rs1, size_t vl);
vint8m1_t __riscv_vslide1down_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                 int8_t rs1, size_t vl);
vint8m2_t __riscv_vslide1down_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
```

```
                                int8_t rs1, size_t vl);
vint8m4_t __riscv_vslide1down_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                int8_t rs1, size_t vl);
vint8m8_t __riscv_vslide1down_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                int8_t rs1, size_t vl);
vint16mf4_t __riscv_vslide1down_mu(vbool64_t vm, vint16mf4_t vd,
                                  vint16mf4_t vs2, int16_t rs1, size_t vl);
vint16mf2_t __riscv_vslide1down_mu(vbool32_t vm, vint16mf2_t vd,
                                  vint16mf2_t vs2, int16_t rs1, size_t vl);
vint16m1_t __riscv_vslide1down_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                 int16_t rs1, size_t vl);
vint16m2_t __riscv_vslide1down_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                 int16_t rs1, size_t vl);
vint16m4_t __riscv_vslide1down_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                 int16_t rs1, size_t vl);
vint16m8_t __riscv_vslide1down_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                 int16_t rs1, size_t vl);
vint32mf2_t __riscv_vslide1down_mu(vbool64_t vm, vint32mf2_t vd,
                                  vint32mf2_t vs2, int32_t rs1, size_t vl);
vint32m1_t __riscv_vslide1down_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                 int32_t rs1, size_t vl);
vint32m2_t __riscv_vslide1down_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                 int32_t rs1, size_t vl);
vint32m4_t __riscv_vslide1down_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                 int32_t rs1, size_t vl);
vint32m8_t __riscv_vslide1down_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                 int32_t rs1, size_t vl);
vint64m1_t __riscv_vslide1down_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                 int64_t rs1, size_t vl);
vint64m2_t __riscv_vslide1down_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                 int64_t rs1, size_t vl);
vint64m4_t __riscv_vslide1down_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                 int64_t rs1, size_t vl);
vint64m8_t __riscv_vslide1down_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                 int64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1up_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1up_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1up_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1up_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1up_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1up_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1up_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1up_mu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1up_mu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1up_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1up_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1up_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1up_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1up_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1up_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1up_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                uint32_t rs1, size_t vl);
```

```
vuint32m4_t __riscv_vslide1up_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                 uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1up_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                 uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1up_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                 uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1up_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                 uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1up_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                 uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1up_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                 uint64_t rs1, size_t vl);
vuint8mf8_t __riscv_vslide1down_mu(vbool64_t vm, vuint8mf8_t vd,
                                   vuint8mf8_t vs2, uint8_t rs1, size_t vl);
vuint8mf4_t __riscv_vslide1down_mu(vbool32_t vm, vuint8mf4_t vd,
                                   vuint8mf4_t vs2, uint8_t rs1, size_t vl);
vuint8mf2_t __riscv_vslide1down_mu(vbool16_t vm, vuint8mf2_t vd,
                                   vuint8mf2_t vs2, uint8_t rs1, size_t vl);
vuint8m1_t __riscv_vslide1down_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m2_t __riscv_vslide1down_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m4_t __riscv_vslide1down_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                  uint8_t rs1, size_t vl);
vuint8m8_t __riscv_vslide1down_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                  uint8_t rs1, size_t vl);
vuint16mf4_t __riscv_vslide1down_mu(vbool64_t vm, vuint16mf4_t vd,
                                    vuint16mf4_t vs2, uint16_t rs1, size_t vl);
vuint16mf2_t __riscv_vslide1down_mu(vbool32_t vm, vuint16mf2_t vd,
                                    vuint16mf2_t vs2, uint16_t rs1, size_t vl);
vuint16m1_t __riscv_vslide1down_mu(vbool16_t vm, vuint16m1_t vd,
                                   vuint16m1_t vs2, uint16_t rs1, size_t vl);
vuint16m2_t __riscv_vslide1down_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                   uint16_t rs1, size_t vl);
vuint16m4_t __riscv_vslide1down_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                   uint16_t rs1, size_t vl);
vuint16m8_t __riscv_vslide1down_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                   uint16_t rs1, size_t vl);
vuint32mf2_t __riscv_vslide1down_mu(vbool64_t vm, vuint32mf2_t vd,
                                    vuint32mf2_t vs2, uint32_t rs1, size_t vl);
vuint32m1_t __riscv_vslide1down_mu(vbool32_t vm, vuint32m1_t vd,
                                   vuint32m1_t vs2, uint32_t rs1, size_t vl);
vuint32m2_t __riscv_vslide1down_mu(vbool16_t vm, vuint32m2_t vd,
                                   vuint32m2_t vs2, uint32_t rs1, size_t vl);
vuint32m4_t __riscv_vslide1down_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                   uint32_t rs1, size_t vl);
vuint32m8_t __riscv_vslide1down_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                   uint32_t rs1, size_t vl);
vuint64m1_t __riscv_vslide1down_mu(vbool64_t vm, vuint64m1_t vd,
                                   vuint64m1_t vs2, uint64_t rs1, size_t vl);
vuint64m2_t __riscv_vslide1down_mu(vbool32_t vm, vuint64m2_t vd,
                                   vuint64m2_t vs2, uint64_t rs1, size_t vl);
vuint64m4_t __riscv_vslide1down_mu(vbool16_t vm, vuint64m4_t vd,
                                   vuint64m4_t vs2, uint64_t rs1, size_t vl);
vuint64m8_t __riscv_vslide1down_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                   uint64_t rs1, size_t vl);
```

D.8.5. Vector Register Gather Intrinsics

```
vfloat16mf4_t __riscv_vrgather_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                  vuint16mf4_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgather_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                  size_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                  vuint16mf2_t vs1, size_t vl);
```

```
vfloat16mf2_t __riscv_vrgather_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                  size_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather_tu(vfloat16m1_t vd, vfloat16m1_t vs2, size_t vs1,
                                 size_t vl);
vfloat16m2_t __riscv_vrgather_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                 vuint16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather_tu(vfloat16m2_t vd, vfloat16m2_t vs2, size_t vs1,
                                 size_t vl);
vfloat16m4_t __riscv_vrgather_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                 vuint16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather_tu(vfloat16m4_t vd, vfloat16m4_t vs2, size_t vs1,
                                 size_t vl);
vfloat16m8_t __riscv_vrgather_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                 vuint16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather_tu(vfloat16m8_t vd, vfloat16m8_t vs2, size_t vs1,
                                 size_t vl);
vfloat32mf2_t __riscv_vrgather_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                  vuint32mf2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                  size_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather_tu(vfloat32m1_t vd, vfloat32m1_t vs2, size_t vs1,
                                 size_t vl);
vfloat32m2_t __riscv_vrgather_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                 vuint32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather_tu(vfloat32m2_t vd, vfloat32m2_t vs2, size_t vs1,
                                 size_t vl);
vfloat32m4_t __riscv_vrgather_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                 vuint32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather_tu(vfloat32m4_t vd, vfloat32m4_t vs2, size_t vs1,
                                 size_t vl);
vfloat32m8_t __riscv_vrgather_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                 vuint32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather_tu(vfloat32m8_t vd, vfloat32m8_t vs2, size_t vs1,
                                 size_t vl);
vfloat64m1_t __riscv_vrgather_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                 vuint64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather_tu(vfloat64m1_t vd, vfloat64m1_t vs2, size_t vs1,
                                 size_t vl);
vfloat64m2_t __riscv_vrgather_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                 vuint64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather_tu(vfloat64m2_t vd, vfloat64m2_t vs2, size_t vs1,
                                 size_t vl);
vfloat64m4_t __riscv_vrgather_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                 vuint64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather_tu(vfloat64m4_t vd, vfloat64m4_t vs2, size_t vs1,
                                 size_t vl);
vfloat64m8_t __riscv_vrgather_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                 vuint64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather_tu(vfloat64m8_t vd, vfloat64m8_t vs2, size_t vs1,
                                 size_t vl);
vfloat16mf4_t __riscv_vrgatherei16_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                      vuint16mf4_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgatherei16_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                      vuint16mf2_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgatherei16_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgatherei16_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgatherei16_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgatherei16_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgatherei16_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
```

```
                                      vuint16mf4_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgatherei16_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                     vuint16mf2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgatherei16_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgatherei16_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgatherei16_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgatherei16_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                     vuint16mf4_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgatherei16_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                     vuint16mf2_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgatherei16_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgatherei16_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather_tu(vint8mf8_t vd, vint8mf8_t vs2, vuint8mf8_t vs1,
                               size_t vl);
vint8mf8_t __riscv_vrgather_tu(vint8mf8_t vd, vint8mf8_t vs2, size_t vs1,
                               size_t vl);
vint8mf4_t __riscv_vrgather_tu(vint8mf4_t vd, vint8mf4_t vs2, vuint8mf4_t vs1,
                               size_t vl);
vint8mf4_t __riscv_vrgather_tu(vint8mf4_t vd, vint8mf4_t vs2, size_t vs1,
                               size_t vl);
vint8mf2_t __riscv_vrgather_tu(vint8mf2_t vd, vint8mf2_t vs2, vuint8mf2_t vs1,
                               size_t vl);
vint8mf2_t __riscv_vrgather_tu(vint8mf2_t vd, vint8mf2_t vs2, size_t vs1,
                               size_t vl);
vint8m1_t __riscv_vrgather_tu(vint8m1_t vd, vint8m1_t vs2, vuint8m1_t vs1,
                              size_t vl);
vint8m1_t __riscv_vrgather_tu(vint8m1_t vd, vint8m1_t vs2, size_t vs1,
                              size_t vl);
vint8m2_t __riscv_vrgather_tu(vint8m2_t vd, vint8m2_t vs2, vuint8m2_t vs1,
                              size_t vl);
vint8m2_t __riscv_vrgather_tu(vint8m2_t vd, vint8m2_t vs2, size_t vs1,
                              size_t vl);
vint8m4_t __riscv_vrgather_tu(vint8m4_t vd, vint8m4_t vs2, vuint8m4_t vs1,
                              size_t vl);
vint8m4_t __riscv_vrgather_tu(vint8m4_t vd, vint8m4_t vs2, size_t vs1,
                              size_t vl);
vint8m8_t __riscv_vrgather_tu(vint8m8_t vd, vint8m8_t vs2, vuint8m8_t vs1,
                              size_t vl);
vint8m8_t __riscv_vrgather_tu(vint8m8_t vd, vint8m8_t vs2, size_t vs1,
                              size_t vl);
vint16mf4_t __riscv_vrgather_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_tu(vint16mf4_t vd, vint16mf4_t vs2, size_t vs1,
                                size_t vl);
vint16mf2_t __riscv_vrgather_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_tu(vint16mf2_t vd, vint16mf2_t vs2, size_t vs1,
                                size_t vl);
vint16m1_t __riscv_vrgather_tu(vint16m1_t vd, vint16m1_t vs2, vuint16m1_t vs1,
                               size_t vl);
vint16m1_t __riscv_vrgather_tu(vint16m1_t vd, vint16m1_t vs2, size_t vs1,
                               size_t vl);
vint16m2_t __riscv_vrgather_tu(vint16m2_t vd, vint16m2_t vs2, vuint16m2_t vs1,
                               size_t vl);
vint16m2_t __riscv_vrgather_tu(vint16m2_t vd, vint16m2_t vs2, size_t vs1,
                               size_t vl);
vint16m4_t __riscv_vrgather_tu(vint16m4_t vd, vint16m4_t vs2, vuint16m4_t vs1,
                               size_t vl);
vint16m4_t __riscv_vrgather_tu(vint16m4_t vd, vint16m4_t vs2, size_t vs1,
                               size_t vl);
vint16m8_t __riscv_vrgather_tu(vint16m8_t vd, vint16m8_t vs2, vuint16m8_t vs1,
                               size_t vl);
```

```
vint16m8_t __riscv_vrgather_tu(vint16m8_t vd, vint16m8_t vs2, size_t vs1,
                               size_t vl);
vint32mf2_t __riscv_vrgather_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_tu(vint32mf2_t vd, vint32mf2_t vs2, size_t vs1,
                                size_t vl);
vint32m1_t __riscv_vrgather_tu(vint32m1_t vd, vint32m1_t vs2, vuint32m1_t vs1,
                               size_t vl);
vint32m1_t __riscv_vrgather_tu(vint32m1_t vd, vint32m1_t vs2, size_t vs1,
                               size_t vl);
vint32m2_t __riscv_vrgather_tu(vint32m2_t vd, vint32m2_t vs2, vuint32m2_t vs1,
                               size_t vl);
vint32m2_t __riscv_vrgather_tu(vint32m2_t vd, vint32m2_t vs2, size_t vs1,
                               size_t vl);
vint32m4_t __riscv_vrgather_tu(vint32m4_t vd, vint32m4_t vs2, vuint32m4_t vs1,
                               size_t vl);
vint32m4_t __riscv_vrgather_tu(vint32m4_t vd, vint32m4_t vs2, size_t vs1,
                               size_t vl);
vint32m8_t __riscv_vrgather_tu(vint32m8_t vd, vint32m8_t vs2, vuint32m8_t vs1,
                               size_t vl);
vint32m8_t __riscv_vrgather_tu(vint32m8_t vd, vint32m8_t vs2, size_t vs1,
                               size_t vl);
vint64m1_t __riscv_vrgather_tu(vint64m1_t vd, vint64m1_t vs2, vuint64m1_t vs1,
                               size_t vl);
vint64m1_t __riscv_vrgather_tu(vint64m1_t vd, vint64m1_t vs2, size_t vs1,
                               size_t vl);
vint64m2_t __riscv_vrgather_tu(vint64m2_t vd, vint64m2_t vs2, vuint64m2_t vs1,
                               size_t vl);
vint64m2_t __riscv_vrgather_tu(vint64m2_t vd, vint64m2_t vs2, size_t vs1,
                               size_t vl);
vint64m4_t __riscv_vrgather_tu(vint64m4_t vd, vint64m4_t vs2, vuint64m4_t vs1,
                               size_t vl);
vint64m4_t __riscv_vrgather_tu(vint64m4_t vd, vint64m4_t vs2, size_t vs1,
                               size_t vl);
vint64m8_t __riscv_vrgather_tu(vint64m8_t vd, vint64m8_t vs2, vuint64m8_t vs1,
                               size_t vl);
vint64m8_t __riscv_vrgather_tu(vint64m8_t vd, vint64m8_t vs2, size_t vs1,
                               size_t vl);
vint8mf8_t __riscv_vrgatherei16_tu(vint8mf8_t vd, vint8mf8_t vs2,
                                   vuint16mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgatherei16_tu(vint8mf4_t vd, vint8mf4_t vs2,
                                   vuint16mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgatherei16_tu(vint8mf2_t vd, vint8mf2_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgatherei16_tu(vint8m1_t vd, vint8m1_t vs2, vuint16m2_t vs1,
                                  size_t vl);
vint8m2_t __riscv_vrgatherei16_tu(vint8m2_t vd, vint8m2_t vs2, vuint16m4_t vs1,
                                  size_t vl);
vint8m4_t __riscv_vrgatherei16_tu(vint8m4_t vd, vint8m4_t vs2, vuint16m8_t vs1,
                                  size_t vl);
vint16mf4_t __riscv_vrgatherei16_tu(vint16mf4_t vd, vint16mf4_t vs2,
                                    vuint16mf4_t vs1, size_t vl);
vint16mf2_t __riscv_vrgatherei16_tu(vint16mf2_t vd, vint16mf2_t vs2,
                                    vuint16mf2_t vs1, size_t vl);
vint16m1_t __riscv_vrgatherei16_tu(vint16m1_t vd, vint16m1_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vint16m2_t __riscv_vrgatherei16_tu(vint16m2_t vd, vint16m2_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vint16m4_t __riscv_vrgatherei16_tu(vint16m4_t vd, vint16m4_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vint16m8_t __riscv_vrgatherei16_tu(vint16m8_t vd, vint16m8_t vs2,
                                   vuint16m8_t vs1, size_t vl);
vint32mf2_t __riscv_vrgatherei16_tu(vint32mf2_t vd, vint32mf2_t vs2,
                                    vuint16mf4_t vs1, size_t vl);
vint32m1_t __riscv_vrgatherei16_tu(vint32m1_t vd, vint32m1_t vs2,
                                   vuint16mf2_t vs1, size_t vl);
vint32m2_t __riscv_vrgatherei16_tu(vint32m2_t vd, vint32m2_t vs2,
```

```
                                    vuint16m1_t vs1, size_t vl);
vint32m4_t __riscv_vrgatherei16_tu(vint32m4_t vd, vint32m4_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vint32m8_t __riscv_vrgatherei16_tu(vint32m8_t vd, vint32m8_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vint64m1_t __riscv_vrgatherei16_tu(vint64m1_t vd, vint64m1_t vs2,
                                    vuint16mf4_t vs1, size_t vl);
vint64m2_t __riscv_vrgatherei16_tu(vint64m2_t vd, vint64m2_t vs2,
                                    vuint16mf2_t vs1, size_t vl);
vint64m4_t __riscv_vrgatherei16_tu(vint64m4_t vd, vint64m4_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vint64m8_t __riscv_vrgatherei16_tu(vint64m8_t vd, vint64m8_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_tu(vuint8mf8_t vd, vuint8mf8_t vs2, size_t vs1,
                                size_t vl);
vuint8mf4_t __riscv_vrgather_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_tu(vuint8mf4_t vd, vuint8mf4_t vs2, size_t vs1,
                                size_t vl);
vuint8mf2_t __riscv_vrgather_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_tu(vuint8mf2_t vd, vuint8mf2_t vs2, size_t vs1,
                                size_t vl);
vuint8m1_t __riscv_vrgather_tu(vuint8m1_t vd, vuint8m1_t vs2, vuint8m1_t vs1,
                               size_t vl);
vuint8m1_t __riscv_vrgather_tu(vuint8m1_t vd, vuint8m1_t vs2, size_t vs1,
                               size_t vl);
vuint8m2_t __riscv_vrgather_tu(vuint8m2_t vd, vuint8m2_t vs2, vuint8m2_t vs1,
                               size_t vl);
vuint8m2_t __riscv_vrgather_tu(vuint8m2_t vd, vuint8m2_t vs2, size_t vs1,
                               size_t vl);
vuint8m4_t __riscv_vrgather_tu(vuint8m4_t vd, vuint8m4_t vs2, vuint8m4_t vs1,
                               size_t vl);
vuint8m4_t __riscv_vrgather_tu(vuint8m4_t vd, vuint8m4_t vs2, size_t vs1,
                               size_t vl);
vuint8m8_t __riscv_vrgather_tu(vuint8m8_t vd, vuint8m8_t vs2, vuint8m8_t vs1,
                               size_t vl);
vuint8m8_t __riscv_vrgather_tu(vuint8m8_t vd, vuint8m8_t vs2, size_t vs1,
                               size_t vl);
vuint16mf4_t __riscv_vrgather_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                 vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_tu(vuint16mf4_t vd, vuint16mf4_t vs2, size_t vs1,
                                 size_t vl);
vuint16mf2_t __riscv_vrgather_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                 vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgather_tu(vuint16mf2_t vd, vuint16mf2_t vs2, size_t vs1,
                                 size_t vl);
vuint16m1_t __riscv_vrgather_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather_tu(vuint16m1_t vd, vuint16m1_t vs2, size_t vs1,
                                size_t vl);
vuint16m2_t __riscv_vrgather_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_tu(vuint16m2_t vd, vuint16m2_t vs2, size_t vs1,
                                size_t vl);
vuint16m4_t __riscv_vrgather_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_tu(vuint16m4_t vd, vuint16m4_t vs2, size_t vs1,
                                size_t vl);
vuint16m8_t __riscv_vrgather_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_tu(vuint16m8_t vd, vuint16m8_t vs2, size_t vs1,
                                size_t vl);
vuint32mf2_t __riscv_vrgather_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                 vuint32mf2_t vs1, size_t vl);
```

```
vuint32mf2_t __riscv_vrgather_tu(vuint32mf2_t vd, vuint32mf2_t vs2, size_t vs1,
                                 size_t vl);
vuint32m1_t __riscv_vrgather_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather_tu(vuint32m1_t vd, vuint32m1_t vs2, size_t vs1,
                                size_t vl);
vuint32m2_t __riscv_vrgather_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_tu(vuint32m2_t vd, vuint32m2_t vs2, size_t vs1,
                                size_t vl);
vuint32m4_t __riscv_vrgather_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_tu(vuint32m4_t vd, vuint32m4_t vs2, size_t vs1,
                                size_t vl);
vuint32m8_t __riscv_vrgather_tu(vuint32m8_t vd, vuint32m8_t vs2,
                                vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_tu(vuint32m8_t vd, vuint32m8_t vs2, size_t vs1,
                                size_t vl);
vuint64m1_t __riscv_vrgather_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_tu(vuint64m1_t vd, vuint64m1_t vs2, size_t vs1,
                                size_t vl);
vuint64m2_t __riscv_vrgather_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_tu(vuint64m2_t vd, vuint64m2_t vs2, size_t vs1,
                                size_t vl);
vuint64m4_t __riscv_vrgather_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_tu(vuint64m4_t vd, vuint64m4_t vs2, size_t vs1,
                                size_t vl);
vuint64m8_t __riscv_vrgather_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather_tu(vuint64m8_t vd, vuint64m8_t vs2, size_t vs1,
                                size_t vl);
vuint8mf8_t __riscv_vrgatherei16_tu(vuint8mf8_t vd, vuint8mf8_t vs2,
                                    vuint16mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgatherei16_tu(vuint8mf4_t vd, vuint8mf4_t vs2,
                                    vuint16mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgatherei16_tu(vuint8mf2_t vd, vuint8mf2_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint8m1_t __riscv_vrgatherei16_tu(vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgatherei16_tu(vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgatherei16_tu(vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint16m8_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgatherei16_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                     vuint16mf4_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgatherei16_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                     vuint16mf2_t vs1, size_t vl);
vuint16m1_t __riscv_vrgatherei16_tu(vuint16m1_t vd, vuint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint16m2_t __riscv_vrgatherei16_tu(vuint16m2_t vd, vuint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint16m4_t __riscv_vrgatherei16_tu(vuint16m4_t vd, vuint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint16m8_t __riscv_vrgatherei16_tu(vuint16m8_t vd, vuint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgatherei16_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                     vuint16mf4_t vs1, size_t vl);
vuint32m1_t __riscv_vrgatherei16_tu(vuint32m1_t vd, vuint32m1_t vs2,
                                    vuint16mf2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgatherei16_tu(vuint32m2_t vd, vuint32m2_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vuint32m4_t __riscv_vrgatherei16_tu(vuint32m4_t vd, vuint32m4_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint32m8_t __riscv_vrgatherei16_tu(vuint32m8_t vd, vuint32m8_t vs2,
```

```
                                     vuint16m4_t vs1, size_t vl);
vuint64m1_t __riscv_vrgatherei16_tu(vuint64m1_t vd, vuint64m1_t vs2,
                                     vuint16mf4_t vs1, size_t vl);
vuint64m2_t __riscv_vrgatherei16_tu(vuint64m2_t vd, vuint64m2_t vs2,
                                     vuint16mf2_t vs1, size_t vl);
vuint64m4_t __riscv_vrgatherei16_tu(vuint64m4_t vd, vuint64m4_t vs2,
                                     vuint16m1_t vs1, size_t vl);
vuint64m8_t __riscv_vrgatherei16_tu(vuint64m8_t vd, vuint64m8_t vs2,
                                     vuint16m2_t vs1, size_t vl);
// masked functions
vfloat16mf4_t __riscv_vrgather_tum(vbool64_t vm, vfloat16mf4_t vd,
                                    vfloat16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vfloat16mf4_t __riscv_vrgather_tum(vbool64_t vm, vfloat16mf4_t vd,
                                    vfloat16mf4_t vs2, size_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather_tum(vbool32_t vm, vfloat16mf2_t vd,
                                    vfloat16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vfloat16mf2_t __riscv_vrgather_tum(vbool32_t vm, vfloat16mf2_t vd,
                                    vfloat16mf2_t vs2, size_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather_tum(vbool16_t vm, vfloat16m1_t vd,
                                   vfloat16m1_t vs2, vuint16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather_tum(vbool16_t vm, vfloat16m1_t vd,
                                   vfloat16m1_t vs2, size_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather_tum(vbool8_t vm, vfloat16m2_t vd,
                                   vfloat16m2_t vs2, vuint16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather_tum(vbool8_t vm, vfloat16m2_t vd,
                                   vfloat16m2_t vs2, size_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather_tum(vbool4_t vm, vfloat16m4_t vd,
                                   vfloat16m4_t vs2, vuint16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather_tum(vbool4_t vm, vfloat16m4_t vd,
                                   vfloat16m4_t vs2, size_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather_tum(vbool2_t vm, vfloat16m8_t vd,
                                   vfloat16m8_t vs2, vuint16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather_tum(vbool2_t vm, vfloat16m8_t vd,
                                   vfloat16m8_t vs2, size_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather_tum(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vfloat32mf2_t __riscv_vrgather_tum(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, size_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather_tum(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, vuint32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather_tum(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, size_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather_tum(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, vuint32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather_tum(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, size_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather_tum(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, vuint32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather_tum(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, size_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather_tum(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, vuint32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather_tum(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, size_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather_tum(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, vuint64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather_tum(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, size_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather_tum(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat64m2_t vs2, vuint64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather_tum(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat64m2_t vs2, size_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather_tum(vbool16_t vm, vfloat64m4_t vd,
                                   vfloat64m4_t vs2, vuint64m4_t vs1, size_t vl);
```

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vfloat64m4_t __riscv_vrgather_tum(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, size_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, vuint64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather_tum(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, size_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgatherei16_tum(vbool64_t vm, vfloat16mf4_t vd,
                                       vfloat16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vfloat16mf2_t __riscv_vrgatherei16_tum(vbool32_t vm, vfloat16mf2_t vd,
                                       vfloat16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vfloat16m1_t __riscv_vrgatherei16_tum(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vfloat16m2_t __riscv_vrgatherei16_tum(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vfloat16m4_t __riscv_vrgatherei16_tum(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vfloat16m8_t __riscv_vrgatherei16_tum(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vrgatherei16_tum(vbool64_t vm, vfloat32mf2_t vd,
                                       vfloat32mf2_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vfloat32m1_t __riscv_vrgatherei16_tum(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vfloat32m2_t __riscv_vrgatherei16_tum(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vfloat32m4_t __riscv_vrgatherei16_tum(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vfloat32m8_t __riscv_vrgatherei16_tum(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vfloat64m1_t __riscv_vrgatherei16_tum(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vfloat64m2_t __riscv_vrgatherei16_tum(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vfloat64m4_t __riscv_vrgatherei16_tum(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vfloat64m8_t __riscv_vrgatherei16_tum(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vint8mf8_t __riscv_vrgather_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                size_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                size_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                size_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                               vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                               size_t vs1, size_t vl);
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vint8m2_t __riscv_vrgather_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                               vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                               size_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                               vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                               size_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                               vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_tum(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                               size_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                 vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_tum(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                 size_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                 vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_tum(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                 size_t vs1, size_t vl);
vint16m1_t __riscv_vrgather_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrgather_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                size_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                size_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                size_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                size_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_tum(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                 size_t vs1, size_t vl);
vint32m1_t __riscv_vrgather_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrgather_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                size_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                size_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                size_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                size_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                size_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                size_t vs1, size_t vl);
vint64m4_t __riscv_vrgather_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrgather_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
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                                size_t vs1, size_t vl);
vint64m8_t __riscv_vrgather_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrgather_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                size_t vs1, size_t vl);
vint8mf8_t __riscv_vrgatherei16_tum(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                    vuint16mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgatherei16_tum(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                    vuint16mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgatherei16_tum(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgatherei16_tum(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgatherei16_tum(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgatherei16_tum(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                   vuint16m8_t vs1, size_t vl);
vint16mf4_t __riscv_vrgatherei16_tum(vbool64_t vm, vint16mf4_t vd,
                                     vint16mf4_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vint16mf2_t __riscv_vrgatherei16_tum(vbool32_t vm, vint16mf2_t vd,
                                     vint16mf2_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vint16m1_t __riscv_vrgatherei16_tum(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vint16m2_t __riscv_vrgatherei16_tum(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vint16m4_t __riscv_vrgatherei16_tum(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vint16m8_t __riscv_vrgatherei16_tum(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vint32mf2_t __riscv_vrgatherei16_tum(vbool64_t vm, vint32mf2_t vd,
                                     vint32mf2_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vint32m1_t __riscv_vrgatherei16_tum(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                    vuint16mf2_t vs1, size_t vl);
vint32m2_t __riscv_vrgatherei16_tum(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vint32m4_t __riscv_vrgatherei16_tum(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vint32m8_t __riscv_vrgatherei16_tum(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vint64m1_t __riscv_vrgatherei16_tum(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                    vuint16mf4_t vs1, size_t vl);
vint64m2_t __riscv_vrgatherei16_tum(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                    vuint16mf2_t vs1, size_t vl);
vint64m4_t __riscv_vrgatherei16_tum(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                    vuint16m1_t vs1, size_t vl);
vint64m8_t __riscv_vrgatherei16_tum(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                 vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_tum(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                 size_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                 vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_tum(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                 size_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                 vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_tum(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                 size_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                size_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
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                                vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                size_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                size_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_tum(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                size_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_tum(vbool64_t vm, vuint16mf4_t vd,
                                  vuint16mf4_t vs2, vuint16mf4_t vs1,
                                  size_t vl);
vuint16mf4_t __riscv_vrgather_tum(vbool64_t vm, vuint16mf4_t vd,
                                  vuint16mf4_t vs2, size_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgather_tum(vbool32_t vm, vuint16mf2_t vd,
                                  vuint16mf2_t vs2, vuint16mf2_t vs1,
                                  size_t vl);
vuint16mf2_t __riscv_vrgather_tum(vbool32_t vm, vuint16mf2_t vd,
                                  vuint16mf2_t vs2, size_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather_tum(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                 size_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                 vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_tum(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                 size_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                 vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_tum(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                 size_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                 vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_tum(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                 size_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgather_tum(vbool64_t vm, vuint32mf2_t vd,
                                  vuint32mf2_t vs2, vuint32mf2_t vs1,
                                  size_t vl);
vuint32mf2_t __riscv_vrgather_tum(vbool64_t vm, vuint32mf2_t vd,
                                  vuint32mf2_t vs2, size_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather_tum(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                 size_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                 vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_tum(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                 size_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                 vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_tum(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                 size_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                 vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_tum(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                 size_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                 vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_tum(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                 size_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                 vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_tum(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                 size_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
```

```
                                vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_tum(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                size_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather_tum(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                size_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgatherei16_tum(vbool64_t vm, vuint8mf8_t vd,
                                     vuint8mf8_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vuint8mf4_t __riscv_vrgatherei16_tum(vbool32_t vm, vuint8mf4_t vd,
                                     vuint8mf4_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vuint8mf2_t __riscv_vrgatherei16_tum(vbool16_t vm, vuint8mf2_t vd,
                                     vuint8mf2_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint8m1_t __riscv_vrgatherei16_tum(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgatherei16_tum(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgatherei16_tum(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgatherei16_tum(vbool64_t vm, vuint16mf4_t vd,
                                      vuint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint16mf2_t __riscv_vrgatherei16_tum(vbool32_t vm, vuint16mf2_t vd,
                                      vuint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint16m1_t __riscv_vrgatherei16_tum(vbool16_t vm, vuint16m1_t vd,
                                     vuint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint16m2_t __riscv_vrgatherei16_tum(vbool8_t vm, vuint16m2_t vd,
                                     vuint16m2_t vs2, vuint16m2_t vs1,
                                     size_t vl);
vuint16m4_t __riscv_vrgatherei16_tum(vbool4_t vm, vuint16m4_t vd,
                                     vuint16m4_t vs2, vuint16m4_t vs1,
                                     size_t vl);
vuint16m8_t __riscv_vrgatherei16_tum(vbool2_t vm, vuint16m8_t vd,
                                     vuint16m8_t vs2, vuint16m8_t vs1,
                                     size_t vl);
vuint32mf2_t __riscv_vrgatherei16_tum(vbool64_t vm, vuint32mf2_t vd,
                                      vuint32mf2_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint32m1_t __riscv_vrgatherei16_tum(vbool32_t vm, vuint32m1_t vd,
                                     vuint32m1_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vuint32m2_t __riscv_vrgatherei16_tum(vbool16_t vm, vuint32m2_t vd,
                                     vuint32m2_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint32m4_t __riscv_vrgatherei16_tum(vbool8_t vm, vuint32m4_t vd,
                                     vuint32m4_t vs2, vuint16m2_t vs1,
                                     size_t vl);
vuint32m8_t __riscv_vrgatherei16_tum(vbool4_t vm, vuint32m8_t vd,
                                     vuint32m8_t vs2, vuint16m4_t vs1,
                                     size_t vl);
vuint64m1_t __riscv_vrgatherei16_tum(vbool64_t vm, vuint64m1_t vd,
                                     vuint64m1_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vuint64m2_t __riscv_vrgatherei16_tum(vbool32_t vm, vuint64m2_t vd,
                                     vuint64m2_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vuint64m4_t __riscv_vrgatherei16_tum(vbool16_t vm, vuint64m4_t vd,
                                     vuint64m4_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vuint64m8_t __riscv_vrgatherei16_tum(vbool8_t vm, vuint64m8_t vd,
                                     vuint64m8_t vs2, vuint16m2_t vs1,
                                     size_t vl);
```

```
// masked functions
vfloat16mf4_t __riscv_vrgather_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    vfloat16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vfloat16mf4_t __riscv_vrgather_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                    vfloat16mf4_t vs2, size_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    vfloat16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vfloat16mf2_t __riscv_vrgather_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                    vfloat16mf2_t vs2, size_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   vfloat16m1_t vs2, vuint16m1_t vs1,
                                   size_t vl);
vfloat16m1_t __riscv_vrgather_tumu(vbool16_t vm, vfloat16m1_t vd,
                                   vfloat16m1_t vs2, size_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather_tumu(vbool8_t vm, vfloat16m2_t vd,
                                   vfloat16m2_t vs2, vuint16m2_t vs1,
                                   size_t vl);
vfloat16m2_t __riscv_vrgather_tumu(vbool8_t vm, vfloat16m2_t vd,
                                   vfloat16m2_t vs2, size_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather_tumu(vbool4_t vm, vfloat16m4_t vd,
                                   vfloat16m4_t vs2, vuint16m4_t vs1,
                                   size_t vl);
vfloat16m4_t __riscv_vrgather_tumu(vbool4_t vm, vfloat16m4_t vd,
                                   vfloat16m4_t vs2, size_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather_tumu(vbool2_t vm, vfloat16m8_t vd,
                                   vfloat16m8_t vs2, vuint16m8_t vs1,
                                   size_t vl);
vfloat16m8_t __riscv_vrgather_tumu(vbool2_t vm, vfloat16m8_t vd,
                                   vfloat16m8_t vs2, size_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, vuint32mf2_t vs1,
                                    size_t vl);
vfloat32mf2_t __riscv_vrgather_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                    vfloat32mf2_t vs2, size_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, vuint32m1_t vs1,
                                   size_t vl);
vfloat32m1_t __riscv_vrgather_tumu(vbool32_t vm, vfloat32m1_t vd,
                                   vfloat32m1_t vs2, size_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, vuint32m2_t vs1,
                                   size_t vl);
vfloat32m2_t __riscv_vrgather_tumu(vbool16_t vm, vfloat32m2_t vd,
                                   vfloat32m2_t vs2, size_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, vuint32m4_t vs1,
                                   size_t vl);
vfloat32m4_t __riscv_vrgather_tumu(vbool8_t vm, vfloat32m4_t vd,
                                   vfloat32m4_t vs2, size_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, vuint32m8_t vs1,
                                   size_t vl);
vfloat32m8_t __riscv_vrgather_tumu(vbool4_t vm, vfloat32m8_t vd,
                                   vfloat32m8_t vs2, size_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, vuint64m1_t vs1,
                                   size_t vl);
vfloat64m1_t __riscv_vrgather_tumu(vbool64_t vm, vfloat64m1_t vd,
                                   vfloat64m1_t vs2, size_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat64m2_t vs2, vuint64m2_t vs1,
                                   size_t vl);
vfloat64m2_t __riscv_vrgather_tumu(vbool32_t vm, vfloat64m2_t vd,
                                   vfloat64m2_t vs2, size_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather_tumu(vbool16_t vm, vfloat64m4_t vd,
```

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                                  vfloat64m4_t vs2, vuint64m4_t vs1,
                                  size_t vl);
vfloat64m4_t __riscv_vrgather_tumu(vbool16_t vm, vfloat64m4_t vd,
                                  vfloat64m4_t vs2, size_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, vuint64m8_t vs1,
                                  size_t vl);
vfloat64m8_t __riscv_vrgather_tumu(vbool8_t vm, vfloat64m8_t vd,
                                  vfloat64m8_t vs2, size_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgatherei16_tumu(vbool64_t vm, vfloat16mf4_t vd,
                                       vfloat16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vfloat16mf2_t __riscv_vrgatherei16_tumu(vbool32_t vm, vfloat16mf2_t vd,
                                       vfloat16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vfloat16m1_t __riscv_vrgatherei16_tumu(vbool16_t vm, vfloat16m1_t vd,
                                      vfloat16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vfloat16m2_t __riscv_vrgatherei16_tumu(vbool8_t vm, vfloat16m2_t vd,
                                      vfloat16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vfloat16m4_t __riscv_vrgatherei16_tumu(vbool4_t vm, vfloat16m4_t vd,
                                      vfloat16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vfloat16m8_t __riscv_vrgatherei16_tumu(vbool2_t vm, vfloat16m8_t vd,
                                      vfloat16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vfloat32mf2_t __riscv_vrgatherei16_tumu(vbool64_t vm, vfloat32mf2_t vd,
                                       vfloat32mf2_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vfloat32m1_t __riscv_vrgatherei16_tumu(vbool32_t vm, vfloat32m1_t vd,
                                      vfloat32m1_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vfloat32m2_t __riscv_vrgatherei16_tumu(vbool16_t vm, vfloat32m2_t vd,
                                      vfloat32m2_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vfloat32m4_t __riscv_vrgatherei16_tumu(vbool8_t vm, vfloat32m4_t vd,
                                      vfloat32m4_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vfloat32m8_t __riscv_vrgatherei16_tumu(vbool4_t vm, vfloat32m8_t vd,
                                      vfloat32m8_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vfloat64m1_t __riscv_vrgatherei16_tumu(vbool64_t vm, vfloat64m1_t vd,
                                      vfloat64m1_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vfloat64m2_t __riscv_vrgatherei16_tumu(vbool32_t vm, vfloat64m2_t vd,
                                      vfloat64m2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vfloat64m4_t __riscv_vrgatherei16_tumu(vbool16_t vm, vfloat64m4_t vd,
                                      vfloat64m4_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vfloat64m8_t __riscv_vrgatherei16_tumu(vbool8_t vm, vfloat64m8_t vd,
                                      vfloat64m8_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vint8mf8_t __riscv_vrgather_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather_tumu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                size_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_tumu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                size_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_tumu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                size_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
```

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                                vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                size_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                size_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                size_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_tumu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                                size_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                  vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_tumu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                  size_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                  vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_tumu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                  size_t vs1, size_t vl);
vint16m1_t __riscv_vrgather_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                 vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrgather_tumu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                 size_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                 vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                 size_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                 vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                 size_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                 vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                 size_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                  vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_tumu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                  size_t vs1, size_t vl);
vint32m1_t __riscv_vrgather_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                 vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrgather_tumu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                 size_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                 vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_tumu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                 size_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                 vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                 size_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                 vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                 size_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                 vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_tumu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                 size_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                 vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_tumu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                 size_t vs1, size_t vl);
```

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vint64m4_t __riscv_vrgather_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                 vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrgather_tumu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                 size_t vs1, size_t vl);
vint64m8_t __riscv_vrgather_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                 vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrgather_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                 size_t vs1, size_t vl);
vint8mf8_t __riscv_vrgatherei16_tumu(vbool64_t vm, vint8mf8_t vd,
                                     vint8mf8_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vint8mf4_t __riscv_vrgatherei16_tumu(vbool32_t vm, vint8mf4_t vd,
                                     vint8mf4_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vint8mf2_t __riscv_vrgatherei16_tumu(vbool16_t vm, vint8mf2_t vd,
                                     vint8mf2_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vint8m1_t __riscv_vrgatherei16_tumu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                    vuint16m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgatherei16_tumu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                    vuint16m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgatherei16_tumu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                    vuint16m8_t vs1, size_t vl);
vint16mf4_t __riscv_vrgatherei16_tumu(vbool64_t vm, vint16mf4_t vd,
                                      vint16mf4_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vint16mf2_t __riscv_vrgatherei16_tumu(vbool32_t vm, vint16mf2_t vd,
                                      vint16mf2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vint16m1_t __riscv_vrgatherei16_tumu(vbool16_t vm, vint16m1_t vd,
                                     vint16m1_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vint16m2_t __riscv_vrgatherei16_tumu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vint16m4_t __riscv_vrgatherei16_tumu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vint16m8_t __riscv_vrgatherei16_tumu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vint32mf2_t __riscv_vrgatherei16_tumu(vbool64_t vm, vint32mf2_t vd,
                                      vint32mf2_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vint32m1_t __riscv_vrgatherei16_tumu(vbool32_t vm, vint32m1_t vd,
                                     vint32m1_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vint32m2_t __riscv_vrgatherei16_tumu(vbool16_t vm, vint32m2_t vd,
                                     vint32m2_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vint32m4_t __riscv_vrgatherei16_tumu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vint32m8_t __riscv_vrgatherei16_tumu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vint64m1_t __riscv_vrgatherei16_tumu(vbool64_t vm, vint64m1_t vd,
                                     vint64m1_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vint64m2_t __riscv_vrgatherei16_tumu(vbool32_t vm, vint64m2_t vd,
                                     vint64m2_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vint64m4_t __riscv_vrgatherei16_tumu(vbool16_t vm, vint64m4_t vd,
                                     vint64m4_t vs2, vuint16m1_t vs1,
                                     size_t vl);
vint64m8_t __riscv_vrgatherei16_tumu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                  vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_tumu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                  size_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
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                                  vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_tumu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                  size_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                  vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_tumu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                  size_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                 vuint8m1_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                 size_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                 vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                 size_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                 vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                 size_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                 vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_tumu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                                 size_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   vuint16mf4_t vs2, vuint16mf4_t vs1,
                                   size_t vl);
vuint16mf4_t __riscv_vrgather_tumu(vbool64_t vm, vuint16mf4_t vd,
                                   vuint16mf4_t vs2, size_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgather_tumu(vbool32_t vm, vuint16mf2_t vd,
                                   vuint16mf2_t vs2, vuint16mf2_t vs1,
                                   size_t vl);
vuint16mf2_t __riscv_vrgather_tumu(vbool32_t vm, vuint16mf2_t vd,
                                   vuint16mf2_t vs2, size_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                  vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather_tumu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                  size_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                  vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_tumu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                  size_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                  vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_tumu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                  size_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                  vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_tumu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                  size_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgather_tumu(vbool64_t vm, vuint32mf2_t vd,
                                   vuint32mf2_t vs2, vuint32mf2_t vs1,
                                   size_t vl);
vuint32mf2_t __riscv_vrgather_tumu(vbool64_t vm, vuint32mf2_t vd,
                                   vuint32mf2_t vs2, size_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                  vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather_tumu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                  size_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                  vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_tumu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                  size_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                  vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_tumu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                  size_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
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                                  vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_tumu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                  size_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                  vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_tumu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                  size_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                  vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_tumu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                  size_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                  vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_tumu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                  size_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                  vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather_tumu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                  size_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgatherei16_tumu(vbool64_t vm, vuint8mf8_t vd,
                                      vuint8mf8_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint8mf4_t __riscv_vrgatherei16_tumu(vbool32_t vm, vuint8mf4_t vd,
                                      vuint8mf4_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint8mf2_t __riscv_vrgatherei16_tumu(vbool16_t vm, vuint8mf2_t vd,
                                      vuint8mf2_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint8m1_t __riscv_vrgatherei16_tumu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                     vuint16m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgatherei16_tumu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                     vuint16m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgatherei16_tumu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                     vuint16m8_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgatherei16_tumu(vbool64_t vm, vuint16mf4_t vd,
                                       vuint16mf4_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint16mf2_t __riscv_vrgatherei16_tumu(vbool32_t vm, vuint16mf2_t vd,
                                       vuint16mf2_t vs2, vuint16mf2_t vs1,
                                       size_t vl);
vuint16m1_t __riscv_vrgatherei16_tumu(vbool16_t vm, vuint16m1_t vd,
                                      vuint16m1_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint16m2_t __riscv_vrgatherei16_tumu(vbool8_t vm, vuint16m2_t vd,
                                      vuint16m2_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint16m4_t __riscv_vrgatherei16_tumu(vbool4_t vm, vuint16m4_t vd,
                                      vuint16m4_t vs2, vuint16m4_t vs1,
                                      size_t vl);
vuint16m8_t __riscv_vrgatherei16_tumu(vbool2_t vm, vuint16m8_t vd,
                                      vuint16m8_t vs2, vuint16m8_t vs1,
                                      size_t vl);
vuint32mf2_t __riscv_vrgatherei16_tumu(vbool64_t vm, vuint32mf2_t vd,
                                       vuint32mf2_t vs2, vuint16mf4_t vs1,
                                       size_t vl);
vuint32m1_t __riscv_vrgatherei16_tumu(vbool32_t vm, vuint32m1_t vd,
                                      vuint32m1_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint32m2_t __riscv_vrgatherei16_tumu(vbool16_t vm, vuint32m2_t vd,
                                      vuint32m2_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint32m4_t __riscv_vrgatherei16_tumu(vbool8_t vm, vuint32m4_t vd,
                                      vuint32m4_t vs2, vuint16m2_t vs1,
                                      size_t vl);
vuint32m8_t __riscv_vrgatherei16_tumu(vbool4_t vm, vuint32m8_t vd,
                                      vuint32m8_t vs2, vuint16m4_t vs1,
                                      size_t vl);
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vuint64m1_t __riscv_vrgatherei16_tumu(vbool64_t vm, vuint64m1_t vd,
                                      vuint64m1_t vs2, vuint16mf4_t vs1,
                                      size_t vl);
vuint64m2_t __riscv_vrgatherei16_tumu(vbool32_t vm, vuint64m2_t vd,
                                      vuint64m2_t vs2, vuint16mf2_t vs1,
                                      size_t vl);
vuint64m4_t __riscv_vrgatherei16_tumu(vbool16_t vm, vuint64m4_t vd,
                                      vuint64m4_t vs2, vuint16m1_t vs1,
                                      size_t vl);
vuint64m8_t __riscv_vrgatherei16_tumu(vbool8_t vm, vuint64m8_t vd,
                                      vuint64m8_t vs2, vuint16m2_t vs1,
                                      size_t vl);
// masked functions
vfloat16mf4_t __riscv_vrgather_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, vuint16mf4_t vs1,
                                  size_t vl);
vfloat16mf4_t __riscv_vrgather_mu(vbool64_t vm, vfloat16mf4_t vd,
                                  vfloat16mf4_t vs2, size_t vs1, size_t vl);
vfloat16mf2_t __riscv_vrgather_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, vuint16mf2_t vs1,
                                  size_t vl);
vfloat16mf2_t __riscv_vrgather_mu(vbool32_t vm, vfloat16mf2_t vd,
                                  vfloat16mf2_t vs2, size_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather_mu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, vuint16m1_t vs1, size_t vl);
vfloat16m1_t __riscv_vrgather_mu(vbool16_t vm, vfloat16m1_t vd,
                                 vfloat16m1_t vs2, size_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 vuint16m2_t vs1, size_t vl);
vfloat16m2_t __riscv_vrgather_mu(vbool8_t vm, vfloat16m2_t vd, vfloat16m2_t vs2,
                                 size_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 vuint16m4_t vs1, size_t vl);
vfloat16m4_t __riscv_vrgather_mu(vbool4_t vm, vfloat16m4_t vd, vfloat16m4_t vs2,
                                 size_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 vuint16m8_t vs1, size_t vl);
vfloat16m8_t __riscv_vrgather_mu(vbool2_t vm, vfloat16m8_t vd, vfloat16m8_t vs2,
                                 size_t vs1, size_t vl);
vfloat32mf2_t __riscv_vrgather_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, vuint32mf2_t vs1,
                                  size_t vl);
vfloat32mf2_t __riscv_vrgather_mu(vbool64_t vm, vfloat32mf2_t vd,
                                  vfloat32mf2_t vs2, size_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather_mu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, vuint32m1_t vs1, size_t vl);
vfloat32m1_t __riscv_vrgather_mu(vbool32_t vm, vfloat32m1_t vd,
                                 vfloat32m1_t vs2, size_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather_mu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, vuint32m2_t vs1, size_t vl);
vfloat32m2_t __riscv_vrgather_mu(vbool16_t vm, vfloat32m2_t vd,
                                 vfloat32m2_t vs2, size_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 vuint32m4_t vs1, size_t vl);
vfloat32m4_t __riscv_vrgather_mu(vbool8_t vm, vfloat32m4_t vd, vfloat32m4_t vs2,
                                 size_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 vuint32m8_t vs1, size_t vl);
vfloat32m8_t __riscv_vrgather_mu(vbool4_t vm, vfloat32m8_t vd, vfloat32m8_t vs2,
                                 size_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather_mu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, vuint64m1_t vs1, size_t vl);
vfloat64m1_t __riscv_vrgather_mu(vbool64_t vm, vfloat64m1_t vd,
                                 vfloat64m1_t vs2, size_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather_mu(vbool32_t vm, vfloat64m2_t vd,
                                 vfloat64m2_t vs2, vuint64m2_t vs1, size_t vl);
vfloat64m2_t __riscv_vrgather_mu(vbool32_t vm, vfloat64m2_t vd,
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                                vfloat64m2_t vs2, size_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather_mu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs2, vuint64m4_t vs1, size_t vl);
vfloat64m4_t __riscv_vrgather_mu(vbool16_t vm, vfloat64m4_t vd,
                                vfloat64m4_t vs2, size_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                vuint64m8_t vs1, size_t vl);
vfloat64m8_t __riscv_vrgather_mu(vbool8_t vm, vfloat64m8_t vd, vfloat64m8_t vs2,
                                size_t vs1, size_t vl);
vfloat16mf4_t __riscv_vrgatherei16_mu(vbool64_t vm, vfloat16mf4_t vd,
                                     vfloat16mf4_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vfloat16mf2_t __riscv_vrgatherei16_mu(vbool32_t vm, vfloat16mf2_t vd,
                                     vfloat16mf2_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vfloat16m1_t __riscv_vrgatherei16_mu(vbool16_t vm, vfloat16m1_t vd,
                                    vfloat16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vfloat16m2_t __riscv_vrgatherei16_mu(vbool8_t vm, vfloat16m2_t vd,
                                    vfloat16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vfloat16m4_t __riscv_vrgatherei16_mu(vbool4_t vm, vfloat16m4_t vd,
                                    vfloat16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vfloat16m8_t __riscv_vrgatherei16_mu(vbool2_t vm, vfloat16m8_t vd,
                                    vfloat16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vfloat32mf2_t __riscv_vrgatherei16_mu(vbool64_t vm, vfloat32mf2_t vd,
                                     vfloat32mf2_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vfloat32m1_t __riscv_vrgatherei16_mu(vbool32_t vm, vfloat32m1_t vd,
                                    vfloat32m1_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vfloat32m2_t __riscv_vrgatherei16_mu(vbool16_t vm, vfloat32m2_t vd,
                                    vfloat32m2_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vfloat32m4_t __riscv_vrgatherei16_mu(vbool8_t vm, vfloat32m4_t vd,
                                    vfloat32m4_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vfloat32m8_t __riscv_vrgatherei16_mu(vbool4_t vm, vfloat32m8_t vd,
                                    vfloat32m8_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vfloat64m1_t __riscv_vrgatherei16_mu(vbool64_t vm, vfloat64m1_t vd,
                                    vfloat64m1_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vfloat64m2_t __riscv_vrgatherei16_mu(vbool32_t vm, vfloat64m2_t vd,
                                    vfloat64m2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vfloat64m4_t __riscv_vrgatherei16_mu(vbool16_t vm, vfloat64m4_t vd,
                                    vfloat64m4_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vfloat64m8_t __riscv_vrgatherei16_mu(vbool8_t vm, vfloat64m8_t vd,
                                    vfloat64m8_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vint8mf8_t __riscv_vrgather_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                               vuint8mf8_t vs1, size_t vl);
vint8mf8_t __riscv_vrgather_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                               size_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                               vuint8mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgather_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                               size_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                               vuint8mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgather_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                               size_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
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                              vuint8m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgather_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                              size_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                              vuint8m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgather_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                              size_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                              vuint8m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgather_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                              size_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                              vuint8m8_t vs1, size_t vl);
vint8m8_t __riscv_vrgather_mu(vbool1_t vm, vint8m8_t vd, vint8m8_t vs2,
                              size_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                vuint16mf4_t vs1, size_t vl);
vint16mf4_t __riscv_vrgather_mu(vbool64_t vm, vint16mf4_t vd, vint16mf4_t vs2,
                                size_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                vuint16mf2_t vs1, size_t vl);
vint16mf2_t __riscv_vrgather_mu(vbool32_t vm, vint16mf2_t vd, vint16mf2_t vs2,
                                size_t vs1, size_t vl);
vint16m1_t __riscv_vrgather_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               vuint16m1_t vs1, size_t vl);
vint16m1_t __riscv_vrgather_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                               size_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               vuint16m2_t vs1, size_t vl);
vint16m2_t __riscv_vrgather_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                               size_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               vuint16m4_t vs1, size_t vl);
vint16m4_t __riscv_vrgather_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                               size_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               vuint16m8_t vs1, size_t vl);
vint16m8_t __riscv_vrgather_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                               size_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                vuint32mf2_t vs1, size_t vl);
vint32mf2_t __riscv_vrgather_mu(vbool64_t vm, vint32mf2_t vd, vint32mf2_t vs2,
                                size_t vs1, size_t vl);
vint32m1_t __riscv_vrgather_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               vuint32m1_t vs1, size_t vl);
vint32m1_t __riscv_vrgather_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                               size_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               vuint32m2_t vs1, size_t vl);
vint32m2_t __riscv_vrgather_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                               size_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               vuint32m4_t vs1, size_t vl);
vint32m4_t __riscv_vrgather_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                               size_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               vuint32m8_t vs1, size_t vl);
vint32m8_t __riscv_vrgather_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                               size_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               vuint64m1_t vs1, size_t vl);
vint64m1_t __riscv_vrgather_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                               size_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               vuint64m2_t vs1, size_t vl);
vint64m2_t __riscv_vrgather_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                               size_t vs1, size_t vl);
```

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vint64m4_t __riscv_vrgather_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               vuint64m4_t vs1, size_t vl);
vint64m4_t __riscv_vrgather_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                               size_t vs1, size_t vl);
vint64m8_t __riscv_vrgather_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                               vuint64m8_t vs1, size_t vl);
vint64m8_t __riscv_vrgather_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                               size_t vs1, size_t vl);
vint8mf8_t __riscv_vrgatherei16_mu(vbool64_t vm, vint8mf8_t vd, vint8mf8_t vs2,
                                   vuint16mf4_t vs1, size_t vl);
vint8mf4_t __riscv_vrgatherei16_mu(vbool32_t vm, vint8mf4_t vd, vint8mf4_t vs2,
                                   vuint16mf2_t vs1, size_t vl);
vint8mf2_t __riscv_vrgatherei16_mu(vbool16_t vm, vint8mf2_t vd, vint8mf2_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vint8m1_t __riscv_vrgatherei16_mu(vbool8_t vm, vint8m1_t vd, vint8m1_t vs2,
                                  vuint16m2_t vs1, size_t vl);
vint8m2_t __riscv_vrgatherei16_mu(vbool4_t vm, vint8m2_t vd, vint8m2_t vs2,
                                  vuint16m4_t vs1, size_t vl);
vint8m4_t __riscv_vrgatherei16_mu(vbool2_t vm, vint8m4_t vd, vint8m4_t vs2,
                                  vuint16m8_t vs1, size_t vl);
vint16mf4_t __riscv_vrgatherei16_mu(vbool64_t vm, vint16mf4_t vd,
                                    vint16mf4_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vint16mf2_t __riscv_vrgatherei16_mu(vbool32_t vm, vint16mf2_t vd,
                                    vint16mf2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vint16m1_t __riscv_vrgatherei16_mu(vbool16_t vm, vint16m1_t vd, vint16m1_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vint16m2_t __riscv_vrgatherei16_mu(vbool8_t vm, vint16m2_t vd, vint16m2_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vint16m4_t __riscv_vrgatherei16_mu(vbool4_t vm, vint16m4_t vd, vint16m4_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vint16m8_t __riscv_vrgatherei16_mu(vbool2_t vm, vint16m8_t vd, vint16m8_t vs2,
                                   vuint16m8_t vs1, size_t vl);
vint32mf2_t __riscv_vrgatherei16_mu(vbool64_t vm, vint32mf2_t vd,
                                    vint32mf2_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vint32m1_t __riscv_vrgatherei16_mu(vbool32_t vm, vint32m1_t vd, vint32m1_t vs2,
                                   vuint16mf2_t vs1, size_t vl);
vint32m2_t __riscv_vrgatherei16_mu(vbool16_t vm, vint32m2_t vd, vint32m2_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vint32m4_t __riscv_vrgatherei16_mu(vbool8_t vm, vint32m4_t vd, vint32m4_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vint32m8_t __riscv_vrgatherei16_mu(vbool4_t vm, vint32m8_t vd, vint32m8_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vint64m1_t __riscv_vrgatherei16_mu(vbool64_t vm, vint64m1_t vd, vint64m1_t vs2,
                                   vuint16mf4_t vs1, size_t vl);
vint64m2_t __riscv_vrgatherei16_mu(vbool32_t vm, vint64m2_t vd, vint64m2_t vs2,
                                   vuint16mf2_t vs1, size_t vl);
vint64m4_t __riscv_vrgatherei16_mu(vbool16_t vm, vint64m4_t vd, vint64m4_t vs2,
                                   vuint16m1_t vs1, size_t vl);
vint64m8_t __riscv_vrgatherei16_mu(vbool8_t vm, vint64m8_t vd, vint64m8_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                vuint8mf8_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgather_mu(vbool64_t vm, vuint8mf8_t vd, vuint8mf8_t vs2,
                                size_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                vuint8mf4_t vs1, size_t vl);
vuint8mf4_t __riscv_vrgather_mu(vbool32_t vm, vuint8mf4_t vd, vuint8mf4_t vs2,
                                size_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                vuint8mf2_t vs1, size_t vl);
vuint8mf2_t __riscv_vrgather_mu(vbool16_t vm, vuint8mf2_t vd, vuint8mf2_t vs2,
                                size_t vs1, size_t vl);
vuint8m1_t __riscv_vrgather_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               vuint8m1_t vs1, size_t vl);
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vuint8m1_t __riscv_vrgather_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                               size_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               vuint8m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgather_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                               size_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               vuint8m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgather_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                               size_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               vuint8m8_t vs1, size_t vl);
vuint8m8_t __riscv_vrgather_mu(vbool1_t vm, vuint8m8_t vd, vuint8m8_t vs2,
                               size_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_mu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, vuint16mf4_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgather_mu(vbool64_t vm, vuint16mf4_t vd,
                                 vuint16mf4_t vs2, size_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgather_mu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, vuint16mf2_t vs1, size_t vl);
vuint16mf2_t __riscv_vrgather_mu(vbool32_t vm, vuint16mf2_t vd,
                                 vuint16mf2_t vs2, size_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                vuint16m1_t vs1, size_t vl);
vuint16m1_t __riscv_vrgather_mu(vbool16_t vm, vuint16m1_t vd, vuint16m1_t vs2,
                                size_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                vuint16m2_t vs1, size_t vl);
vuint16m2_t __riscv_vrgather_mu(vbool8_t vm, vuint16m2_t vd, vuint16m2_t vs2,
                                size_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                vuint16m4_t vs1, size_t vl);
vuint16m4_t __riscv_vrgather_mu(vbool4_t vm, vuint16m4_t vd, vuint16m4_t vs2,
                                size_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                vuint16m8_t vs1, size_t vl);
vuint16m8_t __riscv_vrgather_mu(vbool2_t vm, vuint16m8_t vd, vuint16m8_t vs2,
                                size_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgather_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, vuint32mf2_t vs1, size_t vl);
vuint32mf2_t __riscv_vrgather_mu(vbool64_t vm, vuint32mf2_t vd,
                                 vuint32mf2_t vs2, size_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                vuint32m1_t vs1, size_t vl);
vuint32m1_t __riscv_vrgather_mu(vbool32_t vm, vuint32m1_t vd, vuint32m1_t vs2,
                                size_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                vuint32m2_t vs1, size_t vl);
vuint32m2_t __riscv_vrgather_mu(vbool16_t vm, vuint32m2_t vd, vuint32m2_t vs2,
                                size_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                vuint32m4_t vs1, size_t vl);
vuint32m4_t __riscv_vrgather_mu(vbool8_t vm, vuint32m4_t vd, vuint32m4_t vs2,
                                size_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                vuint32m8_t vs1, size_t vl);
vuint32m8_t __riscv_vrgather_mu(vbool4_t vm, vuint32m8_t vd, vuint32m8_t vs2,
                                size_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                vuint64m1_t vs1, size_t vl);
vuint64m1_t __riscv_vrgather_mu(vbool64_t vm, vuint64m1_t vd, vuint64m1_t vs2,
                                size_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                vuint64m2_t vs1, size_t vl);
vuint64m2_t __riscv_vrgather_mu(vbool32_t vm, vuint64m2_t vd, vuint64m2_t vs2,
                                size_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
```

```
                                vuint64m4_t vs1, size_t vl);
vuint64m4_t __riscv_vrgather_mu(vbool16_t vm, vuint64m4_t vd, vuint64m4_t vs2,
                                size_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                vuint64m8_t vs1, size_t vl);
vuint64m8_t __riscv_vrgather_mu(vbool8_t vm, vuint64m8_t vd, vuint64m8_t vs2,
                                size_t vs1, size_t vl);
vuint8mf8_t __riscv_vrgatherei16_mu(vbool64_t vm, vuint8mf8_t vd,
                                    vuint8mf8_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint8mf4_t __riscv_vrgatherei16_mu(vbool32_t vm, vuint8mf4_t vd,
                                    vuint8mf4_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint8mf2_t __riscv_vrgatherei16_mu(vbool16_t vm, vuint8mf2_t vd,
                                    vuint8mf2_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint8m1_t __riscv_vrgatherei16_mu(vbool8_t vm, vuint8m1_t vd, vuint8m1_t vs2,
                                   vuint16m2_t vs1, size_t vl);
vuint8m2_t __riscv_vrgatherei16_mu(vbool4_t vm, vuint8m2_t vd, vuint8m2_t vs2,
                                   vuint16m4_t vs1, size_t vl);
vuint8m4_t __riscv_vrgatherei16_mu(vbool2_t vm, vuint8m4_t vd, vuint8m4_t vs2,
                                   vuint16m8_t vs1, size_t vl);
vuint16mf4_t __riscv_vrgatherei16_mu(vbool64_t vm, vuint16mf4_t vd,
                                     vuint16mf4_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vuint16mf2_t __riscv_vrgatherei16_mu(vbool32_t vm, vuint16mf2_t vd,
                                     vuint16mf2_t vs2, vuint16mf2_t vs1,
                                     size_t vl);
vuint16m1_t __riscv_vrgatherei16_mu(vbool16_t vm, vuint16m1_t vd,
                                    vuint16m1_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint16m2_t __riscv_vrgatherei16_mu(vbool8_t vm, vuint16m2_t vd,
                                    vuint16m2_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint16m4_t __riscv_vrgatherei16_mu(vbool4_t vm, vuint16m4_t vd,
                                    vuint16m4_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint16m8_t __riscv_vrgatherei16_mu(vbool2_t vm, vuint16m8_t vd,
                                    vuint16m8_t vs2, vuint16m8_t vs1,
                                    size_t vl);
vuint32mf2_t __riscv_vrgatherei16_mu(vbool64_t vm, vuint32mf2_t vd,
                                     vuint32mf2_t vs2, vuint16mf4_t vs1,
                                     size_t vl);
vuint32m1_t __riscv_vrgatherei16_mu(vbool32_t vm, vuint32m1_t vd,
                                    vuint32m1_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint32m2_t __riscv_vrgatherei16_mu(vbool16_t vm, vuint32m2_t vd,
                                    vuint32m2_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint32m4_t __riscv_vrgatherei16_mu(vbool8_t vm, vuint32m4_t vd,
                                    vuint32m4_t vs2, vuint16m2_t vs1,
                                    size_t vl);
vuint32m8_t __riscv_vrgatherei16_mu(vbool4_t vm, vuint32m8_t vd,
                                    vuint32m8_t vs2, vuint16m4_t vs1,
                                    size_t vl);
vuint64m1_t __riscv_vrgatherei16_mu(vbool64_t vm, vuint64m1_t vd,
                                    vuint64m1_t vs2, vuint16mf4_t vs1,
                                    size_t vl);
vuint64m2_t __riscv_vrgatherei16_mu(vbool32_t vm, vuint64m2_t vd,
                                    vuint64m2_t vs2, vuint16mf2_t vs1,
                                    size_t vl);
vuint64m4_t __riscv_vrgatherei16_mu(vbool16_t vm, vuint64m4_t vd,
                                    vuint64m4_t vs2, vuint16m1_t vs1,
                                    size_t vl);
vuint64m8_t __riscv_vrgatherei16_mu(vbool8_t vm, vuint64m8_t vd,
                                    vuint64m8_t vs2, vuint16m2_t vs1,
                                    size_t vl);
```

D.8.6. Vector Compress Intrinsics

```
vfloat16mf4_t __riscv_vcompress_tu(vfloat16mf4_t vd, vfloat16mf4_t vs2,
                                   vbool64_t vs1, size_t vl);
vfloat16mf2_t __riscv_vcompress_tu(vfloat16mf2_t vd, vfloat16mf2_t vs2,
                                   vbool32_t vs1, size_t vl);
vfloat16m1_t __riscv_vcompress_tu(vfloat16m1_t vd, vfloat16m1_t vs2,
                                  vbool16_t vs1, size_t vl);
vfloat16m2_t __riscv_vcompress_tu(vfloat16m2_t vd, vfloat16m2_t vs2,
                                  vbool8_t vs1, size_t vl);
vfloat16m4_t __riscv_vcompress_tu(vfloat16m4_t vd, vfloat16m4_t vs2,
                                  vbool4_t vs1, size_t vl);
vfloat16m8_t __riscv_vcompress_tu(vfloat16m8_t vd, vfloat16m8_t vs2,
                                  vbool2_t vs1, size_t vl);
vfloat32mf2_t __riscv_vcompress_tu(vfloat32mf2_t vd, vfloat32mf2_t vs2,
                                   vbool64_t vs1, size_t vl);
vfloat32m1_t __riscv_vcompress_tu(vfloat32m1_t vd, vfloat32m1_t vs2,
                                  vbool32_t vs1, size_t vl);
vfloat32m2_t __riscv_vcompress_tu(vfloat32m2_t vd, vfloat32m2_t vs2,
                                  vbool16_t vs1, size_t vl);
vfloat32m4_t __riscv_vcompress_tu(vfloat32m4_t vd, vfloat32m4_t vs2,
                                  vbool8_t vs1, size_t vl);
vfloat32m8_t __riscv_vcompress_tu(vfloat32m8_t vd, vfloat32m8_t vs2,
                                  vbool4_t vs1, size_t vl);
vfloat64m1_t __riscv_vcompress_tu(vfloat64m1_t vd, vfloat64m1_t vs2,
                                  vbool64_t vs1, size_t vl);
vfloat64m2_t __riscv_vcompress_tu(vfloat64m2_t vd, vfloat64m2_t vs2,
                                  vbool32_t vs1, size_t vl);
vfloat64m4_t __riscv_vcompress_tu(vfloat64m4_t vd, vfloat64m4_t vs2,
                                  vbool16_t vs1, size_t vl);
vfloat64m8_t __riscv_vcompress_tu(vfloat64m8_t vd, vfloat64m8_t vs2,
                                  vbool8_t vs1, size_t vl);
vint8mf8_t __riscv_vcompress_tu(vint8mf8_t vd, vint8mf8_t vs2, vbool64_t vs1,
                                size_t vl);
vint8mf4_t __riscv_vcompress_tu(vint8mf4_t vd, vint8mf4_t vs2, vbool32_t vs1,
                                size_t vl);
vint8mf2_t __riscv_vcompress_tu(vint8mf2_t vd, vint8mf2_t vs2, vbool16_t vs1,
                                size_t vl);
vint8m1_t __riscv_vcompress_tu(vint8m1_t vd, vint8m1_t vs2, vbool8_t vs1,
                               size_t vl);
vint8m2_t __riscv_vcompress_tu(vint8m2_t vd, vint8m2_t vs2, vbool4_t vs1,
                               size_t vl);
vint8m4_t __riscv_vcompress_tu(vint8m4_t vd, vint8m4_t vs2, vbool2_t vs1,
                               size_t vl);
vint8m8_t __riscv_vcompress_tu(vint8m8_t vd, vint8m8_t vs2, vbool1_t vs1,
                               size_t vl);
vint16mf4_t __riscv_vcompress_tu(vint16mf4_t vd, vint16mf4_t vs2, vbool64_t vs1,
                                 size_t vl);
vint16mf2_t __riscv_vcompress_tu(vint16mf2_t vd, vint16mf2_t vs2, vbool32_t vs1,
                                 size_t vl);
vint16m1_t __riscv_vcompress_tu(vint16m1_t vd, vint16m1_t vs2, vbool16_t vs1,
                                size_t vl);
vint16m2_t __riscv_vcompress_tu(vint16m2_t vd, vint16m2_t vs2, vbool8_t vs1,
                                size_t vl);
vint16m4_t __riscv_vcompress_tu(vint16m4_t vd, vint16m4_t vs2, vbool4_t vs1,
                                size_t vl);
vint16m8_t __riscv_vcompress_tu(vint16m8_t vd, vint16m8_t vs2, vbool2_t vs1,
                                size_t vl);
vint32mf2_t __riscv_vcompress_tu(vint32mf2_t vd, vint32mf2_t vs2, vbool64_t vs1,
                                 size_t vl);
vint32m1_t __riscv_vcompress_tu(vint32m1_t vd, vint32m1_t vs2, vbool32_t vs1,
                                size_t vl);
vint32m2_t __riscv_vcompress_tu(vint32m2_t vd, vint32m2_t vs2, vbool16_t vs1,
                                size_t vl);
vint32m4_t __riscv_vcompress_tu(vint32m4_t vd, vint32m4_t vs2, vbool8_t vs1,
                                size_t vl);
```

```
vint32m8_t __riscv_vcompress_tu(vint32m8_t vd, vint32m8_t vs2, vbool4_t vs1,
                                size_t vl);
vint64m1_t __riscv_vcompress_tu(vint64m1_t vd, vint64m1_t vs2, vbool64_t vs1,
                                size_t vl);
vint64m2_t __riscv_vcompress_tu(vint64m2_t vd, vint64m2_t vs2, vbool32_t vs1,
                                size_t vl);
vint64m4_t __riscv_vcompress_tu(vint64m4_t vd, vint64m4_t vs2, vbool16_t vs1,
                                size_t vl);
vint64m8_t __riscv_vcompress_tu(vint64m8_t vd, vint64m8_t vs2, vbool8_t vs1,
                                size_t vl);
vuint8mf8_t __riscv_vcompress_tu(vuint8mf8_t vd, vuint8mf8_t vs2, vbool64_t vs1,
                                 size_t vl);
vuint8mf4_t __riscv_vcompress_tu(vuint8mf4_t vd, vuint8mf4_t vs2, vbool32_t vs1,
                                 size_t vl);
vuint8mf2_t __riscv_vcompress_tu(vuint8mf2_t vd, vuint8mf2_t vs2, vbool16_t vs1,
                                 size_t vl);
vuint8m1_t __riscv_vcompress_tu(vuint8m1_t vd, vuint8m1_t vs2, vbool8_t vs1,
                                size_t vl);
vuint8m2_t __riscv_vcompress_tu(vuint8m2_t vd, vuint8m2_t vs2, vbool4_t vs1,
                                size_t vl);
vuint8m4_t __riscv_vcompress_tu(vuint8m4_t vd, vuint8m4_t vs2, vbool2_t vs1,
                                size_t vl);
vuint8m8_t __riscv_vcompress_tu(vuint8m8_t vd, vuint8m8_t vs2, vbool1_t vs1,
                                size_t vl);
vuint16mf4_t __riscv_vcompress_tu(vuint16mf4_t vd, vuint16mf4_t vs2,
                                  vbool64_t vs1, size_t vl);
vuint16mf2_t __riscv_vcompress_tu(vuint16mf2_t vd, vuint16mf2_t vs2,
                                  vbool32_t vs1, size_t vl);
vuint16m1_t __riscv_vcompress_tu(vuint16m1_t vd, vuint16m1_t vs2, vbool16_t vs1,
                                 size_t vl);
vuint16m2_t __riscv_vcompress_tu(vuint16m2_t vd, vuint16m2_t vs2, vbool8_t vs1,
                                 size_t vl);
vuint16m4_t __riscv_vcompress_tu(vuint16m4_t vd, vuint16m4_t vs2, vbool4_t vs1,
                                 size_t vl);
vuint16m8_t __riscv_vcompress_tu(vuint16m8_t vd, vuint16m8_t vs2, vbool2_t vs1,
                                 size_t vl);
vuint32mf2_t __riscv_vcompress_tu(vuint32mf2_t vd, vuint32mf2_t vs2,
                                  vbool64_t vs1, size_t vl);
vuint32m1_t __riscv_vcompress_tu(vuint32m1_t vd, vuint32m1_t vs2, vbool32_t vs1,
                                 size_t vl);
vuint32m2_t __riscv_vcompress_tu(vuint32m2_t vd, vuint32m2_t vs2, vbool16_t vs1,
                                 size_t vl);
vuint32m4_t __riscv_vcompress_tu(vuint32m4_t vd, vuint32m4_t vs2, vbool8_t vs1,
                                 size_t vl);
vuint32m8_t __riscv_vcompress_tu(vuint32m8_t vd, vuint32m8_t vs2, vbool4_t vs1,
                                 size_t vl);
vuint64m1_t __riscv_vcompress_tu(vuint64m1_t vd, vuint64m1_t vs2, vbool64_t vs1,
                                 size_t vl);
vuint64m2_t __riscv_vcompress_tu(vuint64m2_t vd, vuint64m2_t vs2, vbool32_t vs1,
                                 size_t vl);
vuint64m4_t __riscv_vcompress_tu(vuint64m4_t vd, vuint64m4_t vs2, vbool16_t vs1,
                                 size_t vl);
vuint64m8_t __riscv_vcompress_tu(vuint64m8_t vd, vuint64m8_t vs2, vbool8_t vs1,
                                 size_t vl);
```

D.9. Miscellaneous Vector Utility Intrinsics

D.9.1. Get `vl` with specific vtype

Intrinsics here don't have a policy variant.

D.9.2. Get `VLMAX` with specific vtype

Intrinsics here don't have a policy variant.

D.9.3. Reinterpret Cast Conversion Intrinsics

Intrinsics here don't have a policy variant.

D.9.4. Vector LMUL Extension Intrinsics

Intrinsics here don't have a policy variant.

D.9.5. Vector LMUL Truncation Intrinsics

Intrinsics here don't have a policy variant.

D.9.6. Vector Initialization Intrinsics

Intrinsics here don't have a policy variant.

D.9.7. Vector Insertion Intrinsics

Intrinsics here don't have a policy variant.

D.9.8. Vector Extraction Intrinsics

Intrinsics here don't have a policy variant.

D.9.9. Vector Creation Intrinsics

Intrinsics here don't have a policy variant.

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